



# Research on the Construction of Public Policy Evaluation System of New Employment Pattern Development based on AHP

Xiaoyu Sha <sup>a</sup>, Xiaoxi Liu

School of Finance and Public Administration, Harbin University of Commerce, Harbin, Heilongjiang, China

<sup>a</sup>e-mail: 121642325@qq.com

\*Corresponding author: Weiwei Kong, kww119@sina.com

**Abstract.** With the rapid development of new economy and new business model, the emergence of new forms of employment for many workers to solve the problem of job-hunting, and new problems are constantly emerging. In the strategic measures taken by the state to ensure employment and people's livelihood, how to solve the problems in the new employment pattern, such as the insufficient protection of the rights and interests of workers, the absence of a public policy system for the new employment pattern, and the lagging supervision by government departments, through combing the relationship between the development of new employment pattern and public policy, this paper uses analytic hierarchy process (AHP) to construct an index evaluation system of four dimensions: economic operation, social development, employment stability and implementation, at the same time, 20 evaluation indicators were selected and the weights of each indicator were determined according to the expert scoring method, on the basis of analysis and judgment, this paper draws four policy conclusions, that is, establishing the public policy system of new employment pattern and perfecting the policies related to the rights and interests of workers, so as to promote the rapid and high-quality development of new employment pattern.

**Keywords:** New Employment Pattern; Public Policy; Evaluation System

## 1 Introduction

No matter from the global financial crisis since 2007 or the outbreak of the global epidemic since 2020, the problem of employment is of great concern to governments all over the world, just like Joseph E. Stiglitz pointed out in 2001 that "the most important thing to do in the economic depression is to ensure employment, to ensure that everyone who wants to work in society can find a job.". In recent years, with a new round of technological revolution, new formats and new business models have created many new forms of employment. At present, the flexible new employment pattern is an easy way for governments to solve the employment problems and practitioners. The quality of employment has become the core issue in the current global economic development

and the frontier issue of the domestic implementation of the "double cycle" of economy. This paper is based on the perspective of the public policy evaluation system of the development of new employment patterns, to explore ways to achieve high-quality employment. With the rapid development of new economy in China, new forms of employment are emerging. At the same time, China's public policies to support the development of new forms of employment have also been introduced. In 2019, the new jobs issued by China employment training technology guidance center include many jobs brought by new employment patterns in the new economy, such as intelligent manufacturing engineering and technical personnel, online distribution workers, health care workers, etc. in 2020, the national development and Reform Commission will actively promote the pilot work of new business forms and new models. The employment priority development strategy implemented in the report of the 19th CPC National Congress and the fourth and fifth plenary sessions of the 19th CPC Central Committee, especially the "six stabilities and six guarantees" policy successively issued by the central government from 2018 to 2020, is a strategic measure to stabilize employment and protect people's livelihood after the epidemic. Among the policies related to the new employment pattern issued by the Chinese government for six consecutive years, the top-level design of the policy combination includes fiscal policy, tax policy, financial policy, social security policy, employment system, labor rights and interests, skill training, occupation identification and other aspects. It can be seen that the development of the new employment patterns plays an important role in the employment quality of our country. From the practice of the development of new economy and new employment pattern, while the new economy drives the industrial development, the new employment pattern vigorously promotes the employment vitality<sup>[1]</sup>. According to statistics, in 2006, the proportion of intermittent employment in the U.S. labor market was 35.3%, of which the proportion of new employment practitioners was about 25.4%; in 2010, the proportion of intermittent employment in the U.S. labor market was 40.4%, of which the proportion of new employment practitioners was about 29.1%; it is estimated that by 2020, 50% of U.S. workers will become freelancers (Rashid, 2016); by the end of 2015, 50% of U.S. workers will become freelancers According to the data of the British labor market, the number of self-employed households has increased by more than 70% since 2000, accounting for 17% of the total employment<sup>[2]</sup>.

The wide application of modern information technology, such as Internet (especially mobile Internet), AI, cloud computing, big data, Internet of things, mobile payment and positioning technology, is the technical basis for the rapid development of new employment patterns. With the continuous improvement of intelligent technology, workers can be freed from the repetitive and monotonous work mode. The application of Internet technology and the development of new business forms such as platform economy bring multi-dimensional work mode, which will give birth to diversified new forms of employment, such as flexible employment, platform employment, innovation and entrepreneurship, and the proportion of new forms of employment such as freelancers will continue to increase. According to the data of McKinsey Global Research Institute, in Europe and the United States, some as many as 162 million people (20% - 30% of the total working age population) are more or less engaged in some form of independent work.

By 2025, various online talent platforms are expected to contribute about 2% of the world's GDP and create 72 million jobs<sup>[3]</sup>.

