

# Research on the Trend Change of Social Donation Income of Colleges and Universities in China

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**Abstract:** Higher education funds are the blood of the development of general higher education, and social donation income is an important supplement to higher education funds. Based on the 1999-2018 China education funds statistical yearbook, this paper studies the current situation of social donation income of colleges and universities in China, analyzes the donation income of different levels of education and different countries, and analyzes the imbalance degree from the perspective of the central, local and provincial governments. The study found that during the period of 1998-2017, although the social donation income of ordinary colleges and universities in China keeps increasing in absolute value, the proportion relative to the total funds of colleges and universities has been declining, and its potential supplementary role is far from playing out. From the perspective of provinces, there are great differences across the country, the average coefficient of variation is 1.73, the average Gini coefficient is 0.7, the imbalance is obvious, and remains stable, the downward trend is not obvious. Moreover, the degree of imbalance in the eastern and central regions is relatively high, but it has been a downward trend in the past 20 years, which can drive the overall decline; the degree of imbalance in the western and northeast regions is generally on the rise, especially in the western region, which is a problem worthy of attention. Based on the above results, this paper discusses how to expand the channels for universities to accept donations, learn from American non-profit private universities, and adjust the system by the government.

**Keywords:** General Colleges and universities, social donation, income provincial comparison, Gini coefficient

## 1. Introduction

Higher education is an important force to promote economic development and social progress, bearing the important tasks of training senior talents, carrying out scientific research and innovation, and serving social development. By 2019, there will be 40.02 million students in all kinds of higher education, and the gross enrollment rate of higher education will be 51.6%. [1] After the scale reaches the goal, the quality of education is the next key goal of higher education development. "Education modernization 2035" puts forward that the development goals include the obvious improvement of the competitiveness of higher education and the improvement of the quality of higher education, and the foundation to achieve these goals is higher education funds. [2] Correspondingly, the total investment in Higher Education in 2019 is 1346.4 billion yuan, an increase of 11.99% over 2018. [3]

However, affected by the epidemic situation, tax reduction and other factors, the overall national financial revenue is negative growth, which affects the provision of national financial education funds. In 2020, the higher education budget will be 105.763 billion yuan, 12.798 billion yuan less than the previous year. [4] It can be seen that the funds of colleges and universities in 2020 need to be raised through other channels, and social donation is one of the channels. For example, Du Jiangtao, an alumnus of Beijing University of technology, and Xu Jiankang, the president of Fudan University, will donate to his alma mater in 2020. [5-6] With the continuous expansion of enrollment in Colleges and universities, and the funds provided by the state can not keep up with the pace of the development of colleges and universities, social donation has gradually become an important source of income for colleges and universities. However, both enterprises and individuals have a low degree of participation, and the role of social donation in the cost sharing of higher education is far from playing out.

The social donation of colleges and universities refers to the donation that colleges and universities get from various social parties, including legal entities and natural persons, which belongs to public welfare donation. At present, domestic scholars mainly analyze it from the aspects of donation system, donation management, international perspective and citizens' donation consciousness. Scholar Zhang Lei

proposed to improve the tax incentive system of social donation in Colleges and universities, establish the national financial matching fund system, and strengthen the governance and supervision mechanism of social donation in Colleges and universities to attract social donation investment, so as to alleviate the financial pressure of colleges and universities. [7] From the perspective of management, Chen Bo found that the phenomenon of "bureaucratization" of China's social donation institutions is prominent. The excessive control of University donation by the government leads to the unclear division of functions between the government and social organizations, and the government's Overstepping and low administrative efficiency, resulting in the abuse of official power. [8] From the perspective of international comparison, Jin Rongxue and others studied the donation system of American colleges and universities, and believed that China adopted the comprehensive income deduction method of individual donation, allowed the carry forward of excess donation, imposed inheritance tax and gift tax, and improved the tax relief system of higher education foundation. [9] From the perspective of citizen consciousness, Wang Wenlong's weak sense of donation, the government's weak protection of private property, and the prevalence of rent-seeking by powerful interest groups make the public lack of a sense of wealth security. [10] From the analysis of literature, it is not difficult to see that the donation income of colleges and universities in China is still very scarce, which is a problem worthy of study. However, domestic scholars rarely study the change trend. Although Zhang Xiaoping has studied the change of College donation income from 1997 to 2009, there is still a lack of research in recent years. Her research on regions only analyzes the change between 2009 and 2010, without a long-term comparative analysis. [11] Therefore, this paper intends to use the relevant data of social donation income of colleges and universities from 1998 to 2017 to explore the current situation and trend of social donation income of colleges and universities, as well as the imbalance degree of social donation income of colleges and universities in different regions and provinces, and discuss and put forward suggestions according to the results.

