

# Corporate Advertising Spending and Corporate Profits —An Empirical Study based on World Cup Sponsorship

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**Abstract.** This paper studies the influence of advertising and R&D expenditure on profits of the corporate which World Cup sponsors. By using the multiple linear regression model which is commonly used in econometric analysis, the empirical analysis was conducted based on the micro data of 143 sponsored enterprises in 10 world cups, including Russia and Brazil. The results show that, at least in the short term, World Cup advertising and research spending have a positive impact on corporate profits; Among them, the influence of advertising expenditure is stronger in the World Cup stage, and the promotion of profit growth of World Cup sponsoring enterprises is more significant.

**Keywords:** World Cup, advertising business income, multiple linear regression.

## 1. Introduction

The quadrennial World Cup is not only a sports event, but also attracts the attention of many world famous enterprises, bidding for the sponsorship of the event. During the recent World Cup in Russia which ended lately, the sponsored enterprises accounted for one-third of the tournament's total revenue. Corporate sponsorship is in essence an enterprise's advertising expenditure, which is closely related to its operation strategy. The enterprise is the constituent unit of market economy, and the operation condition of the enterprise affects the trend of economic development. Under the background of China's economic transition to the new normal development, it is of great practical significance to study the relationship between enterprise operation strategy and enterprise performance. Differently from traditional research methods, this paper analyzes the influence of corporate expenditure structure on corporate profits from the perspective of micro-empirical research and with the aid of the research tool of multiple linear regression in econometrics, focusing on the role of World Cup advertising expenditure among them, and concludes different results from the traditional research theory.

## 2. Literature Review

The problem of the relationship between the advertising spending and corporate profits have been hot issues, which attracted much attention of Baoguo Zhao scholars from the perspective of the related research: Baoguo Zhao (2016) in his article "The analyze of the nonlinear relationship between traditional enterprise advertising investment and enterprise performance " analyses the relationship between the enterprise advertising investment and enterprise performance and best intensity range of advertising. Based on the data of industrial enterprises from 2005 to 2007, the author used the data in the database of Chinese industrial enterprises for threshold analysis. The results show that the influence of advertising investment on business performance is periodic and exists the optimal investment range. And the influence of advertising investment on enterprises also depends on the characteristics of enterprises. Qianjie Li (2015) studied the relationship among the corporate social responsibility, advertising investment and corporate value in his article "The relationship among corporate social responsibility, advertising investment and corporate value". Based on the data of agricultural listed companies in Shanghai and Shenzhen from 2011 to 2013, the author analyzed by the method of combining OLS regression with fixed effect model. The results show that the advertising investment of agricultural enterprises has a positive impact on the fulfillment of corporate social responsibility and the improvement of corporate value, but the advertising investment does not

represent the product value of the enterprise, nor can it reflect the operating status of the enterprise. Dongyan Mo (2013) studied the relationship between the advertising expenditure and future economic benefit inflow in his article "Does advertisement expense influence future economic benefit inflow?" Based on the samples of Chinese listed companies from 1992 to 2012, the author adopted the estimation method of panel data for analysis. The results show that the advertising expenditure has negative effect on the short-term economic inflow and the future economic benefit inflow has positive effect. Jing Chen (2009) studied the relationship between advertising expenditure and enterprise value in her article "Research review on the relationship between advertising expenditure and enterprise value". Based on relevant domestic and foreign literatures, the author used literature analysis method to analyze. It is found that advertising expenditure has both positive and negative effects on enterprise value, and the related research needs further discussion.

