



# **The Impact of Household Income on Household Education Investment Spending -- Research Based on CFPS Data**

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**Abstract:** In recent years, education in China is developing rapidly, while education business which is deepening and innovating cannot be separated from the increase of investment. China's family investment in education training has been on the rise. Based on the CFPS data in 2016, this paper conducted an empirical analysis of household income and family education investment behavior, and found that income has a significant impact on education investment.

**Key words:** household income; education investment expenditure

In recent years, more and more people have realized that education investment is the main way of human capital accumulation, and education is an important channel for people to obtain a higher socio-economic status and realize the vertical flow of society. Education's economic function is increasingly recognized by people, education business is also deepening and innovating constantly, while education development level is directly affected by education expenditure level. The education cost Shared by families is gradually rising and families are playing an increasingly important role in this area. At present, family education in our country is more inclined to elite education from "public education". In this context, it is of certain practical significance to examine the impact of household income on education expenditure.

The data used in this paper is from the 2016 China family tracking survey (CFPS2016), which was implemented by the China social science survey center of Peking University. The investigation by tracing to collect individuals, families, communities, three levels of data, multi-stage and multi-level probability sampling method (PPS), ensure the samples covering 25 provinces (municipalities directly under the central government, autonomous regions), the target sample size of 16000 units, the investigation object contains all the family members of the sample households, individual sample size of 42590 people, is a national, large-scale, multidisciplinary social tracking project. Therefore, the CFPS sample can be regarded as a national representative sample.

In this paper, the influence of family income on education investment behavior was examined, and "total income in the past 12 months" and "education training expenditure in the past 12 months" were selected as sample data, a total of 14,033 sets of data. In the database of "total revenue for the past 12 months", 167 respondents with "0", 7 respondents with "not applicable", 159 respondents with "do not know" and 11 respondents with "do not know" were excluded, and on this basis, 48 respondents with "do not know" in the database of "education training expenditure for the past 12 months" were excluded. Finally, the samples were merged into a group with a capacity of 13,641.

According to the sample, the average total income of the family in the past 12 months was 60,549.81 yuan. For ease of analysis, we divided the database of total household income into 6 groups by interval, as shown in table 1.



Table 1 sample grouping

	Data interval (unit: yuan)	Average of total income in the past 12 months (unit: yuan)	Education training expenditure in the past 12 months (unit: yuan)	Number of samples (unit: person)
The first group	(0,20000)	8767.44	1811.95	2994
The second group	[20000,40000)	27147.7	3324.13	3427
The third group	[40000,60000)	46635.58	4016.73	2571
The fourth group	[60000,80000)	65418.79	4560.56	1585
With five	[80000,100000)	85067.55	4435.12	934
Group 6	[100000,∞)	189499.14	7365.91	2130

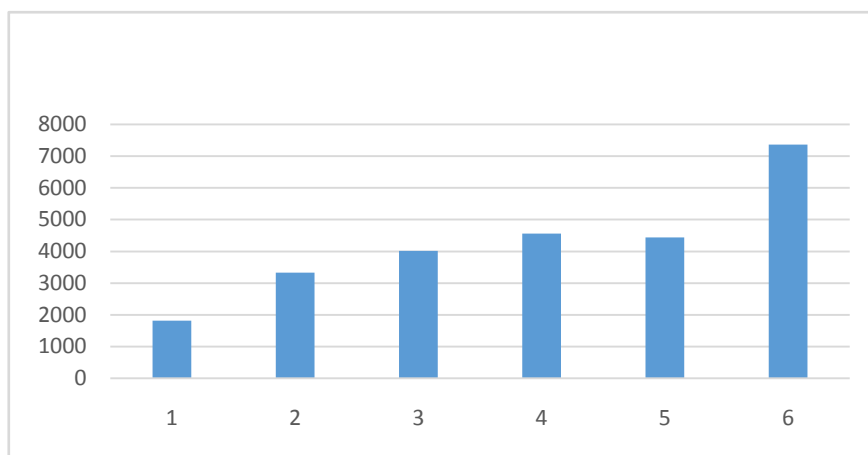


Figure 1 average education training expenditure per group (unit: yuan)

The average education training expenditure of each group is shown in figure 1. It can be seen that the higher the family's annual income is, the higher the family's education training expenditure is. However, as the income continues to increase, it reaches 80,000 to 100,000 yuan, temporarily showing a small drop. When the total household income exceeds 100,000 yuan, education training expenditure presents a substantial increase.

In order to further understand the significance of this difference, the single-factor variance test was carried out. As shown in table 2,  $F(5,13635)=120.798$ , and the corresponding P value was almost 0, indicating that families of different income ranges had significant differences in education training expenditure.



Table 2 single factor variance test of education training expenditure difference among different income families

	Sum of squares of deviation	Degrees of freedom	The mean square	The F value	significant
Between groups	3.141E10	5	6.282E9	120.798	.000
Within the group	7.091E11	13635	5.201E7		
The total number	7.405E11	13640			

From the above analysis, we know that with the increase of family income, the expenditure on education training will increase accordingly. Income plays a role in promoting consumption. There may be an inverted u-shaped relationship between average household income and education training expenditure. That is to say, when the household income reaches a certain high level, the family's education expenditure level will no longer continue to increase. But along with the income continues to grow, education training expenditure appears another substantial growth.

Through research, it is found that there are similar trends abroad. Foreign surveys show that the spending habits of the top 1% of americans' "elite" have changed significantly in the decade from 2007 to 2017, while those of the average middle class have not. In fact, if education spending in the top 1 percent of households had increased 3.5 times since 1996, spending by the average middle class would have barely budgeted.

In the context of the current social consumption behavior, high income of the rich family can pay for more education and training, most of successful people like spending in his/her personal skills training, keen to fashionable and expensive such as golf, equestrian skills training, and these skills training need to be wealthy family resources for support. High-income wealthy families are more forward-looking in terms of their investment in their children's education. An obvious example is the purchase of school houses in elite school district. Because education has limited resources at present, elite schools have the advantage of education, which naturally makes them attractive to students. Upper-class parents, on the other hand, are better informed, have better access to education quality than lower-middle class parents, and, once they do, are better able to buy a house in a select school district. For example, in 2013, li xiang and his wife bought a house in shenzhen in order to take their daughter wang shiling to study in Hong Kong. Wang's previous school was Beijing dewei British international school, where the tuition was 250,000 yuan a year. Such examples include the kindergarten attended by guo jingjing's son, huo zhongxi, which is known as the "harvard" in kindergarten. Other wealthy students at the school include the daughter of Hong Kong's former secretary for justice wong yan lung, the daughter of heiress xu ziqi and the daughter of diving queen fu mingxia. Children from wealthier families were able and willing to attend education's resource-rich schools, while children from poorer families were able to attend relatively poor schools.

Based on the above analysis, we can find that if education expenditure is regarded as a consumer product, then the ordinary households of low and middle income mostly regard education expenditure as ordinary commodities, and education expenditure is proportional to family income; However, most high-income families tend to regard education expenditure as a luxury, and those with higher income will be more willing to pay higher education expense.



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