This paper puts forward the following two problems: (1) The current situation of social donation income of colleges and universities; (2) The imbalance degree of social donation income of colleges and universities in different regions and provinces.

## 2. Data selection and analysis

### (1) Data selection

This paper selects 1999-2018 "statistical yearbook of China's education funds" (hereinafter referred to as "Yearbook") to analyze the education funds of colleges and universities, mainly selects the total funds of colleges and universities, social donation income of colleges and universities, and the total income of social donation for statistical analysis, excluding adult higher education funds, so the following colleges and universities refer to ordinary colleges and universities. Due to the lack of detailed statistical table of College income in the Yearbook before 1999, we can only choose the yearbook data from 1999 to 2018 for analysis. The total income of social donation includes eight levels of school donation income. This paper selects the most important data of colleges, middle schools, primary schools and kindergartens as the analysis object, and in the process of analysis, the donation income of middle schools and primary schools is merged into the total income of basic education donation for analysis. The yearbook data reflects the data of the previous year, so in the process of analysis below, 1998-2017 will be used as the expression, that is, the 1999 Yearbook is actually the data of 1998, and so on.

### (2) The current situation of social donation income of colleges and universities in China

First of all, from the absolute value of the total income of ordinary colleges and universities, as shown in Table 1, the total income of education funds of ordinary colleges and universities keeps increasing on the whole, increasing 19 times from 1998 to 2017, with an average annual growth rate of 17.1%. From the perspective of donation income of colleges and universities, the absolute value is fluctuating on the whole, increased by three times, and the range of change is also large. In 2003, it increased by more than 60%, while in 2005, it decreased by nearly 16%. In the past 20 years, the proportion of donation income in the total fund income of colleges and universities has shown a downward trend, from the highest 2.3% in 2000 to 0.42% in 2017. For colleges and universities, its complementarity is not enough, and its role is further weakened. This is an urgent problem to be solved.

Table 1: Statistics of total funds and social donation income of colleges and Universities

Year	Total funds of colleges and universities (10 billion yuan)	Annual growth rate of total funds	Donation income of ordinary colleges and universities (100 million yuan)	Annual growth rate of donation income	Proportion of donation income of ordinary colleges and Universities
1998	5.45		11.46		2.10%
1999	7.04	29.26%	16.17	41.03%	2.30%
2000	9.04	28.43%	15.18	-6.09%	1.68%
2001	11.45	26.62%	17.28	13.80%	1.51%
2002	14.47	26.33%	27.83	61.05%	1.92%
2003	16.83	16.34%	25.64	-7.86%	1.52%
2004	20.00	18.84%	21.54	-15.97%	1.08%
2005	23.42	17.08%	21.08	-2.16%	0.90%
2006	26.70	14.01%	19.33	-8.29%	0.72%
2007	36.34	36.12%	27.18	40.60%	0.75%
2008	42.10	15.85%	28.63	5.35%	0.68%
2009	46.45	10.33%	26.18	-8.58%	0.56%
2010	54.98	18.36%	29.64	13.22%	0.54%
2011	68.80	25.14%	43.19	45.73%	0.63%
2012	78.02	13.40%	41.25	-4.48%	0.53%
2013	79.76	2.23%	43.33	5.03%	0.54%
2014	85.10	6.70%	40.39	-6.77%	0.47%
2015	93.64	10.04%	48.05	18.96%	0.51%
2016	99.73	6.51%	47.19	-1.79%	0.47%
2017	109.47	9.76%	46.41	-1.64%	0.42%

Data source: Statistical Yearbook of China's education expenditure from 1999 to 2018 (the same below)

(3) Comparative analysis between different provinces

This paper intends to analyze the differences from the coefficient of variation and Gini coefficient of donation income of colleges and universities in different provinces.