National Information Center data "China's sharing economy development report (2020)" shows that: in 2019, the number of sharing economy participants is about 800 million, including 78 million service providers, a synchronous growth of 4%, and the number of platform employees is 6.23 million, an increase of 4.2% compared with the previous year. In the novel coronavirus pneumonia epidemic, the US group has recruited about 1000000 new network distribution workers, of whom 78.6% of the network distribution staff came from the catering industry, such as the catering industry, manufacturing industry and small and micro enterprises, which were unable to resume production and resumed on time. It is not difficult to see from the above data that, on the one hand, the new employment patterns hatched by the new economy have created more new jobs for workers; on the other hand, they are closely related to the series of public policies issued by the government in recent years to support the development of China's new economy and new employment.

At present, domestic and foreign scholars mainly focus on the relationship between the new economy and the new employment pattern, and the ways of public policy support for the new economy and the new employment pattern. Foreign scholars use qualitative and quantitative analysis methods to study the problems related to new employment. Klaus Schwab (2017), President of the world economic forum, believes that the world is in the fourth industrial revolution, and the rapid development of new technologies has created new jobs, and has a substantial impact on economic and social behaviors such as employment<sup>[4]</sup>, Ioannis D. Anyfantis Professor (2020) studies the impact of the new flexible employment situation in Greece, and points out that with the substantial increase of part-time work and rotation contract work<sup>[5]</sup>; domestic scholars mainly use qualitative and quantitative analysis method to analyze and judge in the evaluation of new economy and employment public policy, especially in recent years, the use of empirical research method has an increasing trend For example, Professor Desheng Lai of Beijing Normal University (2011) used time series model to evaluate China's employment policy from 1998 to 2008<sup>[6]</sup>, Professor Jun Yin and Xiaohe Li of social security research center of Wuhan University (2015) used fuzzy comprehensive evaluation method to evaluate the effect of China's employment promotion policy<sup>[7]</sup>, Associate Professor Yana Liu of Capital Normal University (2019) analyzed the talent policy by using the method of text analysis<sup>[8]</sup>.

Through the analysis of the existing literature, we find that the quantitative analysis of new employment related policies mainly focuses on the whole process of policy implementation, using the double difference method and the method of constructing time series model to evaluate the policies, while the research on the public policies supporting the form of new employment using analytic hierarchy process is rare, which is the research space and value of this paper.

## **2 New forms of employment and the internal logic of public policy evaluation**

### **2.1 Definition and characteristics of new employment pattern**

Associate Professor Chenggang Zhang (2016) of Capital University of economics and trade believes that the concept of new employment pattern can be defined from the perspectives of productivity and production relations. From the perspective of productivity, it is a new working mode brought about by the intellectualization of traditional means of production, and from the perspective of production relations, it is a de employer working mode under the upgrading of the Internet <sup>[2]</sup>. Deputy director of Beijing Philosophy and social science planning office Songling Zhu (2018) believes that the new employment pattern is an employment pattern in which traditional industries are transformed to the Internet under the development of China's new economy, but an independent system has not been fully formed <sup>[9]</sup>. It can be seen that with the development of sharing economy and the improvement of Internet technology, the new employment mode is gradually evolving from the traditional employment mode to intelligent enterprise management, de employer labor relations and flexible employment forms.

The characteristics of new employment pattern come from the concept of new employment pattern, mainly in four aspects: first, relying on Internet technology, new employment pattern cannot do without the rapid development and application of Internet technology, which makes the new employment pattern shine in the epidemic situation; second, the form of employment is flexible, and the form of employment stipulated in the labor contract law cannot cover the use of new employment pattern The new form of employment expands the boundary of flexible employment; third, the employment choice is more flexible, workers can choose multiple jobs, breaking through the clear definition of full-time and part-time jobs; fourth, the industry entry threshold is low, the new form of employment has lower requirements for workers' industry background and skills, and the ability to absorb labor is stronger.

### **2.2 The relationship between new employment pattern and public policy evaluation**

On the one hand, the development speed and quality of new employment mainly depend on the degree of public policy support. As mentioned above, new employment patterns mainly reflect the content of new employment patterns through public policies. Since the word "new employment patterns" was formally put forward in the Fifth Plenary Session of the 18th CPC Central Committee in 2015, every new employment policy will appear the content related to new employment patterns. It can be seen that the new employment pattern mainly depends on public policies such as finance, taxation, finance, social security and employment to reflect its value connotation, and public policies have become the core to reflect the development state of new employment pattern.

