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Research on the Process of Building a Well-off Society in an All-Round Way Based on Multi-Attribute Decision-Making Model

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Abstract: Aiming at the analysis problem of building a well-off society in an all-round way in my country, the research established a multi-attribute decision-making model, a cluster analysis model, an analytic hierarchy process and a principal component analysis model respectively. Using SPSS and SAS software, the research obtained Multiple indicators including the completion difficulty ratio and future sustainable development capacity of building a well-off society in all provinces in China. Besides, the research evaluates and ranks the overall situation of building a moderately prosperous society in all provinces reasonably, and provide provincial-to-province cooperation plans.

1. Introduction

The year 2020 marks the 70th anniversary of the founding of the People's Republic of China. It is a crucial year for winning the first centenary goal of building a moderately prosperous society in all respects. In the year of building a moderately prosperous society in an all-round way and the final year of the "13th Five-Year Plan", standing on the historical intersection of the "two centenary" goals[1], it faces a more complex domestic and foreign environment. In the early stage of this critical year, the outbreak of the new coronavirus in Wuhan, and it has not been controlled effectively. The global novel coronavirus epidemic is spreading on a larger scale. The world is undergoing major changes unseen in a century, making the internal and external environment of my country's economy even worse.

2. Data sources and basic assumptions

The data in this paper are all from the website of the National Bureau of Statistics. In order to facilitate the research and handling of the problem, the following assumptions are proposed: (1) It is assumed that the data of each province can represent its real economic construction level; (2) Hong Kong, Macao and Taiwan are not within our consideration due to data problems[2].

3. Research on the completion rate of buildig a moderately prosperous society in all provinces in china

3.1 Research ideas

The completion ratio of building a moderately prosperous society in an all-round way is one of the important indicators of whether to build a moderately prosperous society in an all-round way. According to the completion ratio of building a moderately prosperous society in an all-round way in various provinces in China, the paper adopts the analytic hierarchy process to determine the weight of the indicators[3]. It establishes the relevant completion rate calculation model, and it calculates the completion rate of building a moderately prosperous society in all provinces.

3.2 Research methods

3.2.1 Selection of indicators

The paper researched the connotation and extension of building a well-off society in an all-round way. Based on the statistical monitoring indicator system for building a well-off society in an all-round way formulated by the National Bureau of Statistics in 2020, and combined with the actual situation of China's comprehensive building of a well-off society, it constructs the evaluation index system of 11 indicators in 5 criterion layers, including economic development, social progress, quality of life, population quality and ecosystem resource.As it is shown in Table 1:

Table 1: Structure of the Evaluation Index System for Building a Well-off Society in an All-round Way

Criterion Layer	Subfactor
Economic Development	GDP Per Capita
	Proportion of the Population with an Average Daily Consumption Expenditure of Less Than 5 yuan
	Engel Coefficient
Quality of Life	Life Expectancy at Birth
	Social Basic Insurance Coverage
Ecosystem Resource	Energy Utilization
	Proportion of Population Using Improved Water Sources
Government Management	Building a Clean Government
	Government Management Capacity
Social Progress	Crime Rate
	Gini Coefficient

3.2.2 Model establishment

In this paper, the AHP analytic hierarchy process is used to determine the weights of the indicators. According to the data consulted and combined with the characteristics of the society with Chinese characteristics and the new requirements of the 18th National Congress of the Communist Party of China[4], the weights of each indicator reflect the requirements of comprehensive and balanced development. It highlights the importance of economic development and quality of life[5].

Therefore, the comparison judgment matrix is determined by comparing each factor pairwise. The scale values of comparison refer to numbers 1-9 and their reciprocals. The paper refers to the following table to assign values to each layer of judgment matrix to determine the judgment matrix. The following table shows the specific meanings of 1-9 and their reciprocals as it is shown in Table

2:

Table2: Specific Meaning of Scale

Scaling	Definition
1	Indicates that two factors are of equal importance
3	Indicates that the former is slightly more important than the latter
5	Indicates that the former is significantly more important than the latter
7	Indicates that the former is strongly more important than the latter
9	Indicates that the former is extremely important compared to the latter
2, 4, 6, 8	Represents the median value of the above adjacent judgments

If the ratio of the importance of factor 1 to factor 2 is n, then the ratio of the importance of factor 2 to factor 1 is $1/n$.

