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ANALYSIS ON THE EFFICIENCY OF FINANCIAL SUBSIDIES FOR VOCATIONAL TRAINING OF NEW TECHNOLOGY WORKERS IN JIANGSU

Chen Yi-xuan

Nanjing University of Aeronautics and Astronautics, Yudao NO.29, Nanjing, Jiangsu, China

*Corresponding Author Email: chenyixuan022@163.com

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ABSTRACT

Firstly, through the historical data analysis of the status of implementation of occupation training subsidies in Jiangsu province new skilled workers; secondly, using data envelopment analysis method of efficiency evaluation index set, calculation and analysis of the results, given the overall efficiency evaluation of Jiangsu province new skilled workers occupation training in fiscal subsidy; the new skilled workers in the occupation training the fiscal subsidy fund use efficiency and increase the conclusion; from the new skilled workers training investment, strengthen the supervision and management of financial subsidies and the implementation of the proposals were put forward three aspects of performance appraisal system of financial subsidies.

KEYWORDS

Vocational training, Financial subsidies, Efficiency analysis, DEA model.

1. AN OVERVIEW OF THE STATUS OF VOCATIONAL TRAINING FOR NEW TECHNOLOGY WORKERS IN JIANGSU

1.1 Status of vocational training

Since the reform and opening up, China's social awareness of the importance of occupation training constantly, gradually realize the occupation training to improve the ability of workers and occupation quality, promote employment, improve the quality of employment, to resolve the contradiction of employment structure, function to achieve sustainable economic and social development. The scale of social vocational training continues to expand, and the coverage is expanding. It plays a positive role in improving workers' professional ability and quality and promoting employment.

Table 1: The number and results of vocational training in the whole province in 2012-2016

Year	Training of job skills for employees in Enterprises	Employment skills training of urban and rural workers	Entrepreneurship training	New professional and technical personnel	New high skill talents
2012	136.30	69.30	24.90	32.40	32.40
2013	152.80	71.80	28.40	40.50	29.60
2014	152.68	69.77	31.09	44.19	30.56
2015	151.05	66.45	25.35	50.43	29.53
2016	143.59	67.00	26.90	49.01	33.32
Total	736.42	344.32	136.64	216.53	155.41

From table 1, 2012 to 2016 years, have a stable number of skilled workers in job skills training, job skills training and entrepreneurship training workers in urban and rural areas across the province each year, such training has also made remarkable achievements over the past three years, the number of the province's new professional technicians and high skilled personnel increased five years the total increase of professional and technical personnel 2,165,300 people, high technical personnel 1,554,100 people, has played an important role in Jiangsu province for the new skilled workers team construction.

1.2 The present situation of the implementation of financial subsidies

In Jiangsu province of new skilled workers actively carry out occupation training, investment mechanism of public financial support for occupation training and skills talent team construction gradually

established, initially formed by the employment of special funds, the unemployment insurance fund to expand the scope of expenditures of funds, fund and the Ministry and province allocated special funds etc. the diversification of vocational education occupation training funding channels [1].

In recent years, the provincial finance for the cultivation of high skilled talents of special funds increased year by year, construction of investigation and research data in Jiangsu Province in 2015 to carry out the human resources and Social Security Department of skilled workers lifelong occupation training system (Table 2) shows that financial subsidies have increased from 340,397,700 yuan in 2010 to 437,432,800 yuan in 2014, effectively supporting the carry out occupation training work.

Table 2: The list of government subsidies for the vocational training of new technology workers in Jiangsu

Year	Amount of subsidy for employment training [Million yuan]	Amount of subsidy for Job skills promotion training [Million yuan]	Amount of Subsidy for entrepreneurship training [Million yuan]	Other subsidies for training [Million yuan]
2010	17024.11	3355.86	4704.91	8954.89
2011	15744.68	4366.49	4922.90	10742.09
2012	15129.02	6487.76	5063.67	11639.59
2013	17428.15	7943.73	6070.47	9807.39
2014	17305.74	9790.23	7213.09	9434.23

1.2.1 The government's achievement in the training of highly skilled personnel has expanded.

The finance gives some training subsidies to technicians who participate in vocational training and obtain vocational qualification certificates through formal examinations. In accordance with the regulations, the workers of all kinds of urban and rural workers, which have certain entrepreneurial conditions and are willing to start a business and receive training, give subsidies for entrepreneurship training.