As a part of enterprise expenditure, advertising expenditure is also affected by other enterprise expenditure such as scientific research expenditure. Weifeng Sun and other scholars also studied this problem from the perspective of the relationship between advertising expenditure and R&D expenditure. Weifeng Sun (2015) studied the relationship between R&D expenditure and advertising expenditure and systematic risk in his article "The empirical research on R&D and advertising expenditure and systematic risk of enterprises". Based on the data of manufacturing listed companies and CSMAR database in Shanghai and Shenzhen from 2009 to 2011, the author used the multiple linear regression model for analysis. It was found that the significant positive correlation between R&D expenditure and systemic risk only existed in large enterprises, while the significant negative correlation between advertising expenditure and systemic risk only existed in small enterprises. Liming Yu (2012) studied the influence of advertising expenditure and R&D investment on enterprise development in his article "The influence of advertising expenditure and R&D investment on enterprise development". The results show that as intangible assets play a positive role in enterprise development, both advertising expenditure and R&D investment have positive effects on sales growth, profit growth and market value growth.

The World Cup, with its huge popularity and flow effect, is a great opportunity for companies to advertise and increase their visibility. Chuanyin Chen and other scholars analyzed from the perspective of marketing strategy of World Cup enterprises. Chuanyin Chen and other scholars (2015) analyzed the marketing status and effects of Chinese enterprises in Brazil World Cup in their article "The review and discussion on marketing strategies of Chinese enterprises in 2014 football World Cup". Based on literature review, comparative analysis and SWOT analysis, the author believes that enterprises should define brand positioning, make marketing plans, stick to creative marketing, establish risk assessment mechanism and pay attention to the cultivation of sports marketing talents. Jingping He (2015) analyzed the marketing strategies of sports events in the financial media era in his article "The research on marketing communication strategies of sports events in the financial media era". On the basis of referring to the 5W model of Harold Lasswell, he took Chinese enterprises in Brazil World Cup as an example for research. The results show that in the media era, enterprises should accurately locate the appropriate events, target the audience, and conduct content communication in a variety of ways, and comprehensively consider the communication effect. Qingde Nie (2011) analyzed the marketing strategies of Chinese enterprises in the World Cup in his article "The marketing research of Chinese brands in 2010 World Cup of South Africa". Through the analysis of the case -China YingLi at the 2010 World Cup in South Africa, the author finds that Chinese enterprises should adhere to the concept of featured marketing, media marketing and green marketing in World Cup marketing. Jun Yang and other scholars (2007) analyzed the significance of World Cup marketing and the problems of Chinese enterprises in marketing in their article "The analysis of Chinese enterprises' sports marketing in 2006 football World Cup". Through the method of case analysis, the author believes that Chinese enterprises should adopt strategies such as developing reasonable plans, carrying out risk assessment, strengthening international cooperation and paying attention to interaction with consumers in World Cup marketing.

### 3. Methodology and Data

The previous studies have shown that corporate profits are influenced by the input factors and there may be many input factors, which can affect corporate profits differently in the ways and means. The difference can be reflected in the production function of enterprises. Based on the basic theory of Cobb-Douglas production function, this paper believes that enterprise profit is mainly influenced by capital investment and labor investment. The actual production of enterprises shows that the amount of capital investment and the structure of investment will affect the performance of enterprises. Among the many capital input, the research expenditure as production input and the advertising expenditure as sales input are the two main aspects. The increase of scientific research expenditure and advertising expenditure has an impact on corporate profits, but the impact and interaction of the two has been a subject of widespread concern. Based on the multiple linear regression model, this paper uses the least square method to analyze the problem. The specific model form is shown in equation (1).

$$y_i = \beta_0 + \beta_1 x_i + \beta_2 z_i + u \dots \dots \dots (1)$$

In equation (1), the dependent variable is the company's profit, and the independent variable is the company's World Cup advertising expenditure. The coefficient  $\beta_1$  represents the degree of influence of World Cup advertising expenditure on corporate profits. In order to accurately understand the influence of World Cup advertising expenditure, a series of control variables are added into equation (1), including the research expenditure of enterprises during the World Cup, other production expenditure, and the bank deposits and liabilities of enterprises.