On the other hand, the effect evaluation of public policy measures and standardizes the development quality of new employment patterns. The purpose of public policy evaluation mainly focuses on two aspects, one is to promote more perfect policies based on

the results, the other is to measure the deviation degree of policies. When the results of public policy evaluation are better, the public policies can be vigorously promoted to promote the implementation and development of policies, and when the results of public policy evaluation are unsatisfactory, the policies can be improved in a timely manner, so as to make the public policy more effective. The policy is effective and standardized. For the public policies related to the new employment pattern, in addition to supporting the development perspective, it also involves the regulatory perspective to make its high-quality development. At the same time, whether it is to do a good job in the "six stabilities" or to implement the "six guarantees" to ensure the employment of residents, the employment problem is in the first place. It can be seen that the new form of employment has a significant impact on economic and social development. The introduction of public policies for the new form of employment not only expands employment channels, stimulates new growth points of employment, but also improves standardization to ensure the stability of employment.

### **2.3 Problems in the development of new employment patterns supported by public policies**

With the rapid development of the new economy and new employment, some new problems hinder their development, such as the lack of protection of workers' rights and interests in the new form of employment, the uneven implementation of policies to support the new form of employment, and so on. All kinds of problems hinder the development speed and quality of the new economy and new employment to a certain extent. Through summarizing and sorting out the published policies and literatures, it is found that there are four main problems in the support of public policies for new employment patterns. First of all, the public policy system of new employment pattern has not been established. Because the relevant policies of new employment pattern are relatively scattered, the government departments can only discuss the policies from point to area when implementing the policies, but can not consider the high-quality development of new employment pattern from the macro perspective through the policy system. Second, the pertinence of new employment pattern enterprises is not strong, because there is no unified concept of new employment pattern. Moreover, there is no policy system, which leads to the lack of pertinence to new forms of employment and public policies covering all the connotation of new forms of employment. Thirdly, the protection of workers' rights and interests is insufficient, and the existing policies can not cover all employees of new forms of employment. In recent years, social insurance and labor dispute cases of employees of new forms of employment occur frequently, which also reflects the current new forms of employment from the side. There is a blind spot in the protection of workers' rights and interests by public policy; finally, the lag of government supervision has two effects: one is that government departments can not be interconnected, which will lead to waste of resources and incomplete coverage; the other is that the government staff's understanding of the new employment pattern is lagging, which is easy to cause the problem of unprofessional policy interpretation. It can be seen that the problems of public policy support for new employment pattern will have an impact on the development of new employment pattern.

## 2.4 Selection and definition of public policy effect evaluation index in the development of new employment pattern

On the selection of theoretical indicators for the evaluation of public policy effect, American political scientist Harold Lasswell (1995) proposed that objectives and means, value and technology are inseparable, and the evaluation of public policy effect can objectively reflect the problem-solving situation <sup>[10]</sup>; Swedish political scientist Evert Weitang (1997) proposed that the evaluation of public policy effect can be carried out through three modes: effect, economy and occupation A total of policy evaluation <sup>[11]</sup>; Professor Zhenming Chen of Xiamen University (2003) proposed that the effectiveness, efficiency and value of policies can be evaluated through input workload, performance, overall indicators of social development and executive power <sup>[12]</sup>; Professor William N. Dunn of University of Pittsburgh (2005) proposed that six criteria should be followed when selecting evaluation indicators, namely effectiveness, efficiency, adequacy, fairness and responsiveness To ensure that the evaluation criteria are effective <sup>[13]</sup>. Professor Qingyun Chen (2006) of Peking University pointed out that the evaluation of public policy mainly includes four aspects: value, effect, risk and feasibility, and the effect of public policy can be evaluated by comparing before and after <sup>[14]</sup>. Although the academic community has not reached a consensus, but it has something in common, that is, from the goal of public policy, economic value, social value and executive power of four aspects to select the theoretical indicators of evaluation. This paper follows the principle of the effectiveness, necessity and feasibility of index selection, combined with the goal of stabilizing employment of new employment pattern of public policy, selects four first level indicators of economic operation, social development, employment stability and policy implementation.

Based on the collation of existing literature results and the summary of policies issued since the word "new employment pattern " was put forward in the Fifth Plenary Session of the 18th CPC Central Committee in 2015, this paper selects and determines four first level indicators and twenty second level indicators of economic operation, social development, employment stability and policy implementation in accordance with the principles of effectiveness, necessity and feasibility of evaluation index selection. At the same time, collect the opinions of experts in the field of new employment patterns on the evaluation indicators. The collected representative indicators are summarized to form the evaluation index system of public policy effect of new employment pattern. The specific indicators are shown in Table 1 Evaluation Index of Public Policy Effect of New Employment Pattern.