1.2.2 Increase urban and rural workers to train financial expenditure.

Start the implementation of migrant workers in Jiangsu province the "spring tide", to further improve the employment of migrant workers entrepreneurship and job transfer ability. In 2014 the arrangement of rural labor occupation skill appraisal certificate prize for capital of 154

million yuan, a total of 147 thousand rural laborers enjoy certified premium policy; 2015 arrangement of rural labor occupation skill appraisal certificate prize for capital of 120 million yuan, enjoy the rural labor occupation skill appraisal certificate award and subsidy policy of the rural labor force up to 140 thousand and 500 people.

1.2.3 Support the construction of high skilled personnel.

In 2016, the provincial financial arrangement of high-level and highly skilled personnel was 190 million yuan, and a special 91 million yuan was set up for the construction of high skilled personnel. 2017, start new army skills training projects, the implementation of high skilled personnel training plan, leading talents "young growth" plan. The key project of provincial financial allocation for highly skilled talents is 16 million 800 thousand yuan for provincial special public training base, provincial skill master studio, chief technician, demonstration specialty and excellent course construction.

2. EFFICIENCY ANALYSIS BASED ON DEA MODEL

2.1 A brief introduction to the DEA model

Data envelopment analysis (DEA) is called Data [Envelopment Analysis]. It is a nonparametric method that uses linear programming technology to do quantitative economic analysis, and integrates knowledge of economics, mathematics and management []. DEA is a mathematical model based on the mathematical programming model to compare the relative efficiency of each decision-making unit, and its evaluation object is mainly DUM. After input the "input index" and "output index" of decision making units, we can use DEA to evaluate DMU, and analyze the efficiency level of different units based on the evaluation results []. In this paper, DEAP2.1 software is used to evaluate the efficiency of financial subsidies in the vocational training of new technology workers.

2.2 Selection of evaluation index

In this paper, 13 units of Jiangsu Province as a decision making unit, is to assess the unit, in order to ensure the scientific research results, the input variables selected for this part of the three training subsidies, namely new skilled workers employment training subsidies (X1), new technology workers skills training to enhance the amount of subsidies (X2) and new skilled workers entrepreneurship training subsidies (X3). Considering the three training since 2004 began to implement, but until now, input and the three indexes can well represent the new technology workers occupation training funds, in the previous literature, most researchers have adopted the method of selecting all kinds of subsidies and calculate the scientific results. So, this will be part of the three subsidies for input variables. At the same time, Jiangsu's relative value in 2013 increased from 2014 to 2013, which is the increase of gross domestic product (Y1), the average wage increase of urban employees (Y2) and the percentage of training participants participating in the national vocational ability appraisal as an output index.

Table 3: Input and output index data

DMU	Output index			Input index		
	Y1 [Million yuan]	Y2	Y3 [%]	X1 [Million yuan]	X2 [Million yuan]	X3 [Million yuan]
Nanjing	808.97	5,696.00	57.35 %	971.94	887.16	201.52
Wuxi	135.13	6,443.00	8.00%	764.15	2,517.09	1,561.49
Xuzhou	528.09	3,460.00	23.22 %	1,255.26	401.00	174.31
Changzhou	540.94	6,050.00	6.74%	323.53	447.27	315.99
Suzhou	745.19	5,386.00	3.65%	1,472.03	647.68	265.27
Nantong	613.80	3,837.00	5.66%	1,939.55	1,610.62	1,468.13
Lianyungang	180.47	5,127.00	1.88%	378.01	382.00	275.08
Huaian	299.53	4,149.00	43.59 %	908.98	463.65	307.68
Yancheng	360.12	4,148.00	6.71%	1,319.57	290.18	217.36
Yangzhou	445.90	5,608.00	5.16%	979.15	363.48	923.05
Zhenjiang	325.16	3,286.00	5.36%	564.47	397.10	473.99
Taizhou	363.98	6,151.00	2.27%	1,290.75	1,284.19	650.06
Suqian	224.40	4,307.00	34.22 %	1,106.36	98.81	379.16

