Evaluation of Industry Growth Driver Conversion Efficiency Based on Electricity Consumption Data

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Abstract. In the last decade, there has been significant economic and social development in China. In the process, the growth drivers have naturally been converted from the old ones into new growth drivers. Unlike the traditional ways of improving the tertiary industry, the conversion of new and old growth drivers (GDC) places more emphasis on innovation, the development of new technologies, and the transformation and upgrading of traditional industries through innovation. To evaluate the level of GDC and assess the difference between new and old growth drivers in various industries, we evaluate technical efficiency based on the SE-CCR method and evaluate the level of technological transformation and upgrading of the industry, so as to realize the evaluation of the GDC level and provide decision-making reference for policy formulation. As an example, this paper selects Henan Province, defined the social fixed social asset investment, electricity consumption, and employment of the industry as input indicators, and chose industry added value as output indicators to assess the industry development efficiency from 2011 to 2017. The results show that economic development efficiency continues to enhance, and the conversion of new and old growth drivers (GDC) in Henan Province is improving steadily and has achieved some results.

Keywords: Growth drivers conversion; Technical development efficiency; Electricity consumption

1. Introduction

Since the economic reform initiative in 1978, the Chinese economy has maintained a consistently high annual growth rate. China has always been one of the fastest-growing countries in the world [1]. From then on, China's remarkable growth performance has received widespread attention. Since 2012, China’s economy has entered the post-industrial stage when the macroeconomic situation has been more complicated. There has been tremendous progress in China's economic and social development [2]. Therefore, China's economy has developed with a new normalized mode [3]. New normal economic development (NNED) means that the economy has shifted gear from the previous high speed to medium-to-high speed growth. Second, the economic structure is continuously being improved and upgraded. Third, the economy is increasingly driven by innovation instead of input and investment [4]. In the context

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of NNED, the pressure on the Chinese economy downward has increased a lot. With the rising cost of production factors and growing resource and environmental constraints, the traditional economic growth mode is challenging to maintain. The old economic growth points are gradually fading out. China needs to find a new source of growth drivers [5].

In the past, the upgrading of economic structure emphasized increasing the proportion of tertiary industries [6]. However, different from traditional economic reform, the growth drivers conversion (GDC), namely the replacement of old growth driven by the new ones, emphasizes the role of innovation [7]. The continuous introduction and implementation of promising R&D outcomes as well as the technological, organizational, and manufacturing innovations are contributed to accelerating the speed of GDC, which will attribute to the higher utilization rate of new technology and bring higher labor productivity [8]. Although GDC pays more attention to the development of new technologies as well as new industries, traditional industries are still necessary to support GDC, focusing on the transformation and upgrading of traditional industries through innovation [9]. Both new and old growth drivers constitute the power of supporting economic growth in NNED.

The critical factor in fostering GDC is to accurately evaluate and detect the level of GDC. Based on the large-scale industrial statistical data and the innovative theory of GDC, establishing a set of practical and accurate assessing methods for the GDC is not only necessary to support further improving the level of macroeconomic analysis but also provides a more vital promotion for the company to achieve high-quality development [10]. Assessing the GDC level can be useful in providing decision makers with the best evidence about the expected benefits of new investments and their anticipated opportunity costs—the benefits forgone of the options not chosen [11]. Facing the unique requirements of economic structural growth and GDC, a new model is urgently needed.

The method of assessing the GDC level can be equivalent to the practice of economic development efficiency evaluation to a large extent. Some studies have presented methodologies to evaluate economic development efficiency. To put forward an accurate and scientific green assessment method for evaluating China's superior development pathway, Yang et al. (2015) used the CCR Data Envelopment Analysis (DEA) model to assess the reasons for regional difference based on 31 regions' annual cross-section data from 2008–2012. Meanwhile, they also chose the Super-Efficiency DEA (SE-DEA) model for further sorting to classify the regions [12]. Tolstykh et al. (2020) evaluated the effectiveness of applying innovative technologies in industry implemented with information technology (IT) to identify the concepts and principles underlying these models and describe the common characteristics. They demonstrated the estimations and methodology for calculating the economic gains from the use of innovative technologies with the example of JSC Concern "Sozvezdie" (Voronezh) [13]. Du et al. (2019) used a two-stage network DEA with shared inputs to estimate the efficiency of regional enterprises' green technology innovation in the view of the two-stage innovation value chain. They evaluated the regional differences in industrial enterprises' green technology R&D and its achievement transformation efficiency. The overall enhancement of the green technology innovation capability of Chinese enterprises can be assessed [14]. The five input-output (I-O) tables published by the Department of Statistics, Malaysia, from 1980 to 2005 were utilized by Bekhet (2015) to assess and analyze the improvements in the efficiency level of the Malaysian economy [15].