After obtaining the judgment matrix, find the maximum eigenvalue $\lambda_{\max}$ corresponding to each judgment matrix. According to the following formulas, find the consistency index CI and the consistency ratio CR:

$$CI = \frac{\lambda_{\max} - n}{n-1} \tag{1}$$

$$CR = \frac{CI}{RI} = \frac{\lambda_{\max} - n}{RI(n-1)} \tag{2}$$

The relationship between the random consistency index and the matrix order is shown in the following Table3:

Table 3: Stochastic Consistency Index Value Table

n	1	2	3	4	5	6	7	8	9	10
Stochastic Consistency Index Value	0	0	0.58	0.9	1.12	1.24	1.32	1.41	1.45	1.4

Table 4: Index Result Weight Table

Evaluation Indicators	Weights
GDP Per Capita	0.3011
Proportion of the Population with an Average Daily Consumption Expenditure of Less than 5 yuan	0.1004
Engel Coefficient	0.0430
Life Expectancy at Birth	0.0602
Social Basic Insurance Coverage	0.0308
Energy Utilization	0.1004
Proportion of Population Using Improved Water Sources	0.0602
Building a Clean Government	0.0430
Government Management Capacity	0.1004
Crime Rate	0.0602
Gini Coefficient	0.1004

According to the random consistency index value table, the index layers are compared in pairs. The selected 11 indexes are set as $(x_1, x_2, x_3 \cdots x_{11})$. It calculates the judgment matrix and then uses

the software to calculate the eigenvalues and eigenvalues according to the matrix. It achieves the following weight Table4:

3.2.3 Completion the ratio solution

The data of Guangxi Zhuang Autonomous Region in 2019 is used to illustrate the reliability of the model. The completion rate table is as follows,As it is shown in Table 5:

Table 5: Completion Ratio of Building a Moderately Prosperous Society in an all-round Way in Guangxi Zhuang Autonomous Region in 2019

Indicators	Weights (%)	Overall well-off value (X_{min})	Overall well-off value (X_{max})	Actual value (X_i)	completion Rate (%)
I. Economic Development					
1. GDP Per Capita/(yuan)	30.11	70800	≥ 25000	43112	18.20
2. The Proportion of the Population with an Average Daily Consumption Expenditure of Less Than 5 Yuan (%)	10.04	0.05	≤ 0	0.06	-2
II. Quality of Life					
3. Engel Coefficient	4.30	0.28	≤ 0.4	0.307	3.3325
4. Life Expectancy at Birth (Years)	6.02	75.99	≥ 75	75.11	-0.6688
5. Coverage Rate of Social Basic Insurance (%)	3.08	100	≥ 100	100	3.08
III. Resource Environment					
6. Energy Utilization Rate (%)	10.04	0.17	≥ 0.2	0.15	7.224
7. Proportion of Population Using Improved Water Sources (%)	6.02	80	≥ 100	76	-2.7743
IV. Government Management					
8. Building a Clean Government (From/10,000 People)	4.30	41	≤ 10	30	3.606
9. Government Management Capacity (From/10,000 people)	10.04	36	≤ 5	56	16.45
10. Crime Rate (Start/10,000 People)	6.02	42	≤ 15	39	5.3506
V. Social Progress					
11. Gini Coefficient	10.04	0.34	≤ 0.4	0.3	-5.714

In 2019, the realization degree of Guangxi Zhuang Autonomous Region building a well-off society in an all-round way was 46.09%, which is still in the intermediate stage of building a well-off society in an all-round way.

According to the above method, this paper inputs the data of 31 provinces and cities into the formula. It aims to obtain the completion rate of building a moderately prosperous society in all provinces in each province. And it represents the degree of achievement of building a moderately prosperous society in an all-round way in each province. Through the analytic hierarchy process model, the completion rate of the remaining 30 provinces is analyzed by the above method, and it obtained the completion rate table of 31 provinces[6]. The higher the score, the higher the realization of a well-off society in an all-round way.As it is shown in Table 6:

Table 6: Ranking of Completion Degree Calculation Results of 31 Provinces

Rank	Province	Completion Rate	Rank	Province	Completion Rate	Rank	Province	Completion Rate
1	Beijing	83.76%	12	Henan	59.51%	23	Guangxi	46.09%
2	Shanghai	81.69%	13	Shandong	58.77%	24	Xinjiang	43.85%
3	Guangdong	78.19%	14	Sichuan	56.41%	25	Mongolia	40.90%
4	Tianjin	77.56%	15	Hebei	53.85%	26	Guizhou	38.61%
5	Zhejiang	74.11%	16	Jilin	51.99%	27	Heilongjiang	38.56%
6	Jiangsu	69.86%	17	Jiangxi	51.86%	28	Gansu	37.68%
7	Hubei	64.96%	18	Anhui	49.62%	29	Ningxia	34.95%
8	Fujian	64.49%	19	Shaanxi	49.16%	30	Qinghai	34.95%
9	Hunan	63.45%	20	Liaoning	48.36%	31	Tibet	31.95%
10	chongqing	62.19%	21	Yunnan	47.23%	-	-	-
11	Shanxi	61.84%	22	Hainan	46.75%	-	-	-

4. Research on the future sustainable development capacity of each province and the difficulty index of buildign a moderately prosperous society in an all-round way

4.1 Research ideas

The two indicators of the future sustainable development capacity of each province and the completion difficulty coefficient of building a well-off society in an all-round way are also one of the important indicators of whether to build a well-off society. According to the obtained data, the paper uses the principal component analysis method to establish a mathematical model[7]. It gives the ability of sustainable development in the future and the difficulty factor of building a moderately prosperous society in an all-round way in the provinces.

4.2 Research methods

4.2.1 Selection of model indicators

(1) Selection of future sustainable development capability indicators

Sustainable development is a complex giant system including population, resources, environment, economy, society and science and technology,As it is shown in Table 7.

Table 7: Explanation of Selection of Sustainable Development Capability Indicators

Primary Indicator	Secondary indicator
Population	Life Expectancy/Years
	Population Density/Person/Km
Resource	Per Capita Arable Land Area/m
	Water Resources Per Capita/m
Environment	Total Industrial Waste Gas Emissions/100 Million
	Total Industrial Waste Discharge/100 Million m3
Economy	Regional GDP/100 Million yuan
	2019 GDP
	GDP Per Capita/
Society	Engel’s Coefficient of Urban Residents
	Disposable Income of Urban Residents/
Science & Technology	Number of Granted Patent Applications/Item

Based on the above principles of sustainable development capability evaluation and the content of sustainable development, the 10 indicators selected in this index system are structured from six aspects: economy, society, population, resources, environment and science and technology.

(2) The selection of the index of difficulty coefficient for the completion of building a moderately prosperous socity in all provinces[8]

In order to calculate the difficulty coefficient of building a moderately prosperous society in all provinces in my country, this paper, based on the literature and current policies, mainly selects the indicators that reflect the difficulty of building a moderately prosperous society in all provinces among the 11 indicators.

According to the development idea of speeding up the development of relatively backward areas as the key task of realizing sustainable development, the basic variables of per capita GDP and crime rate are selected. According to the development idea of taking the guarantee and improvement of people's livelihood as the core requirement of realizing sustainable development, the life expectancy at birth and the Gini coefficient are selected as the basic variables[9]. According to the development idea of taking the construction of a "two-oriented society" as an important focus of sustainable development, the energy utilization rate and the proportion of the population using improved water sources are selected as the basic variables.

This paper uses the above 6 indicators to use the principal component analysis model to score the difficulty coefficient of completing the comprehensive well-off society in each province.

4.2.2 Establishment of principal component analysis model

(1) CALCULATE THE COVARIANCE MATRIX

Calculate the covariance matrix of the sample data as:

$$\Sigma = (s_{ij})_{p\times p} \tag{3}$$

Among which $s_{ij} = \frac{1}{n-1}\sum_{k=1}^{n}(x_{ki} - \overline{x_i})(x_{kj} - \overline{x_j}), i, j = 1,2,\cdots, p$

(2) FIND THE EIGENVALUES AND CORRESPONDING EIGENVECTORS OF Σ

Find the eigenvalues $\lambda_1, \lambda_2, \cdots, \lambda_p > 0$ of the covariance matrix Σ and the corresponding orthonormalized eigenvectors:

$a_1 = \begin{pmatrix} a_{11} \\ a_{21} \\ \vdots \\ a_{p1} \end{pmatrix}, a_2 = \begin{pmatrix} a_{12} \\ a_{22} \\ \vdots \\ a_{p2} \end{pmatrix}, \cdots, a_1 = \begin{pmatrix} a_{1p} \\ a_{2p} \\ \vdots \\ a_{pp} \end{pmatrix}$, Then the i th principal component of X is $F_i = a_i^{'} X$

(3) SELECT THE PRINCIPAL COMPONET

In the principal components p, we choose m to realize the final evaluation and analysis. Generally, the contribution rate $\alpha_i = \lambda_i / \sum_{i=1}^{p}\lambda_i$ is used to explain the amount of information reflected by the principal components F_i. The determination of m is cumulating contribution rate $G(m) = \sum_{i=1}^{m}\lambda_i / \sum_{k=1}^{p}\lambda_k$ to be large enough (usually above 85%) in principle.

(4) CALCULATE THE PRINCIPAL COMPONENT SCORE

Calculate the scores of n th samples on m th principal components as:

In practical application, the dimensions of the indicators are often different, so the influence of

the dimension should be eliminated before the principal component calculation, that is, the following data transformation should be done:

$$F_i = a_{1i}X_1 + a_{2i}X_2 + \cdots + a_{pi}X_p, i = 1,2,\cdots,m \tag{4}$$

(5) standardization

In practical application, the dimensions of the indicators are often different[10]. The influence of the dimension should be eliminated before the principal component calculation. That is, the following data transformation should be done:

$$x_{ij}^* = \frac{x_{ij} - \overline{x_j}}{s_j}, i = 1,2,\cdots,n; j = 1,2,\cdots,p \tag{5}$$

The standardized covariance matrix is the correlation coefficient matrix of the original variable:

In the formula, $\overline{x_j} = \frac{1}{n}\sum_{i=1}^{n} x_{ij}, s_j^2 = \frac{1}{n-1}\sum_{i=1}^{n}(x_{ij} - \overline{x_j})^2$ the standardized design array is denoted as X^*

The standardized covariance matrix $\Sigma = (s_{ij})_{p\times p}$ is the correlation coefficient matrix $R = (r_{ij})_{p\times p}$ of the original variable:

$$s_{ij} = \frac{1}{n-1}\sum_{k=1}^{n} x_{ki}^* x_{kj}^* = \frac{1}{n-1}\sum_{k=1}^{n} \frac{x_{ki} - \overline{x_i}}{\sqrt{\frac{\sum_{t=1}^{n}(x_{ti} - \overline{x_i})}{n-1}}} \frac{x_{kj} - \overline{x_j}}{\sqrt{\frac{\sum_{t=1}^{n}(x_{tj} - \overline{x_j})}{n-1}}} = \frac{\sum_{k=1}^{n}(x_{ki} - \overline{x_i})(x_{kj} - \overline{x_j})}{\sqrt{\sum_{t=1}^{n}(x_{ti} - \overline{x_i})}\sqrt{\sum_{t=1}^{n}(x_{tj} - \overline{x_j})}} = r_{ij} \tag{6}$$

At this time, the scores of n th samples on m th principal components should be:

$$F_i = a_{1i}X_1^* + a_{2i}X_2^* + \cdots + a_{pi}X_p^*, i = 1,2,\cdots,m \tag{7}$$

4.3 Solution of the problem

4.3.1 Solving the difficulty coefficient of building a moderately prosperous society in all provinces in china

The eigenvalue of the correlation matrix				
	eigenvalue	difference	ratio	buildup
1	3.14943792	0.48482475	0.5249	0.5249
2	2.66461316	2.47866425	0.4441	0.9690
3	0.18594892	0.18594892	0.0310	1.0000
4	0.00000000		0.0000	1.0000

Figure 1: Eigenvalues of the Correlation Matrix

In terms of data selection, it used the basic variables of 31 provinces (except Hong Kong, Macao and Taiwan), such as the 2019 annual per capita GDP, crime rate, life expectancy, Gini coefficient, energy utilization rate, and population using improved water sources. The 6 index variables are

processed and calculated by principal component analysis using software, and the eigenvalues of the correlation coefficient matrix are obtained as shown in the Figure 1:

According to the research results, the contribution rate of the first principal component to the variance is 52.49%. The contribution rate of the second principal component to the variance is 44.41%. Since the cumulative contribution rate of the first two principal components is 96.9%, this group of data can be well summarized by the first two principal components.