2.3 Model calculation and result analysis

The data was calculated by DEAP2.1 software to import table 3, the decision-making unit of 13 prefecture level cities in Jiangsu Province, Lianyungang, Zhenjiang, respectively, Wuxi, Suzhou, Nanjing, Changzhou, Taizhou, Yangzhou, Yancheng, Suqian, Huaian, Xuzhou, Nanjing, Nantong; then calculate each decision efficiency of decision making units pointed out that if TE = 1, so that the DEA effective decision unit, if TE is less than 1, indicating that DEA invalid decision unit, there is also the phenomenon of waste subsidies. The results of the calculation are as follows:

Table 4: DEA analysis results of overall performance

DMU	firm	crste	vrste	scale
Nanjing	1.000	1.000	1.000	-
Wuxi	0.465	1.000	0.465	drs
Xuzhou	1.000	1.000	1.000	-
Changzhou	1.000	1.000	1.000	-
Suzhou	0.966	1.000	0.966	drs
Nantong	0.303	0.333	0.909	drs
Lianyungang	0.981	1.000	0.981	irs
Huaian	1.000	1.000	1.000	-
Yancheng	1.000	1.000	1.000	-
Yangzhou	0.871	0.987	0.882	drs
Zhenjiang	0.640	0.885	0.723	irs
Taizhou	0.453	0.978	0.463	drs
Suqian	1.000	1.000	1.000	-
Average	0.821	0.937	0.876	
value				

In Table 4, the pure technical efficiency and comprehensive efficiency values were expressed by vrste and crste, the main use of the resources to carry on the analysis, if the input has been fully utilized, so the values are infinitely close to 1; scale efficiency by scale, which based on the input-output perspective on the relationship between the two are if the input and output in the reflection, the value is quite ideal, then the value of 1, indicating that the investment has been fully utilized, but also get good output results, table scale in the column "DRS" indicates decreasing returns to scale, "said -" the scale of constant returns, "IRS" said the scale of diminishing returns, and crste=vrste * scale.

2.3.1 Comprehensive efficiency value and ranking

As can be seen from table 5, the total efficiency of Huaian City, Suqian City, Changzhou City, Xuzhou City, Nanjing City, Yancheng City six decision-making unit 1, accounting for 13 of the 46.15% decision making unit, Nantong City, Taizhou City, Wuxi city is the three bottom of the total efficiency of decision-making units, of which two in the Soviet Union in the region, which means that the Soviet Union in the region may be a new skilled workers good occupation training of financial subsidy policies to maintain efficiency because the subsidy is not scientific, the problem of insufficient input, specifically what causes, also need to analyze specific issues.

Table 5: A list of comprehensive efficiency values

DMU	crste	ranking	DMU	crste	ranking
Nanjing	1.000	1	Huaian	1.000	1
Wuxi	0.465	11	Yancheng	1.000	1
Xuzhou	1.000	1	Yangzhou	0.871	9
Changzhou	1.000	1	Zhenjiang	0.640	10
Suzhou	0.966	8	Taizhou	0.453	12
Nantong	0.269	13	Suqian	1.000	1
Lianyungang	0.981	7			

2.3.2 Vrste

In the new skilled workers' vocational training, the financial subsidy policy's subsidy way, the extent of the subsidy fund's distribution, the timely and timely release of the grant funds and the promotion of the production technology level after the implementation of the fund are all the technical efficiency. Combined with table 4, it is not difficult to find that the pure technical efficiency of Taizhou, Yangzhou, Nantong and Zhenjiang is DMU in the 13 decision making units. The remaining DMU is in an effective state, and the pure technical efficiency is 1. This means that the new skilled workers training in fiscal subsidies for the implementation of technical level of Zhenjiang, Yangzhou, only Taizhou and Nantong the

four City there is a significant gap, the gap may be because the subsidy is not scientific, not timely payment of subsidies, funds are not in place and other issues caused by this is above four city future areas in need of improvement.