In general, the GDC level assessment belongs to the efficiency assessment, where the models are more likely based on Data Envelopment Analysis (DEA)method. There are also some research outcomes related to some specific industry assessments by using the DEA method. For example, in the transport area, the efficiency assessments of Brazilian rail concessionaires between 2010 and 2014 were evaluated by Data Envelopment Analysis [16]. They also demonstrated the Bootstrap Truncated Regression method to test the significance of exogenous variables on concessionaire performance. In the field of environmental efficiency analysis, A Slacks-Based Measure-Data Envelopment Analysis (SBM-DEA) with undesirable output was applied and combined with Life Cycle Analysis (LCA) in Umbria (Italy) to evaluate the environmental efficiency and emission reduction potential [17]. An energy and environment efficiency analysis based on an improved environment DEA cross-model (DEACM) method was proposed by Geng et al. (2017) to assess the energy and environment efficiency of the complex chemical process. The proposed model can genuinely distinguish the effective and inefficient decision-making units (DMUs) and better balance the extreme or unreasonable weight distribution of input and output variables [18]. With the increasing pressure on natural resources and environmental pollution brought by remarkable achievements of China's economy, Chen and Jia (2017) presented a Data envelopment analysis (DEA) method incorporated with the slacks-based measure (SBM) model considering undesirable outputs to assess the environmental efficiency of different regions in China from 2008 to 2012 [19].

Based on the counterparty credit risk (CCR)model, a proper super-efficient DEA model, that is, the SE-CCR model can effectively measure and sort the efficiency, which is very helpful to analyze the efficiency of decision-making units (DMUs) in both input and output spaces [20]. By doing so, the industry's potential and efficiency level can be well estimated. Therefore, the evaluation of technical efficiency based on the SE-CCR method can accurately assess the level of industry technology transition and upgrade, thereby assessing the GDC level.

With the increasing attention to ecological protection and high-quality development of the Yellow River, Henan, as a typical province in central China, is also facing the opportunities of GDC. To ensure the sustainable development of the economy and society in Henan province, the government focuses more on promoting the transformation and upgrading of the existing industries and promoting the continuous conversion of new and old growth drivers [21].

Currently, Henan Province has been researching GDC. Reference [21] proposed that the optimization and upgrading of Henan's industrial structure under the new normal economy has a unique historical positioning. The path of industrial structure optimization and upgrading was based on supply-side structural reforms, which was fully implemented to complete the transformation of the old and new momentum of industrial development, and promote industrialization to achieve industrialization and upgrade to the new normal of the economy. Reference [22] proposed that the hub economy was a product of the era of the integration and development of transportation and economic society, and it was a new economic mode. In the future, Henan will take the preferential industrial agglomeration of the transportation hub as the driving force, strive to increase the radiation level of industrial agglomeration, cultivate new drivers of urban economic development, and promote the transformation of urban development from old to new modes, to achieve the sustainable development of economic transformation and upgrading. Reference [23] represented that GDC was important to Henan's high-quality economic development, which relied on technological progress and labor quality improvement. To carry out supply-side structural reforms, Henan should adapt to the law of industrial growth and economic development requirements. In technological innovation promoting the acceleration of GDC, the core issue affecting the conversion effectiveness is the coordinated development between the technology supply side and market.

However, the research outcomes about GDC level in Henan Province haven't proposed an effective assessment method. Therefore, to fill in this research gap, this paper chooses Henan Province to conduct a case study. We define industry investment in fixed social assets, electricity consumption, and employees as input indicators from the perspectives of capital, resources, and labor. Industry added value is used as an output indicator to assess the industry development efficiency from 2011 to 2017.

The rest of the paper is organized as follows: Section 2 presents the methodology. Section 3 reports the simulation results of the Henan province. Section 4 concludes the paper.