**Table 1.** Evaluation Index of Public Policy Effect of New Employment Pattern

First level indicators	Secondary indicators	Source of indicators
Economic Operation	Per capita GDP	<i>Report on the development of China's sharing economy</i>
	Proportion of output value of tertiary industry	(Fan Zifu, 2020)

First level indicators	<i>Secondary indicators</i>	<i>Source of indicators</i>
	Proportion of added value of high tech industry in GDP	<i>China's innovation and Entrepreneurship Development Report</i>
	Asset liability ratio of commercial enterprises above Designated Size	“Notice of the State Administration of Taxation on comprehensively promoting the pilot project of replacing business tax with value added tax” (2016) No.36
	Retail sales of Enterprises above Designated Size through public network	“Implementation opinions of the general office of the State Council on enhancing the driving role of mass entrepreneurship and innovation demonstration base, further promoting reform and stabilizing employment” (2020) No.26
	Total foreign imports and exports	“Circular of the State Administration of foreign exchange on supporting the development of new trade formats” (2020) No.11
Social Development	Number of technology business incubators	<i>China's innovation and Entrepreneurship Development Report</i>
	Number of new employment enterprises	“Guidance of the general office of the State Council on promoting the healthy development of platform economy” (2019) No.38
	Number of occupations involved in new employment pattern	“Notice on the publication of new occupation information” (2019) No.67
	Number of employees in new employment pattern	<i>Report on the development of China's sharing economy</i>
	Proportion of urban employees participating in basic endowment insurance	<i>Statistical bulletin on the development of human resources and social security</i>
	Proportion of employees participating in industrial injury insurance	<i>Statistical bulletin on the development of human resources and social security</i>
Employment Stability	Training rate of vocational skills in new employment pattern	“Opinions of the State Council on implementing the division of work of key departments in the government work report” (2018) No.9
	New employment patterns absorb flexible employment	“Opinions of the State Council on further stabilizing employment” (2019) No.28

First level indicators	Secondary indicators	Source of indicators
	Labor contract signing rate of employees in new employment pattern	“Opinions of the State Council on doing a good job of employment and entrepreneurship at present and in the future” (2017) No.28
	Proportion of enterprises with new employment pattern receiving stable post subsidy	“Opinions of the State Council on promoting employment at present and in the future” (2018) No.39
	Proportion of employment dispute cases in new employment pattern	“Notice of the State Council on printing and distributing the 13th five year plan for promoting employment” (2017) No.10
Policy Implementation	Timeliness of policy release path update	Interview collection
	Question feedback path communication fluency	Interview collection
	Professional answer ability of policy implementation personnel	Interview collection

### 3 Construction of evaluation index system of public policy based on AHP

Analytic hierarchy process (AHP) was put forward by the famous American operational research scientist satty in the 1970s. It can realize the transformation of the comparison between two or more indicators, and finally determine the importance of indicators. It is a research method combining the qualitative and the quantitative. Since the evaluation of public policy effect of new employment patterns involves many indexes, the analytic hierarchy process (AHP) can be used to solve the complex problem of public policy effect of new employment patterns. The evaluation system of public policy effect of new employment patterns can be constructed by establishing the hierarchical structure, constructing the judgment matrix and determining the index weight. Firstly, the effect of new employment pattern of public policy is divided into different sets of indicators to establish a hierarchy; secondly, according to the indicators in the hierarchy, the judgment matrix of pairwise comparison is constructed, and the consistency test model of index weight is determined; finally, the index weight is determined combined with the expert scoring method, and the consistency test is carried out to measure the rationality of the index weight The index weight of the test constitutes the evaluation system of the public policy effect of the new employment pattern.

#### 3.1 Establishing the hierarchical structure

AHP divides the impact indicators into target level, criterion level and indicator level. Combined with the selection of the above indicators, it sets the evaluation target level



as the effect of new employment pattern public policy (A), the evaluation criterion level as four first-class indicators, which are economic operation (B<sub>1</sub>), social development (B<sub>2</sub>), employment stability (B<sub>3</sub>) and policy implementation (B<sub>4</sub>), and the evaluation index level is two Ten secondary indicators (C<sub>1</sub>-C<sub>20</sub>) are shown in Figure 1 Hierarchy Diagram.