2.3.3 Scale

In the new skilled workers' vocational training, the financial subsidy policy's subsidy way, the extent of the subsidy fund's distribution, the timely and timely release of the grant funds and the promotion of the production technology level after the implementation of the fund are all the technical efficiency. Combined with table 4, it is not difficult to find that the pure technical efficiency of Taizhou, Yangzhou, Nantong and Zhenjiang is DMU in the 13 decision making units. The remaining DMU is in an effective state, and the pure technical efficiency is 1. This means that the new skilled workers training in fiscal subsidies for the implementation of technical level of Zhenjiang, Yangzhou, only Taizhou and Nantong the four City there is a significant gap, the gap may be because the subsidy is not scientific, not timely payment of subsidies, funds are not in place and other issues caused by this is above four city future areas in need of improvement.

2.4 Conclusion

Through the evaluation of the efficiency of the financial subsidy policy in the vocational training of new technology workers in Jiangsu, the author gets the following comprehensive evaluation results. The overall efficiency of Jiangsu province new skilled workers in the occupation training subsidy policies still exist differences in regions, the Soviet Union, the South of Jiangsu area of new technical workers training in overall efficiency level of financial subsidies than northern low, but two in the level of subsidies efficiency does not exist significant differences in the overall efficiency of four City Jiangsu (Xuzhou, Suqian, Huaian and Yancheng) have reached the optimal state. Based on the above research show that the subsidy funds redundancy and output deficiency is common, low efficiency level area not only that, the new technology workers in the occupation training subsidies policy efficiency situation, each decision unit the technical efficiency and scale efficiency of the average values were 0.937 and 0.876, significantly higher than the mean technical efficiency scale efficiency mean, this shows that the technical efficiency is the main cause of DEA is not effective to achieve the overall efficiency level of new skilled workers in the occupation training of financial subsidy policy, but the scale efficiency.

3. POLICY SUGGESTION

3.1 Increase the investment of new technology workers' training funds

Increase the investment of special funds. The state needs to strengthen the efforts to support the vocational training of new skilled workers, improve the upper limit of the subsidy amount of training, and raise the standard of financial subsidies. We should set different training subsidy standards according to the employment situation, training consumption, training time and training level, and increase investment in infrastructure construction of social training institutions [4]. appropriate training institutions to increase support for efforts to require the allocated part of the training funds for the purchase of training facilities and equipment, can also be for the results of the annual assessment and ranking of the designated training institutions issued certain incentives to ease its purchases of training facilities and equipment funding pressure.

3.2 Strengthening the supervision and management of financial subsidies for new technical workers' vocational training

We should strengthen the construction of the working mechanism and standardize the management of training projects. A building is conducive to the formation of a regulatory force, and a clear division of labor, to the system of checks and balances of departmental joint conferences, integration training funds, centralized use, overall planning, unified management for all kinds of special training and training subsidy spending part of the employment funds; clearly define each level of government responsibilities, strengthening the legal supervision. The use of fiscal funds strictly according to law, new technology to ensure that the occupation training workers financial subsidy funds be earmarked in all aspects of the review of financial subsidies to link the results of performance appraisal, corrective supervision procedures inadequate, ensure the new technical workers occupation training subsidies implemented; establish supervision and

inspection mechanism complete to achieve a comprehensive supervision [5]. We should strengthen the social supervision, internal supervision and audit supervision, and supervise and manage the financial subsidies of the new technical workers' vocational training in all directions.

3.3 Implementing the performance evaluation and evaluation system of the new technical workers' vocational training financial subsidy

Jiangsu Province, according to the actual situation in the province, to construct a set containing the efficiency index, output and impact indicators, investment and expenditure index, performance target, implementation and management of indicators five indicators improve the new technology workers occupation training financial subsidy funds' performance evaluation system, and adhere to the correct and supplement of the link and the improper part the introduction of third party system; supervision and evaluation mechanism, perfecting government purchase training mechanism [6]. Can be distinguished experts or professional social intermediary organizations to fully evaluate the quality of training and training institutions, and according to the requirements of the assessment results to the public, the designated training institutions accept public supervision; the implementation of performance-based funding mechanism, the establishment of performance evaluation results publicity system. Pay attention to the performance evaluation of funds, realize the combination of payment and performance, and ensure the "purchase" of the public funds to the ideal training results. To establish the system of performance evaluation results publicized, effectively standardize and manage the use of financial funds, and give full play to the role of government funds.

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