2. Evaluation of the conversion between new and old kinetic energy of industries in Henan Province based on technical efficiency analysis

2.1 Methods of technical efficiency measurement

Data Envelopment Analysis (DEA) is a multi-attribute method proposed by famous American operations research scientists Charnes, Cooper, and Rhodes in 1978 that can evaluate homogeneous decision-making units' relative efficiency with multiple inputs and multiple outputs [20]. In a subsequent paper, the initials of Charnes, Cooper, and Rhodes' last names are used to name the first DEA model they created, the CCR model [24]. The CCR model assumes that the return to scale is constant, there are n decision-making units (DMU), and each decision-making unit (k=1, 2, ..., n) has m inputs and q outputs. When evaluating the selected decision-making unit, the radial DEA model for evaluating its validity can be expressed as follows:

$$
\begin{aligned}
&\min\left[\theta-\varepsilon\left(\sum_{i=1}^{m}S_i^- + \sum_{j=1}^{q}S_j^+\right)\right]\\
&s.t. \sum_{k=1}^{n}\lambda_k x_{ik} + S_i^- = \theta x_{iko}, i=1,2,\cdots,m\\
&\sum_{k=1}^{n}\lambda_k y_{ik} - S_j^+ = y_{jko}, j=1,2,\cdots,q\\
&\lambda_k \ge 0, k=1,\cdots,n\\
&S_i^- \ge 0, S_j^+ \ge 0
\end{aligned}
$$

Where x_{ik} is the i^{th} input variable of the k^{th} decision-making unit; y_{ik} represents the j^{th} output variable of the k^{th} decision-making unit; S_i^- and S_j^+ are residual variable and slack variable, respectively; ε is the Archimedes infinitesimal; θ is the decision-making unit; 1-θ represents the limit to which the input of the decision-making unit can be reduced without reducing the output level. When θ=1, there is no room for a proportional decrease, and it is in a technically effective state; when θ<1, the decision-making unit is in a technically inefficient state. Maintaining a fixed output, its various inputs can be reduced in equal proportions (1-θ) [25].

In the radial DEA model, the measurement of inefficiency only includes assuming that all inputs (outputs) change proportionally. For an invalid DMU, the gap between its current state and the strong and effective target value and the improvement part also includes the slack improvement part. In this case, Tone Kaoru proposed the SBM model [26].

$$\min \rho = \frac{1-\frac{1}{m}\sum_{i=1}^{m} S_i^- / x_{ik}}{1+\frac{1}{q}\sum_{r=1}^{q} S_j^+ / y_{jk}}$$

$$s.t.\ X\lambda + S^- = x_k$$

$$Y\lambda - S^+ = y_k$$

$$\lambda, S^-, S^+ \geq 0$$

In the SBM model, ρ is used to represent the efficiency value of the evaluated DMU. Ifρis equal to 1, then the evaluated DMU is strong and effective. Regardless of the radial model or non-radial model, there is still a problem that cannot be further distinguished when multiple elements are valid at the same time. Because the DEA model is based on the assumption that the level of decision-making units is the same [27]. It ignores the impact of technological progress and is not suitable for time series analysis, so the SE-DEA model is proposed. The basic form of the non-radial SE-CCR model can be obtained by combining the two models:

$$\min\left[\sum_{i=1}^{m}\rho_i\theta_o^i \Big/ \sum_{i=1}^{m}\rho i - \varepsilon\left(\sum_{i=1}^{m} S_i^- + \sum_{j=1}^{q} S_j^+\right)\right]$$

$$s.t.\sum_{n}\lambda_k x_{ik} + S_i^- = \theta x_{iko}$$

$$\sum_{k=1}^{n}\lambda_k y_{jk} - S_j^+ = y_{jko},\ j = 1,\cdots,s$$

$$\lambda_k \geq 0, k = 1,\cdots n; S_i^- \geq 0, S_j^+ \geq 0$$

Compared with analyzing the GDC level through the trend of industrial electricity consumption or the proportion of electricity consumption, the analysis method that combines the comprehensive development efficiency and the proportion of electricity consumption can solve the limitations of qualitative analysis of industries. It better matches the needs of GDC assessment and has significant analytical value.