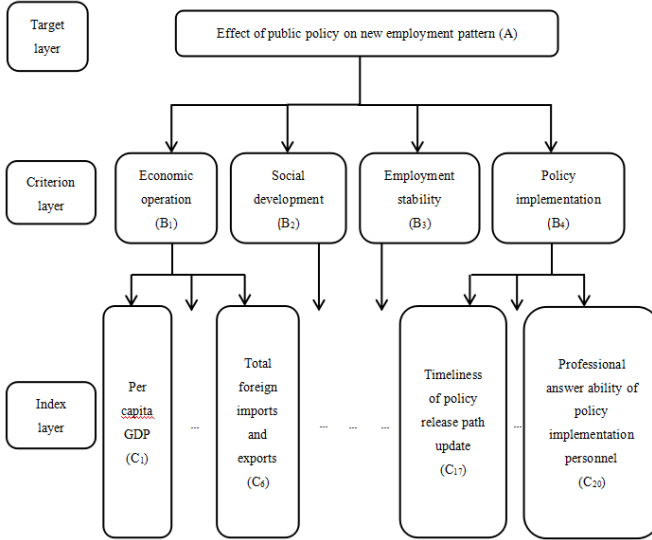


Fig. 1. Hierarchy Diagram

### 3.2 Constructing the judgment matrix

- Suppose that there are ‘n’ influence indexes to form the index set  $A=\{a_1, a_2, \dots, a_n\}$ , compare the influence of any two indexes on the index set, and construct the judgment matrix  $B=(b_{ij})_{n \times n}$ , the impact indicators are compared, where ‘n’ represents that there are ‘n’ impact indicators in the indicator set,  $b_{ij}$  represents the ratio of the i-th index and the j-th index to the influence degree of index set A. Finally, the judgment matrix of order n can be formed. The specific matrix is shown in Table 2 N-order Judgment Matrix

Table 2. N-order Judgment Matrix

A	$a_1$	$a_2$	...	$a_n$
$a_1$	1	$1/b_{21}$	...	$1/b_{n1}$
$a_1$	$b_{21}$	1	...	$1/b_{n1}$
...	...	...	1	...
$a_1$	$b_{n1}$	$b_{n2}$	...	1

- The evaluation of two-to-two comparison of indicators is obtained by experts scoring and Excel processing. The 1-9 scale evaluation method of Saaty is used to reflect the importance of indicators. It is assumed that the weight vector of judgment matrix

is  $W_i$ . After the judgment matrix scale processing is completed, the calculation is as follows:

- Step one: normalize each column element in the judgment matrix, where  $i, j=1, 2, \dots, n$

$$b_{ij} = \frac{b_{ij}}{\sum_{i=1}^n b_{ij}} \tag{1}$$

- Step two: add the normalized judgment matrix by column, where  $i=1, 2, \dots, n$

$$W'_i = \sum_{j=1}^n b'_{ij} \tag{2}$$

- Step three: for the vector  $W'=(W'_1, W'_2, \dots, W'_n)^T$  is normalized, where  $i=1, 2, \dots, n$
- the calculated result is the index weight;

$$W_i = \frac{W'_i}{\sum_{i=1}^n W'_i} \tag{3}$$

- Step four: after the calculation of weight vector, the weight of index has been calculated, but due to the influence of calculation method, numerical value and other factors, it will produce unreasonable phenomenon. Therefore, consistency test should be carried out, and the maximum eigenvalue of judgment matrix should be calculated first in the consistency test  $\lambda_{\max}$

$$\lambda_{\max} = \frac{1}{n} \sum_{i=1}^n \frac{BW}{W_i} \tag{4}$$

- Step five: consistency index CI of judgment matrix

$$CI = \frac{\lambda_{\max} - n}{n - 1} \tag{5}$$

- Step six: determine the random consistency ratio CR, where RI represents the average random consistency index, which can be seen from table 3 Average Random Consistency Index RI.

$$CR = \frac{CI}{RI} \tag{6}$$

**Table 3.** Average Random Consistency Index RI

Matrix order	1	2	3	4	5	6	7
RI	0.00	0.00	0.52	0.89	1.12	1.26	1.36

- If CR is less than 0.1, the random consistency of the matrix can be judged to be acceptable, and the weight ratio is proved to be reasonable. Otherwise, the weight ratio is unreasonable, so it should be adjusted. After adjustment, the consistency ratio should be calculated again until the ratio is lower than 0.1.

### 3.3 Determining the index weight

- According to the index hierarchy structure, 23 experts in the field of new employment pattern are selected to score the importance of each index. In order to reduce the impact of subjective factors on the index system, the selection of personnel covers typical enterprise managers in service industry, government officials and scholars in related fields. A total of 23 questionnaires were sent to experts in the field of new employment patterns by e-mail, Wechat and questionnaire star, and finally 20 valid questionnaires were collected. After the collected data were processed by Excel, they were put into the judgment matrix for calculation, and finally the index weight and consistency test results were obtained, as shown in table 4-8.