Table 2: Statistical table of average and coefficient of variation of donation income of colleges and universities in China and various regions

		1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Whole Country	Average (10 million)	3.70	5.22	4.90	5.57	8.98	8.27	6.95	6.80	6.24	8.77
East		6.63	7.87	10.62	11.88	16.99	16.17	17.87	16.52	14.89	21.62
Central Section		6.02	7.28	3.71	3.99	7.02	4.77	1.54	3.11	2.27	4.75
West		0.67	1.78	1.52	2.01	4.81	3.90	1.42	0.94	1.71	1.68
Northeast		1.37	5.97	1.69	1.97	2.86	6.42	3.47	5.20	3.46	2.32
Whole Country	Coefficient of variation	1.59	1.34	1.75	1.86	1.69	1.57	1.91	1.86	1.63	1.72
East		1.09	1.06	1.25	1.38	1.20	1.16	1.10	1.14	0.98	1.00
Central Section		1.32	1.40	1.22	1.05	1.76	1.33	0.81	1.17	0.95	0.78
West		1.04	1.23	0.82	1.52	2.36	2.02	1.30	1.56	1.40	1.16
Northeast		0.18	0.59	0.61	0.23	0.28	0.99	0.37	0.76	0.71	0.33

Table 2 Statistical table of average and coefficient of variation of donation income of colleges and universities in China and various regions (Add)

		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Whole Country	Average (10 million)	9.24	8.44	9.56	13.93	13.31	13.98	13.03	15.50	15.22	14.97
East		19.5	20.5	22.59	34.50	33.23	34.52	31.87	36.79	37.52	37.56
Central Section		5.48	2.78	3.42	4.58	3.94	4.14	4.65	4.55	4.26	5.73
West		4.15	2.47	3.44	3.91	4.08	4.10	3.90	6.06	4.97	3.63
Northeast		2.81	3.40	2.89	4.16	2.54	4.63	3.50	4.21	3.80	3.51
Whole Country	Coefficient of variation	1.66	1.88	1.87	1.95	2.05	1.76	1.75	1.66	1.56	1.62
East		1.20	1.18	1.23	1.20	1.27	1.04	1.05	1.01	0.85	0.87
Central Section		0.96	0.91	0.75	0.76	1.13	0.86	0.97	0.86	0.72	1.01
West		1.35	1.18	1.01	1.23	1.32	1.21	0.97	1.26	1.17	1.20
Northeast		0.43	0.78	0.54	1.05	0.69	0.97	0.49	0.17	0.24	0.54

Firstly, 31 provinces, cities and autonomous regions are divided into eastern, central, Western and

northeast regions according to the latest economic zone in June 2020. The eastern region includes Beijing, Tianjin, Hebei, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong and Hainan; the central region includes Shanxi, Anhui, Jiangxi, Henan, Hubei and Hunan; the western region includes inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia and Xinjiang Northeast China includes Liaoning, Jilin and Heilongjiang. [12]

Then, the percentage of donation income of colleges and universities in each region is counted. As shown in Figure 1, there are obvious differences in the proportion of colleges and universities in different regions. The proportion of colleges and universities in the eastern region is very high. Except for 1998 and 1999, the proportion of colleges and universities in the eastern region has exceeded 60%, which has always been the highest proportion. It can be seen that colleges and universities in the eastern region are more favored by donors. For the central and western regions, the proportion of the two is changing. Specifically, the proportion of the central region has a downward trend in the past 20 years, accounting for more than 30% at the highest time, and only 4.29% at the lowest in 2004. In recent years, the level has been stable at 5-7%; while the proportion of donation income in the western region has a rising trend, first rising, then declining, and then rising in 1998-2005, the proportion increased, while in 2006-2007, it decreased. In 2008, the proportion increased again, and stabilized at about 10-15%. For the northeast region, the proportion of donation income of ordinary colleges and universities is relatively stable, except for more than 10% in 1999, which is basically stable between 2-4% in other years.