2.2 Indicator selection and data sources

This model's input indicators are considered from three perspectives, namely capital, resources, and labor. The model also selects industry investment in fixed social assets, electricity consumption, and employees as input indicators. Industry added value is used as an output indicator to evaluate the industry development efficiency. The data used in this article range from 2011 to 2017. The industry added value and employment data from the Henan Statistical

Yearbook, and the industry's fixed-asset investment data is from the National Bureau of Statistics.

Considering the availability of data, the leasing and business services industry, the residential services, repair, and other service industries are combined to analyze the industry development efficiency of 16 sectors from 2011 to 2017. The sixteen industries are specifically: agriculture, forestry, animal husbandry and fishery; industry; construction; wholesale and retail; transportation, storage and post; accommodation and catering; information transmission, software and information technology services; finance; real estate; Leasing, business services, resident services, repairs and other service industries; scientific research and technical services; water conservancy, environment and public facilities management; education; health and social work; culture, sports and entertainment; public management, social security and social organizations.

2.3 Industrial development efficiency based on the non-radial SE-CCR model

Considering the industry's technical efficiency and the percentage of electricity consumption from 2011 to 2017, take the percentage of electricity consumption as the x-axis and the industry technical efficiency as the y-axis. The number of each year is marked on the coordinate axis. Meanwhile, any two points can form a vector from the lower year to the higher year $\overrightarrow{x_{ij}}$ (where i, j represent the beginning and ending years, $i<j$). A reference vector $\vec{a}$ parallel to the positive direction of the x-axis is introduced. Then, the GDC level estimation could be conducted by observing the angle θ from the vector $\vec{a}$ counterclockwise to the vector $\overrightarrow{x_{ij}}$. The specific scenarios of GDC and the corresponding angle θ are shown in Table 1. TDE stands for Technological development efficiency, ITL stands for Industry technic level, PEC stands for Percentage of electricity consumption, and IS stands for Industry scale. The length of the vector $\left|\overrightarrow{x_{ij}}\right|$ can represent the conversion degree of a certain industry between the beginning and ending years.

Table 1 Specific scenarios of GDC

TDE	ITL	PEC	IC	$\theta(\vec{a},\overrightarrow{x_{ij}})$
increase	progress	enhance	expand	$(0,\pi/2)$
increase	progress	reduce	shrink	$(\pi/2,\pi)$
decrease	regress	reduce	shrink	$(\pi,3\pi/2)$
decrease	regress	enhance	expand	$(3\pi/2,2\pi)$

3. Results

3.1 Whole industry

From the development efficiency trend of the whole industry in Henan Province from 2011 to 2017, the economic development efficiency has been increasing steadily during the year we study, as shown in Figure1. Also, the electricity consumption of the whole industry decreased slightly in 2015. The overall electricity consumption is in-creasing. The analysis results of the whole industry's development efficiency show that the overall economic development efficiency of Henan Province is rising substantially. Simultaneously, the growth of electricity consumption also reflects the positive economic development trend of Henan Province from 2011 to 2017.

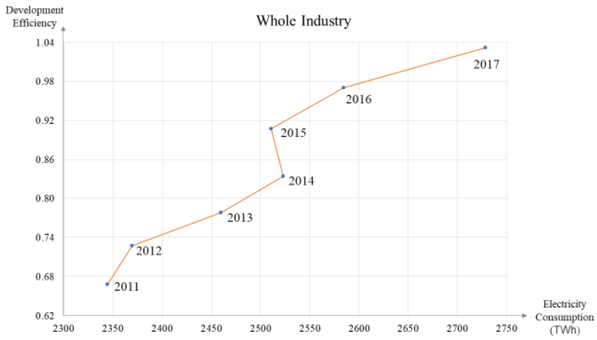

Figure 1 Industry development efficiency in Henan Province

3.2 Primary industry

The proportion of electricity consumed by the primary industry in Henan Province has shown a downward trend from 2011 to 2015. Simultaneously, the overall technical efficiency of the primary industry has been steadily increasing, as shown in Figure 2. The results show that the primary industry in Henan Province has achieved a mode that adapts to industrial development with development efficiency in the past five years. From 2015 to 2017, the proportion of electricity consumption in the primary industry has rebounded slightly, and the development efficiency has continued to increase after a small decline, indicating that the primary industry in Henan Province, dominated by agriculture, forestry, animal husbandry and fishery, gradually stimulate the level of GDC in the studied year.