**Table 4.** Criterion Layer to Target Layer (A) Index Weight Judgment Matrix and Consistency Test Results

A	Economic Operation (B <sub>1</sub> )	Social Development (B <sub>2</sub> )	Employment Stability (B <sub>3</sub> )	Policy Implementation (B <sub>4</sub> )	Weight Value $W_i$
Economic Operation (B <sub>1</sub> )	1	2	3	5	<b>0.46436</b>
Social Development (B <sub>2</sub> )	1/2	1	4	3	<b>0.31707</b>
Employment Stability (B <sub>3</sub> )	1/3	1/4	1	2	<b>0.13329</b>
Policy Implementation (B <sub>4</sub> )	1/5	1/3	1/2	1	<b>0.08528</b>
Consistency Test	Maximum Eigenvalue	CI Value	RI Value	CR Value	<b>Consistency Test Result Consistency Test Results</b>
	4.128	0.043	0.89	0.048	<b>Adopt</b>

**Table 5.** Index Layer to Criterion Layer (B<sub>1</sub>) Index Weight Judgment Matrix and Consistency Test Results

B <sub>1</sub>	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	Weight Value $W_i$
C <sub>1</sub>	1	1/3	3	1/2	2	4	<b>0.17591</b>
C <sub>2</sub>	3	1	4	2	3	5	<b>0.35967</b>
C <sub>3</sub>	1/3	1/4	1	1/3	1/2	2	<b>0.07688</b>
C <sub>4</sub>	2	1/2	3	1	2	3	<b>0.21811</b>
C <sub>5</sub>	1/2	1/3	2	1/2	1	2	<b>0.11367</b>
C <sub>6</sub>	1/4	1/5	1/2	1/3	1/2	1	<b>0.05576</b>
Consistency Test	Maximum Eigenvalue	CI Value	RI Value	CR Value	<b>Consistency Test Results</b>		
	6.169	0.034	1.26	0.027	<b>Adopt</b>		

**Table 6.** Index Layer to Criterion Layer (B<sub>2</sub>) Index Weight Judgment Matrix and Consistency Test Results

B <sub>2</sub>	C <sub>7</sub>	C <sub>8</sub>	C <sub>9</sub>	C <sub>10</sub>	C <sub>11</sub>	C <sub>12</sub>	Weight Value $W_i$
C <sub>7</sub>	1	1/4	1/2	1/3	1/3	2	<b>0.07695</b>
C <sub>8</sub>	4	1	3	2	2	5	<b>0.34225</b>
C <sub>9</sub>	2	1/3	1	1/2	1/2	3	<b>0.12382</b>
C <sub>10</sub>	3	1/2	2	1	1	4	<b>0.20679</b>
C <sub>11</sub>	3	1/2	2	1	1	3	<b>0.19754</b>
C <sub>12</sub>	1/2	1/5	1/3	1/4	1/3	1	<b>0.05265</b>
Consistency Test	Maximum Eigenvalue	CI Value	RI Value	CR Value	Consistency Test Results		
	6.087	0.017	1.26	0.014	<b>Adopt</b>		

**Table 7.** Index Layer to Criterion Layer (B<sub>3</sub>) Index Weight Judgment Matrix and Consistency Test Results

B <sub>3</sub>	C <sub>13</sub>	C <sub>14</sub>	C <sub>15</sub>	C <sub>16</sub>	C <sub>17</sub>	Weight Value $W_i$
C <sub>13</sub>	1	1/3	1/2	1/4	2	<b>0.10305</b>
C <sub>14</sub>	3	1	2	1	4	<b>0.31439</b>
C <sub>15</sub>	2	1/2	1	1/2	3	<b>0.18100</b>
C <sub>16</sub>	4	1	2	1	4	<b>0.33344</b>
C <sub>17</sub>	1/2	1/4	1/3	1/4	1	<b>0.06812</b>
Consistency Test	Maximum Eigenvalue	CI Value	RI Value	CR Value	Consistency Test Results	
	5.049	0.012	1.12	0.011	<b>Adopt</b>	

**Table 8.** Index Layer to Criterion Layer (B<sub>4</sub>) Index Weight Judgment Matrix and Consistency Test Results

B <sub>4</sub>	C <sub>18</sub>	C <sub>19</sub>	C <sub>20</sub>	Weight Value $W_i$	
C <sub>18</sub>	1	2	3	<b>0.44286</b>	
C <sub>19</sub>	1/2	1	4	<b>0.38730</b>	
C <sub>20</sub>	1/3	1/4	1	<b>0.16984</b>	
Consistency Test	Maximum Eigenvalue	CI Value	RI Value	CR Value	Consistency Test Results
	3.018	0.009	0.52	0.018	<b>Adopt</b>

- After calculation, the weight consistency ratio of the evaluation index system of public policy effect of new employment pattern is less than 0.1. Through the consistency test, the index weight can be determined. The specific weight is shown in Table 9 The Weight of Evaluation Index System of Public Policy Effect of New Employment Pattern

**Table 9.** The Weight of Evaluation Index System of Public Policy Effect of New Employment Pattern

Target Layer	Criterion Layer (Weight)	Index Layer	Weight
	Economic Operation	Per capita GDP(C <sub>1</sub> )	<b>0.17591</b>