The corresponding contribution degrees of the scoring formulas of the first principal component and the second principal component are similar. The difficulty coefficient of building a moderately prosperous society in an all-round way in each province is defined as the reciprocal of the sum of the two scores. Defining the difficulty coefficient of building a moderately prosperous society in every province as K, the expression formula is:

$$K = \frac{1}{\mathrm{Pr}in1 + \mathrm{Pr}in2} \tag{8}$$

Through the National Statistical Yearbook, local statistical bureaus and other public data, it solves the difficulty coefficient of building a moderately prosperous society in an all-round way in 31 provinces, the results are as it is shown in Table 8:

Table 8: Result Ranking of the Difficulty Coefficient of Completing Building a Moderately Prosperous Society in an all-round Way in 31 Provinces

Rank	Province	$K(\times 10^{-5})$	Rank	Province	$K(\times 10^{-5})$	Rank	Province	$K(\times 10^{-5})$
1	Gansu	9.0582	12	Ningxia	5.58302	23	chongqing	3.79053
2	Heilongjiang	7.92109	13	Xinjiang	5.45807	24	Hubei	3.65849
3	Guangxi	6.65953	14	Sichuan	5.35034	25	Tianjin	3.1448
4	Jilin	6.6213	15	Henan	5.31861	26	Guangdong	3.00613
5	Shanxi	6.2788	16	Liaoning	5.23492	27	Fujian	2.66133
6	Hebei	6.19065	17	Hainan	5.20077	28	Zhejiang	2.6348
7	Guizhou	6.17441	18	Hunan	5.18326	29	Jiangsu	2.32144
8	Yunnan	6.17441	19	Anhui	5.1569	30	Shanghai	1.83408
9	Qinghai	5.98531	20	Shaanxi	4.9863	31	Beijing	1.75973
10	Tibet	5.85647	21	Mongolia	4.3113	-	-	-
11	Jiangxi	5.83174	22	Shandong	4.05748	-	-	-

4.3.2 The solution of the future sustainable development score of each province in china

Firstly, it selects the indicators, which here refers to the secondary indicators in the superscript system. Then it performs dimensionless processing on the selected indicators. The paper adopts the standard deviation standardization method. In this process, the reverse data have been properly processed. It uses the software *SPSS* performs principal component analysis, using the quartic maximum method to rotate. Then, it calculates the results, analyzes the output results, tests the rationality of the results and names each principal component. Therefore, it determines the weight based on the eigenvalues of the principal components and the variance contribution rate. Finally, the comprehensive evaluation score is calculated, and the sustainable development capacity of each region is analyzed based on this. After the principal component analysis is completed, the samples are clustered by Q, and the regions with similar sustainable development capabilities are grouped into one category[11]. Therefore, it analyzes the main factors affecting the sustainable development capabilities of each region, and analyzes the different types of regions. The level of sustainable development provides a basis for strengthening the capacity building of sustainable development. According to the above method, the data of 31 provinces and cities was input into the analysis

software *SPSS*, and 4 common factors were extracted. The cumulative variance contribution rate was 83.141%. The value of *KMO* was 0.733. The associated probability given by the Bartlett sphericity test was less than the significance level of 0.05, so it was suitable for factor analysis. Therefore, the analysis results are valid.

Calculated by Total Variance Explained (principal component characteristic root and contribution rate), the cumulative variance contribution rate of the first two principal components is 83.141%. It covers most of the information. This shows that the first two principal components can represent the first 12 indicators to analyze the development level of the comprehensive economic strength of each city. Therefore, the first four indicators can be extracted.

The component score coefficient matrix (factor score coefficient) lists the eigenvectors corresponding to the strong four eigenroots. That is the coefficient vectors of the standardized variables in each principal component analytical expression. The component score system matrix is then obtained as follows, as it is shown in Figure 2.