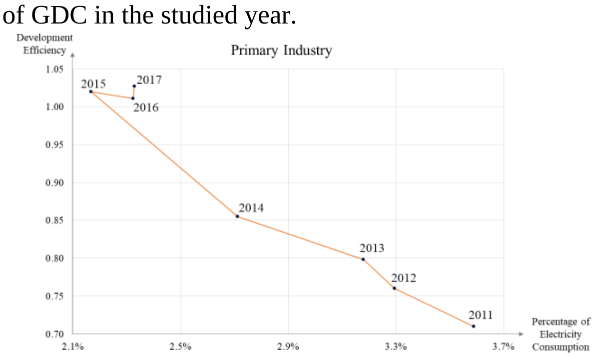

Figure 2 Primary industry development efficiency in Henan Province

3.3 Secondary industry

The secondary industry's overall technical efficiency in Henan Province has been continuously increasing from 2011 to 2017. There was a slight increase in the proportion of electricity consumption between 2013 and 2015. However, the overall trend indicates that the proportion of electricity consumption from secondary industry has maintained a significant decrease, as shown in Figure 3. The secondary industry is dominated by industry. Although the proportion of electricity consumption is shrinking from 2011 to 2017, it is still the dominant electricity consumption in Henan Province. It can be summarized from the results of comprehensive technical efficiency analysis that the secondary industry in Henan Province is gradually forming a development path that emphasizes both scale efficiency and low power consumption.

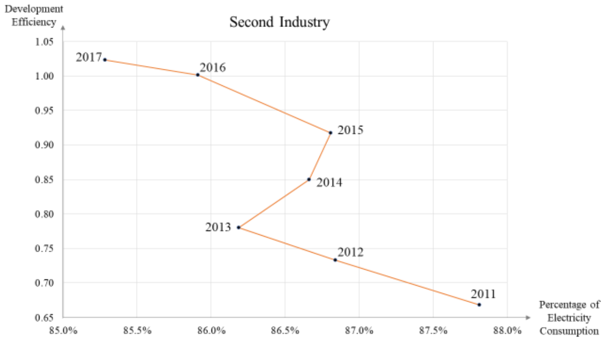

Figure 3 Secondary industry development efficiency in Henan Province

3.4 Tertiary industry

The tertiary industry in Henan Province has shown a positive trend in overall development between 2011 and 2017. The analysis of the proportion of electricity consumption has maintained a trend of substantial increase, as shown in Figure 4. The development scale of the tertiary industry in Henan Province is gradually expanding, consistent with the development concept of converting new and old growth drivers (GDC). Henan Province's economic mode based on the heavy industry is gradually tilting toward the tertiary industry. Meanwhile, the tertiary industry's development efficiency in the study year is gradually increasing, which shows that the tertiary industry also has development efficiency while expanding its scale, making the tertiary industry more capable of stimulating new economic momentum in Henan Province.

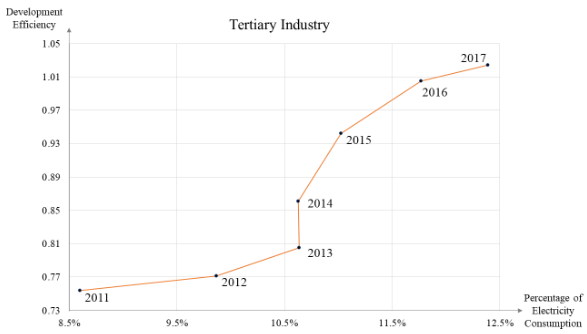

Figure 4 Tertiary industry development efficiency in Henan Province

All in all, from the analysis of both proportion of electricity consumption of primary, secondary, and tertiary industries and comprehensive technical efficiency in Henan Province, the overall economy of Henan Province has improved from 2011 to 2017, and the conversion of new and old kinetic energy is also steadily advancing and achieved initial results. The improvement of the overall economy and the development efficiency of various industries are inseparable from promoting the conversion of old and new growth drivers (GDC).