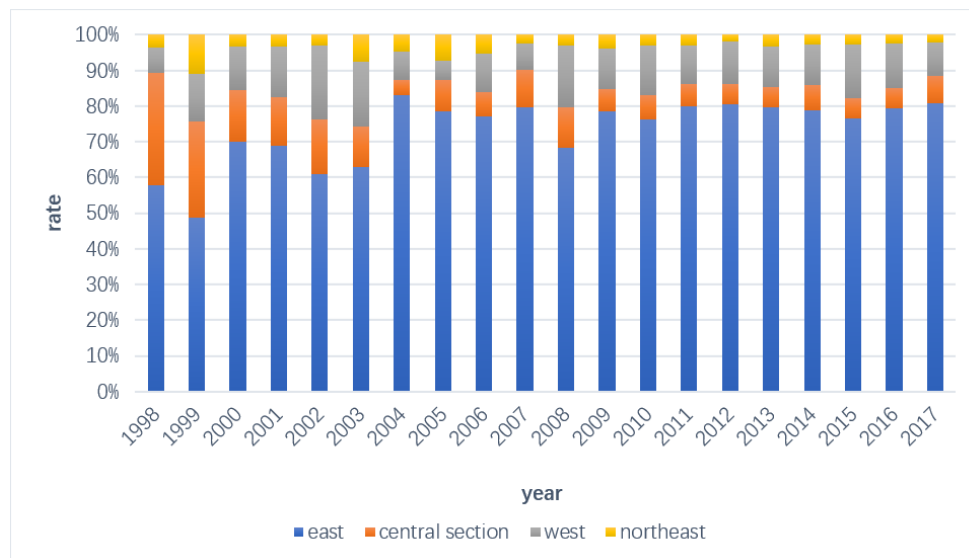


Figure 1: Percentage distribution of donation income of colleges and universities in different regions

Finally, the average and variation coefficients of the donation income of the general colleges and universities in the whole country and regions are calculated, and the Gini coefficient is calculated. From table 2, it can be seen that the average donation income of ordinary universities is a fluctuating trend in general, which has increased by three times in 20 years, and the change tends to be stable after 2011. The average value of University donation income in the eastern region is growing faster than the national average, which has increased by 4.67 times in 20 years, and the overall development is relatively stable; the average value of the central region is a downward trend, especially in 1998-2004, from 60.2 million to 15.4 million. Compared with the positive growth in the East, the negative growth in recent years has made the gap between the central region and the eastern region expand Big, since 2009, the growth of the central region has stabilized and gradually narrowed the gap with the East; from the change of the average value of donation income of western universities, the fluctuation in 20 years is relatively large. In 1998-2002, the average value of the west is increasing, while in the next 2003-2007, it is declining. Since 2009, the average value of the western region has risen steadily, and the gap between the two regions is stable and the gap between the two regions is stable. The change of the average donation income in Northeast China is similar to that in the west, and it tends to increase steadily.

From the perspective of measuring the internal balance index, for example, coefficient of variation, the difference of donation income of ordinary colleges and universities in different provinces and cities is the biggest, with the variation coefficient between 1.3-2.1, and most of them are higher than 1.6. The change is rising first and then decreasing, and the overall trend is rising, indicating that the income gap between ordinary colleges and universities in each province and urban areas has been expanded and