Target Layer	Criterion Layer (Weight)	Index Layer	Weight
Effect of public policy on new employment pattern (A)	<b>(B<sub>1</sub>) (0.46436)</b>	Proportion of output value of tertiary industry(C <sub>2</sub> )	<b>0.35967</b>
		Proportion of added value of high tech industry in GDP(C <sub>3</sub> )	<b>0.07688</b>
		Asset liability ratio of commercial enterprises above Designated Size(C <sub>4</sub> )	<b>0.21811</b>
		Retail sales of Enterprises above Designated Size through public network(C <sub>5</sub> )	<b>0.11367</b>
		Total foreign imports and exports(C <sub>6</sub> )	<b>0.05576</b>
	<b>Social Development (B<sub>2</sub>) (0.31707)</b>	Number of technology business incubators(C <sub>7</sub> )	<b>0.07695</b>
		Number of new employment enterprises(C <sub>8</sub> )	<b>0.34225</b>
		Number of occupations involved in new employment pattern(C <sub>9</sub> )	<b>0.12382</b>
		Number of employees in new employment pattern(C <sub>10</sub> )	<b>0.20679</b>
		Proportion of urban employees participating in basic endowment insurance(C <sub>11</sub> )	<b>0.19754</b>
		Proportion of employees participating in industrial injury insurance(C <sub>12</sub> )	<b>0.05265</b>
	<b>Employment Stability (B<sub>3</sub>) (0.13329)</b>	Training rate of vocational skills in new employment pattern(C <sub>13</sub> )	<b>0.10305</b>
		New employment patterns absorb flexible employment(C <sub>14</sub> )	<b>0.31439</b>
		Labor contract signing rate of employees in new employment pattern (C <sub>15</sub> )	<b>0.18100</b>
		Proportion of enterprises with new employment pattern receiving stable post subsidy(C <sub>16</sub> )	<b>0.33344</b>
		Proportion of employment dispute cases in new employment pattern (C <sub>17</sub> )	<b>0.06812</b>
	<b>Policy Implementation (B<sub>4</sub>) (0.08528)</b>	Timeliness of policy release path update(C <sub>18</sub> )	<b>0.44286</b>
		Question feedback path communication fluency(C <sub>19</sub> )	<b>0.38730</b>
		Professional answer ability of policy implementation personnel(C <sub>20</sub> )	<b>0.16984</b>

Through the calculation and test of AHP, the index weight of the new employment pattern of public policy effect evaluation system has been determined. From table 10, we can see that the criterion layer has the highest weight of economic operation in the target layer, followed by social development, employment stability, and implementation.

## 4 Conclusions and Suggestions

In this paper, the analytic hierarchy process (AHP) is used to build a new employment pattern of public policy effect evaluation system model with 20 indicators under the criteria of economic operation, social development, employment stability and policy implementation. The results show that the weights of six indicators are more than 0.3, which are the proportion of the output value of the tertiary industry, the number of enterprises with new employment patterns, the number of flexible employment in new employment patterns, the proportion of enterprises with new employment patterns receiving stable job subsidies, the timeliness of policy release and the communication fluency of problem feedback path. The highest weight of the output value of the tertiary industry is 0.35967, As the new employment pattern enterprises are concentrated in the tertiary industry, which is consistent with the actual situation, the highest weight of timeliness of policy release is 0.44286 in the qualitative indicators. Due to the lag of new employment pattern enterprises' access to policy information, timely updating policy is the key factor affecting the new employment pattern enterprises' effective access to policy support; at the same time, the weight of five indicators is less than 0.1 The proportion of added value of high-tech industry in GDP, total foreign imports and exports, the number of science and technology business incubators, the proportion of participating in work-related injury insurance and the proportion of employment dispute cases in new employment pattern are respectively. Among them, the proportion of participating in work-related injury insurance is the lowest, only 0.05265 On the other hand, it also shows that there are many problems that some of the rights and interests of new employment practitioners are not properly protected.

Using the evaluation index system of public policy effect of new employment pattern constructed in this paper, we can quantitatively evaluate the comprehensive development of new employment pattern in various cities or regions. The implementation of policies to support the new employment patterns are uneven in different regions. Through the horizontal comparison between cities, we can find out the weakness of cities with lower scores. Local governments can make targeted adjustments when formulating policies, such as the low matching degree of labor market supply and demand structure of new employment patterns, and the lack of new skills of workers. At the same time, the scores of various indicators in the same city can be compared vertically to compare the scores of different categories in the criteria layer or between different indicators in the indicator layer. We should pay special attention to the projects with high index weight but low actual scores, and only support the essence of new employment patterns Development can effectively promote the formation of scale effect in the new employment pattern, such as the lack of protection of workers' rights and interests, the absence of labor security regulatory services and the low social security payment rate of employees in the new employment pattern, which can be improved by improving rules and regulations and strengthening supervision.