3.5 Sixteen selected industries

Based on the methodology presented in section 2.3 Table 1, taking into account the availability of data, the leasing and business services industry and the residential services, repair, and other service industries are combined to analyze. In this paper, a detailed analysis of 16 industries' development efficiency from 2011 to 2017 was conducted, and the results are shown in Table 2.

Table 2 Sixteen selected industries results of GDC

Industry	2011-2012		2012-2013		2013-2014	
	θ°	$\lvert\overrightarrow{x_{ij}}\rvert$	θ°	$\lvert\overrightarrow{x_{ij}}\rvert$	θ°	$\lvert\overrightarrow{x_{ij}}\rvert$
A	142	0.019	118	0.013	149	0.028
B	222	0.002	263	0.010	79	0.003
C	325	0.016	5	0.009	340	0.020
D	321	0.020	13	0.012	340	0.032
E	332	0.016	288	0.031	122	0.033
F	311	0.039	78	0.020	174	0.024
G	340	0.015	311	0.009	82	0.010
H	341	0.014	272	0.011	131	0.014
I	319	0.035	14	0.023	277	0.009
J	333	0.017	272	0.006	121	0.012
K	305	0.016	31	0.008	190	0.010
L	312	0.027	69	0.014	238	0.001
M	326	0.021	10	0.016	357	0.011
N	319	0.022	353	0.017	76	0.007
O	314	0.023	312	0.019	144	0.041
P	290	0.027	43	0.010	184	0.010
Industry	2014-2015		2015-2016		2016-2017	
	θ°	$\lvert\overrightarrow{x_{ij}}\rvert$	θ°	$\lvert\overrightarrow{x_{ij}}\rvert$	θ°	$\lvert\overrightarrow{x_{ij}}\rvert$
A	123	0.051	336	0.009	89	0.013
B	88	0.005	115	0.004	99	0.009
C	43	0.011	26	0.015	7	0.036
D	49	0.010	20	0.014	53	0.020
E	75	0.004	17	0.009	38	0.011
F	223	0.002	64	0.003	82	0.008
G	345	0.018	55	0.012	7	0.010
H	58	0.005	249	0.003	112	0.011

I	23	0.008	36	0.011	48	0.011
J	348	0.017	17	0.013	60	0.008
K	16	0.004	19	0.005	62	0.009
L	355	0.018	12	0.015	32	0.013
M	3	0.011	5	0.015	39	0.014
N	1	0.009	1	0.016	35	0.015
O	177	0.037	68	0.006	13	0.003
P	94	0.018	349	0.013	56	0.011

To increase the visibility of the table, use A to P to represent the sixteen selected industries. The sixteen industries include agriculture, forestry, animal husbandry and fishery(A); industry(B); construction(C); wholesale and retail(D); transportation, storage and post(E); accommodation and catering(F); information transmission, software and information technology services(G); finance(H); real estate(I); Leasing, business services, resident services, repairs and other service industries(J); scientific research and technical services(K); water conservancy, environment and public facilities management(L); education(M); health and social work(N); culture, sports and entertainment(O); public management and social security(P).

The 16 selected industries in Henan Province have shown a different trend between 2011 and 2017. Combining the analysis of both table 1 and table 2, a clustered analysis was conducted based on the degree of θ°. The results are shown in figure 5. Case 1 shows $\theta^{\circ} \in \left(0^{\circ}, 90^{\circ}\right)$; case 2 shows $\theta^{\circ} \in \left(90^{\circ}, 180^{\circ}\right)$; case 3 shows $\theta^{\circ} \in \left(180^{\circ}, 270^{\circ}\right)$; case 4 shows $\theta^{\circ} \in \left(270^{\circ}, 360^{\circ}\right)$; From figure 5, it is seen there is a big difference between 2011 and 2017 in the proportion of each case. From 2011 to 2012, no industries were in case 1. However, from 2016 to 2017, only finance industry was in case 2 and other industries were in case 1. So, from 2011 to 2017, 15 industries improved their technical development efficiency, increased their electricity consumption, and enlarged their scale.