divergent. The coefficient of variation in the eastern region is between 0.85-1.38, and the difference is smaller than that in the West; although the range of variation is relatively large, the overall trend is stable, the overall trend is declining, and the trend of convergence is decreasing. The difference between the donation income of ordinary colleges and universities in the eastern provinces and cities is narrowing. The average variation coefficient in the central region is 1.04, the gap is smaller than that in the East. In 1998-2002, the coefficient of variation is larger, and then the relative difference becomes smaller, and the overall variation is also a form of decline. The difference between provinces and cities in the central region is becoming smaller, and the donation income of ordinary colleges and universities has the sign of convergence. The variation coefficient of western region is relatively large, with the average value greater than that of the eastern region, and its range is between 0.82-2.36, and the span is the largest; in addition, the change trend is to rise first, then descend and then rise, and the overall change is synchronous with the national change, and also rises. It can be seen that the difference between the donation income of ordinary colleges and universities in the western region is widening, and the donation income of each province and province is divergent. Finally, the northeast region has the smallest coefficient of variation among four regions, most of which are below 1. However, in 20 years, the variation coefficient has been fluctuating and rising in general. The difference between the three provinces is gradually increasing, and the donation income tends to diverge.

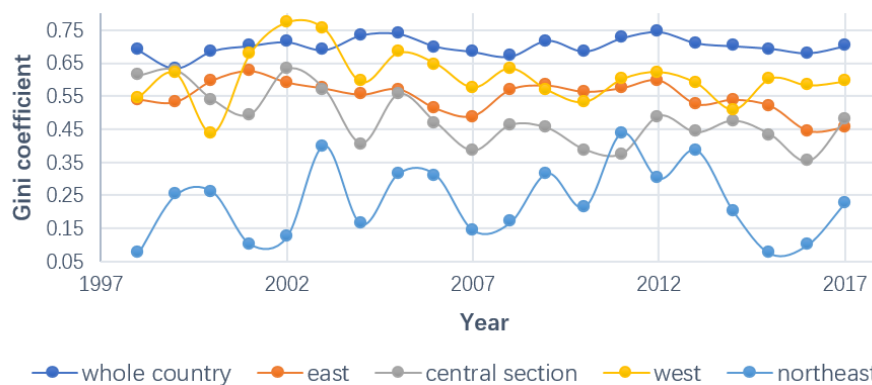


Figure 2: Gini coefficient change of donation income of colleges and universities among provinces

In order to further observe the imbalance of social donation income of provincial colleges and universities, Gini coefficients of the whole country, east, central, Western and northeast regions were calculated respectively. From Figure 2, we can see that the Gini coefficient of the whole country hovers around 0.7, which is not changed much and tends to be stable. Although the change is relatively small, the Gini coefficient is far higher than the comparative average line ( $< 0.3$ ). It shows that the imbalance of social donation income in the Provincial Colleges and universities is very large and it is urgent to reduce the imbalance. Most of the Gini coefficient in the eastern region is between 0.5-0.6, but it is generally declining. Especially in 2012-2017, the decline is obvious. It can be seen that the imbalance of social donation income in eastern regions is shrinking, which is a good phenomenon, but the distance from 0.3 is still a certain distance. The Gini coefficient in the central region is first decreased, then rises and then decreases. The average level is 0.48, lower than that in the East, and the overall level is also declining. It can be seen that the imbalance of social donation income in central regions is shrinking, among which, the minimum is 0.35, which is close to the comparative average, which is a good development trend. Compared with the East and the central part, the change range of the western region is large. The Gini coefficient is 0.77, and the lowest is 0.44, which has a large span. The overall fluctuation is rising. It is far from the comparative average line. It can be seen that the imbalance of social donation income in colleges and universities in the western region is expanding constantly, so it is urgent to reduce the imbalance situation. The northeast region is the lowest Gini coefficient of four regions, with an average level of 0.23, which is the only area lower than the comparative average. However, the fluctuation of its trend is rising, indicating that the imbalance of social donation income in Colleges and universities in Northeast China is expanding constantly, which is not a benign trend.

### 3. Conclusion and discussion

#### (1) Research conclusion

Through the research, it is found that the overall development of social donation income of colleges and universities in China is not as good as expected. In contrast, the total income of education funds in

Colleges and universities has increased by 19 times in the past 20 years, and maintained an upward trend; while the donation income in the same period has also increased, but only increased by 3 times, and the increase range fluctuates greatly, and the growth trend is unstable. Moreover, the proportion of donation income in the total fund income of ordinary colleges and universities has shown a downward trend in the past 20 years, which makes the role of donation income in Colleges and universities weaker and weaker, and needs to stimulate the potential of its supplementary role.