To sum up, the following four suggestions are put forward. One is to establish a new employment pattern of public policy system. A perfect policy system can provide strong support and an important institutional guarantee for the development of new employment patterns. Integrating the relevant policies of new employment patterns can make

the implementation of policies more standardized. At the same time, the feedback of enterprise problems is more centralized and the policies are more effectively implemented, so as to form a virtuous circle to promote the high-quality development of new employment patterns. It can also be stimulated by a perfect policy system. The enthusiasm of enterprises and individuals is conducive to the development of new forms of employment; the second is to introduce support policies for new forms of employment. Under the background of digital economy, the government's policies to adapt to new technologies and new industries and the maintenance and implementation of the system help the economy and society adapt to the development of new employment patterns. On the one hand, the government effectively supports the development of new employment patterns when it introduces policies; on the other hand, it forces the policies to be improved and the supervision to be more powerful through the lack of implementation effect after the implementation of policies. The third is to improve the policies related to the rights and interests of workers. New forms of employment need to be standardized in the development. The government should improve and implement relevant policies, promote the integration of new forms of employment into the normal mode of social and economic development, and protect the labor relations, social insurance and other related rights and interests of new forms of employment practitioners. The rapid development of new forms of employment, the relevant policies and regulations are not completely synchronized, even in the case of labor disputes, the judicial department has no precedent to follow, resulting in the new forms of employment of workers' rights and interests can not be fully protected, such as labor contract signing, social insurance, industrial accident compensation and employer responsibility clarity, improve the rights and benefits of workers. The fourth is to strengthen the joint supervision of government departments. With the rapid development of new forms of employment, the problems of job substitution, monopoly and labor security come one after another. The government should improve policies such as social security, law, taxation and public security to alleviate the impact of new forms of employment on traditional employment. Many policies involve many departments. If each department only introduces policies to regulate the problems involved in its own departments, it will be difficult. Avoid violating the principle of integrity, thereby reducing the efficiency of communication between enterprises and the government. Through the multi sector linkage, we can effectively reduce the sunk cost of information asymmetry, and the multi sector joint supervision can also find and solve some problems that have never appeared before. At the same time, we can carry out unified training for the policy implementation personnel, strengthen the understanding and cognition of the administrative personnel on the new employment pattern, and more effectively promote the development of enterprises with new employment pattern.

## **Acknowledgment**

This work was supported by National Social Science Foundation Project (14BJY032), Harbin University of Commerce Discipline Project (HX2016001), and Harbin University of commerce graduate innovative research project (YJSCX2019-571HSD).

## References

1. Chenggang Zhang. Classification characteristics and development strategies of new employment patterns [J]. Learning and practice,2018 (03): 14-20
2. Chenggang Zhang. Future trend of employment development, concept and impact analysis of new employment patterns [J]. China human resource development,2016 (19): 86-91
3. Min Liu. multiple impacts of new technology revolution on employment and policy suggestions [J]. Macroeconomic management,2017 (03): 54-56 + 60
4. Schwab, K. The Fourth Industrial Revolution [M]. Crown Business,2017:26.
5. Ioannis D. Anyfantis, George Boustras. The effects of part-time employment and employment in rotating periods on occupational accidents[J]. The case of Greece. 2020, 121:1-4.
6. Desheng Lai, Dahu Meng, Changan Li, Yongpo Tian. Evaluation of China's employment policy: 1998-2008 [J]. Journal of Beijing Normal University (Social Science Edition), 2011 (03): 110-124.
7. Jun Yin, Xiaohu Li. Reconstruction and empirical analysis of evaluation system of employment promotion policy [J]. Journal of Social Sciences of Jilin University, 2015,55 (06): 25-33 + 171.
8. Yana Liu, Qiyuan Dong, Xiaoting Tan. Talent policy evaluation and reflection under the background of coordinated development of Beijing, Tianjin and Hebei -- Based on policy text analysis from 2013 to 2018 [J]. Journal of Tianjin University of administration, 2019,21 (05): 47-58.
9. Songling Zhu. New employment pattern: concept, mode and prospect [J]. China Youth Social Sciences, 2018 (3): 8-14.
10. Michael Howlett and M.Ramesh: Study Public Policy: Policy Cyclesand Subsystems [M]. Oxford University Press, 1995.
11. Evert Vedung. Public policy and program Evaluation [M]. New Brunswickand London: Transaction Publishers, 1997.
12. Zhenming Chen. Public policy analysis. [M]. Beijing: China Renmin University Press, 2003.
13. William N.Dunn. Introduction to public policy analysis (Second Edition). [M]. Beijing: China Renmin University Press, 2005.
14. Qingyun Chen. Public policy analysis. [M]. Beijing: Peking University Press, 2006.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