	1	2	3	4
GDP in 2019	-.045	.313	.054	-.042
GDP per capita	.220	.063	.033	-.110
Engel's Coefficient	-.281	.188	-.013	.037
Life expectancy	.170	-.023	.005	.344
Population density data (people/square kilometers)	.228	-.043	-.012	.034
Arable land per capita/acres	.001	-.089	.395	-.006
Water consumption per capita/m	.010	.077	.089	-.795
Total industrial emissions/100m	.081	.051	.632	-.192
Total industrial waste discharge/100m	-.121	.093	.331	.201
Regional GDP/100m yuan	-.056	.317	.034	-.020
Disposable income of residents/yuan	.236	.027	.070	-.106
Number of patents granted/10k	-.030	.306	.033	-.128

Figure 2: Component Score Coefficient Matrix

The sustainable development capability score of each region is the arithmetic square root of the corresponding factor score multiplied by the corresponding variance. The standardized data of each index is brought into each principal component analytical expression. The four principal component scores (*Prin1*、*Prin2*、*Prin3*、*Prin4*) are calculated respectively. Then the principal component scores are weighted and averaged by the contribution rate of each principal component throughout the book, namely:

$$H = \frac{0.4067\mathrm{Pr}in1 + 0.2027\mathrm{Pr}in2 + 0.13735\mathrm{Pr}in3 + 0.08463\mathrm{Pr}in4}{84.141\%} \tag{9}$$

Through the National Statistical Yearbook, local statistical bureaus and other public data, it solves the difficulty coefficient of building a moderately prosperous society in an all-round way in 31 provinces, the results are as it is shown in Table 9:

Table 9: Comprehensive Score Results of Sustainable Development Capacity in Each Region

Number	Province	*H*	Number	Province	*H*	Number	Province	*H*
1	Guangdong	138454	12	Henan	38265	23	Yunnan	20739
2	Shanghai	99641	13	Hunan	38848	24	Ningxia	21382
3	Jiangsu	64602	14	Hubei	35851	25	Mongolia	20226
4	Beijing	66324	15	Hebei	36694	26	Guangxi	19678
5	Fujian	56515	16	Shanxi	32168	27	Qinghai	22703
6	Zhejiang	54342	17	Anhui	31356	28	Heilongjiang	19736
7	Shandong	51834	18	Jilin	29395	29	Guizhou	20230
8	Tianjin	46553	19	Xinjiang	27057	30	Tibet	18847
9	Sichuan	44524	20	Shaanxi	26355	31	Gansu	13989
10	chongqing	41588	21	Liaoning	25511	-	-	-
11	Jiangxi	45418	22	Hainan	23395	-	-	-

5. Research on the overall situation of building a moderately prosperous society in all provinces

5.1 Research ideas

It establishes a multi-attribute analytic hierarchy process model. It is to determine the weight of factors such as the completion difficulty coefficient, completion ratio and future sustainable development capability of China provinces in building a moderately prosperous society in an all-round way[12]. It carries out in-depth analysis of the nature of complex problems, the correlation between the degree of impact and memory, etc. The paper uses limited quantitative information, sorting the thinking of decision-making, and sorting the situation of building a moderately prosperous society in each province in an all-round way.

5.2 Research methods

In order to improve the accuracy, this paper uses mathematical models to digitize multiple indicators including the completion difficulty coefficient, completion ratio and future sustainable development capacity of China's provinces in building a well-off society in an all-round way. Then it establishes a multi-attribute analytic hierarchy process model to build a well-off society in provinces in an all-round way. It uses the weight of factors such as social completion difficulty coefficient, completion ratio, and future sustainable development capability, etc. It conducts in-depth analysis, and uses limited quantitative information to rank decision-making thinking and ranks the situation of building a moderately prosperous society in each province in an all-round way.

5.3 Analysis of results

All the attribute values of the index in this paper can be compared. There is no important complementarity between the attributes, so the more commonly used decision-making method - multi-attribute decision-making can be selected.

The attribute value type of our data is benefit or cost. Different dimensions of such data will affect the result of decision-making. Therefore, it is necessary to normalize the attribute data. The specific processing scheme is different according to different attribute types.

Substituting the pairwise comparison matrix into the *SAS* code, it gets the weights of the three indicators. The completion difficulty coefficient, completion ratio and future sustainable development ability of all provinces in China are: [0.6000, 0.2000, 0.2000].

Using the weighted arithmetic mean operator, the weighted arithmetic mean values of the 31 provinces in China are calculated by the following expressions. The formula is $WAA(a_1, a_2, a_3, \cdots, a_n) = \sum_{j=1}^{n} w_j a_j$.