According to the latest economic zones, 31 provinces and cities are divided into eastern, central, Western and northeast regions. From the perspective of the proportion of donation income of colleges and universities in each region, the proportion of each region is unbalanced. The proportion of eastern region is the highest, accounting for more than 60% most of the time; the proportion of central region is declining, while the proportion of western region is rising, the proportion of central region is stable at 5-7%, the proportion of western region is stable at 10-15%; the proportion of northeast region is relatively stable, accounting for 2-4%.

From the point of view of the coefficient of variation, which is the internal balance index, from the national perspective, the income gap of donation of colleges and universities in all provinces and cities has expanded, showing a divergent form. The coefficient of variation of the eastern region is between 0.85-1.38, and it is a downward trend, the difference within the region has been narrowing; the donation income of colleges and universities in the central region also shows signs of convergence. In addition, the coefficient of variation of the western region is on the rise, while the northeast region is less than 1 on average, but it is also the same trend. The gap between the two regions is growing.

In order to further observe the imbalance of social donation income of provincial colleges and universities, the Gini coefficients of the whole country, the East, the middle, the West and the Northeast are calculated respectively. It is found that the Gini coefficient is very high in the whole country, and the development among provinces is very unbalanced; the Gini coefficient in the eastern and central regions is declining, which indicates that the degree of imbalance within the two regions is getting smaller and smaller, which is a benign development trend, but there is still a certain distance from the comparative average; the Gini coefficient in the western and northeast regions has an upward trend, and the two regions have a positive development trend. The degree of imbalance within the three regions is increasing, especially in the west, where the Gini coefficient remains high.

## (2) Discussion

It has been found that the proportion of University donation to the total social income has not increased rapidly in the past 20 years. From the horizontal point of view, the donation income of colleges and universities performs better in all levels of education. According to the coefficient of variation and Gini coefficient, it can be seen that the imbalance degree of social donation income of colleges and universities in China is very high and stable, and there is no downward trend; but the difference between the eastern and central regions is narrowing, which is a positive signal; and the imbalance degree of the western and northeast regions is increasing.

Therefore, this paper puts forward the following discussion

### 1). Expand the channels for colleges and universities to accept donations

At present, the level of social donation income of colleges and universities in China is low, which is far from being a supplementary source. At present, we should broaden the source channels, such as attracting online donations. In recent years, small online donations have developed rapidly, especially the success of "water drop funding" and "easy funding" in the medical field. This experience can be used for reference in the field of higher education, and even the whole field of education. As micro public welfare, new media and convenient payment tools are developing and Internet consumption continues to grow, Internet plus charity has provided a new opportunity for the development of social donation in universities. [13]

### 2). Learn from American non-profit private colleges

Endowment fund is an important source of income for American universities, especially private universities. The donation culture of American colleges and universities is not only the result of historical inheritance, but also plays an important role in the establishment and service of specialized institutions, alumni relationship management and emotional cultivation, and the long-term efforts of student-centered school running practice. The establishment of a good social image of colleges and universities and the standardization and transparency of the use of funds are the key elements of the trust mechanism for the use of funds. [14] These factors make the endowment fund sustainable development. In order to get more

donations from alumni and social people, China should also manage the donation funds from the aspects of the cultivation of donation culture and the construction of infrastructure, the maintenance of the relationship between students and alumni, the establishment of the social image of colleges and universities, and the establishment of the responsibility mechanism for the use of funds.

3). Reduce the differences among different provinces and further reduce the differences within regions

First of all, improve the education efforts of local governments and attract more social donations to invest in Colleges and universities. [15] In order to attract more donors, the provincial governments, especially the regions with high imbalance, should increase investment in higher education and improve the quality of higher education. Moreover, the government should make efforts in the system design to open up new channels to attract donations. For example, according to the "Central University donation matching special fund management measures", the government can introduce the provincial university donation matching special fund management measures to attract donations.

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