Specifically, the finance industry has seen a sharp increase in its electricity consumption from 2011 to 2013, inferring that the Henan government paid more attention to enlarging the finance industry’s scale in the province. From 2014, there was a considerable decrease in electricity consumption; instead, the technical development efficiency enhanced a lot and raised to a peak in 2017. Industry E (transportation, storage and post), industry J （leasing, business services, resident services, repairs and other service industries） and industry O (culture, sports and entertainment) followed almost the same trend from 2011 to 2017. All of them were in case 4 before 2014. However, they began to improve their technical efficiency and decrease their electricity consumption from 2014. They all entered case 1, the most positive development case, in 2016. Referring to the length of the vector $\left|\overline{x_{ij}}\right|$, among those three industries, industry O (culture, sports and entertainment) improved its technical efficiency and increased its industrial scale with the lowest rate in 2016 and 2017.

As shown in Table 1, when the GDC state of the industry is in case 3, it means that the industry has neither expanded its scale nor improved its development efficiency in the adjacent years.

Generally speaking, it can be considered that the development of the industry is weak during the research years. There was always at least one industry in case 3, the most negative case, each year from 2011 to 2016. From 2011 to 2013, only industry B (industry) was in case 3 and industry B started to increase its development efficiency and electricity consumption in 2014. Other industries in case 3 in the following year were industry L (water conservancy, environment and public facilities management) in 2014, industry F (accommodation and catering) in 2015 and industry H (finance) in 2016 respectively. Unlike industry F (accommodation and catering) entered case 1 in the following year, industry L (water conservancy, environment and public facilities management) changed to case 1 step by step. It first increased its electricity consumption in 2015 a little bit and then improved its technical level in 2016 in Henan province.

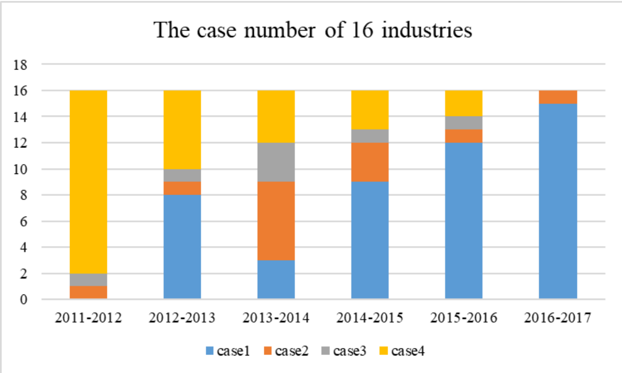

Figure 5 Number of different case of 16 industries from 2011 to 2017

In total, from the analysis of electricity consumption of 16 different industries and technical development efficiency in Henan Province, the overall industrial development of Henan Province has improved from 2011 to 2017, and the level of GDC is also steadily advancing and achieved initial results.

4. Conclusions

This paper proposes the non-radial SE-CCR model to measure the technical efficiency of the whole industry, primary industry, second industry, tertiary industry, and 16 industries in Henan Province. By analyzing the changes in the proportion of electricity consumption and development efficiency of various sectors in 2011-2017, the new and old growth drivers' conversion (GDC) path reflected by the development scale and efficiency of industries is described in this paper. The proportion of electricity consumption can reflect the change in industrial scale in the overall economy. The development efficiency can reflect the comparison between the previous stage and the stage after each industry's evolution and its own GDC level. The two sets of data can be combined to realize the comprehensive analysis of GDC, which covers the changes in power consumption and breaks the limitations of only analyzing the development of the industry by electricity consumption. This paper's proposed method is more in line with the theory of new and old growth drivers' conversion (GDC).

The results show that the conversion of new and old growth drivers in Henan Province is progressing steadily and achieved phased results. The overall economic development efficiency continues to improve, and the economic development trend is becoming more positive. The primary industry is gradually stimulating the new internal growth driver; the secondary industry is forming progressively a development path that pays equal attention to scale efficiency and effectiveness, and the tertiary industry continues to release new growth drivers to promote the economy of Henan Province and become the critical point in the process of GDC gradually. From the industry perspective, there are still considerable differences in the development scale and efficiency of different industries. The industry's development efficiency has been continuously improved, and new growth drivers have been gradually released. The trend of equal emphasis on expanding the development scale and efficiency improvement of various tertiary industry industries is relatively apparent. It has promoted the process of GDC while developing its industry. In the future, all industries still need to focus on the more efficient use of production factors while expanding their development and further stimulating new growth drivers with equal emphasis on scale and efficiency to promote high-quality economic development.

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