It sorts the score results to get the following sort Table 10:

Table10: Ranking of the Comprehensive Score Results of Building a Moderately Prosperous Society in all Provinces

Rank	Province	Comprehensive Score	Rank	Province	Comprehensive Score	Rank	Province	Comprehensive Score
1	Beijing	1.31962	12	Henan	1.065587	23	Jiangxi	0.93637
2	Jiangsu	1.204989	13	Shanxi	1.007544	24	Guangxi	0.932918
3	Zhejiang	1.203057	14	Anhui	0.98684	25	Tibet	0.921703
4	Fujian	1.167419	15	Tianjin	0.980253	26	Ningxia	0.915776
5	Shanghai	1.142341	16	Liaoning	0.978238	27	Gansu	0.895807
6	Hubei	1.115464	17	Hainan	0.973527	28	Heilongjiang	0.893204
7	Guangdong	1.101758	18	Qinghai	0.963406	29	Guizhou	0.873213
8	Hunan	1.100863	19	Xinjiang	0.959767	30	Jilin	0.84607
9	chongqing	1.099897	20	Shandong	0.957012	31	Mongolia	0.812192
10	Sichuan	1.076486	21	Shaanxi	0.956931	-	-	-
11	Yunnan	1.070027	22	Hebei	0.937556	-	-	-

According to the scoring results, each province and city will be graded as follows:

It enters a well-off society in an all-round way basically, including Beijing, Shanghai, Zhejiang, Fujian, Guangdong and Jiangsu provinces. Strong economic stock, living standards and government management also contribute the most to sustainable development. These provinces also have a relatively large share of these three aspects. We can judge that these provinces have basically entered a well-off society in an all-round way. It should be noted that the discharge of waste water and waste gas, environmental pollution and governance need to be improved, which greatly limits the further improvement of entering a wealthy society.

It is going to enter a comprehensive well-off society type, including Hunan, Hubei, Chongqing, Sichuan, Yunnan, Henan and Shanxi provinces. The booming economy has given them a strong impetus. Compared with the provinces that have basically entered a moderately prosperous society, these provinces have a great opportunity to enter a moderately prosperous society as soon as possible. They have not done enough work on people's livelihood and social security, and the employment pressure is also enormous.

Waiting to enter a comprehensive well-off society type. Such regions include 13 provinces and cities including Ningxia, Tibet, Guangxi, Jiangxi, Hebei, Shaanxi, Shandong, Xinjiang, Qinghai, Hainan, Liaoning, Tianjin and Anhui. The internal differences of this type are obvious: Tianjin is similar to Beijing and Shanghai, but there are certain gaps in all aspects. Guangxi, Jilin and Hainan have considerable advantages in pollution control, total resources, population development, etc., but the scores of economic and social indicators are not high. Tianjin, Hebei, Anhui, and Liaoning's economic aggregates are all higher than the national average development level. However, the per capita amount is low. The total amount of resources is not high. The environmental pollution is serious, and the governance is not good, resulting in a low final score. Ningxia, Tibet, Xinjiang and Qinghai provinces are located in the northwest and southwest of my country. The economic and social development is unbalanced between them. There are obvious differences in basic people's livelihood needs. Supply conditions and the focus of people's livelihood work need to improve, which affect the final score[13].

Subsistence type, including four provinces and cities including Jilin, Guizhou, Heilongjiang and

Gansu. All of which are lower than the national average. Except for Heilongjiang and Jilin, whose economic aggregates are basically on the same level as the national average. The rest of the regions are far below the average level. The low level of economic development and the low income of the people have seriously affected the improvement of the total score. Guizhou and Gansu have a large base of poor population, but they are mainly the sick, old and disabled poor people, which seriously affected the score. The economic and social development level is low, the transportation is inconvenient, and the external communication is poor. Although the ecological environment is good and the resources are relatively abundant, it is difficult to be effectively utilized.

6. Conclusion

The paper uses a variety of methods and combines the official data of the National Bureau of Statistics to summarize and summarize multiple indicators, such as the difficulty coefficient, completion rate and future sustainable development capacity of all provinces in China. It builds the reasonable evaluation and ranking of a moderately prosperous society in an all-round way. It has certain reference significance for judging whether the provinces, municipalities and autonomous regions in the country have built a well-off society in an all-round way.

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