In the process of empirical research, this paper used the survey data of 143 enterprises from the 1982 FIFA World Cup in Spain to the 2018 FIFA World Cup in Russia. The data used come from two sources: the list of sponsored enterprises is from the official website of the international football federation; The data on sponsored enterprises come from the data of world bank 's survey. The enterprise survey data of the world bank is a survey of the top 100 enterprises in various countries. The data come from the reports of the surveyed enterprises and the sampling field survey of the World Bank. The contents of the data include basic information of the enterprise, personnel allocation information, production and operation information and financial status information. The data covers a relatively wide range, and the information and content of the survey can meet the requirements of this paper.

### 4. Results

The results of the multiple linear regression model are shown in the table below.

Table 1. The results of regression

| Variables               | (1)<br>Net profit   | (2)<br>Net profit    | (3)<br>Net profit     |
|-------------------------|---------------------|----------------------|-----------------------|
| Advertising expenditure | 19.39***<br>(2.325) | 18.25***<br>(2.205)  | 12.87***<br>(2.096)   |
| Research expenditure    |                     |                      | 3.909***<br>(0.594)   |
| Other expenditure       |                     | 0.00607<br>(0.00664) | 0.000902<br>(0.00586) |
| Bank deposits           |                     | 0.286***<br>(0.0661) | 0.103<br>(0.0642)     |
| Bank liabilities        |                     | 0.00681<br>(0.0111)  | 0.00589<br>(0.00976)  |
| Constant                | 20,892**<br>(9,610) | 12,448<br>(9,332)    | -5,260<br>(8,598)     |
| Observations            | 143                 | 143                  | 143                   |
| R-squared               | 0.330               | 0.418                | 0.558                 |

Standard errors in parentheses; \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

The first column represents the regression result of corporate net profit on World Cup advertising expenditure. Without any control variables, the regression coefficient of World Cup advertising expenditure is 19.39, which is statistically significant. This shows that, in the case of only considering the World Cup advertising spending, an increase of 1 yuan in advertising spending can increase the net profit of the enterprise by 19.39 yuan. The second column represents the return of net profits to World Cup advertising, procurement, bank deposits and liabilities. The regression results showed that under the control of the information of bank deposits and liabilities which represent the enterprise scale, the World Cup advertising expenditure still had a positive impact on the enterprise net profit, the influence coefficient was 18.25, which was lower than that without the control variable, but it was still very significant. The third column represents the regression results of corporate net profit on World Cup advertising expenditure, scientific research expenditure and other control variables, among which the regression coefficient of World Cup advertising expenditure is 12.87 and the research expenditure is 3.909. The coefficient of World Cup advertising expenditure and scientific research expenditure are very significant in the statistical indicators.

The results of multiple linear regression model show that: first, the World Cup advertising expenditure of the corporate has a positive impact on corporate profits; Second, the positive impact of corporate World Cup advertising spending on corporate profits will not change due to factors such as corporate size. World Cup advertising spending is a positive influence on corporate profits for both large and small businesses. Third, although both corporate World Cup advertising and research spending have a positive impact on corporate profits, there is an alternative relationship between the two. In the short term, World Cup advertising spending has a bigger impact on corporate profits.

## 5. Conclusions and Future Research

From the perspective of enterprise cost allocation, this paper studies the factors affecting enterprise profit. We mainly focus on the influence of World Cup advertising expenditure and scientific research expenditure on corporate performance. The results of the empirical study found that both scientific research spending and World Cup advertising spending will have a positive impact on corporate profits. In terms of impact, the World Cup's advertising spending is more important than scientific research spending. Differently from some conclusions of traditional research, this paper holds that scientific research expenditure is the source of long-term development of enterprises, it is also the core competitiveness of enterprises' products. However, from the perspective of cost-benefit analysis, the World Cup advertising expenditure can effectively increase the current profits of enterprises and provide a guarantee for the sustainable development of enterprises. At different stages of enterprise development, enterprises should adjust their cost strategies according to their strategic objectives, and take into account their long-term development strategies while pursuing the maximization of profits.

At the same time, it should be noted that the datas in this paper are from the enterprise research database of the world bank group, whose data structure is cross-sectional data, which cannot measure the long-term trend of enterprise development. Since the payback cycle of research spending is longer than that of World Cup advertising, further research will be based on a richer panel database, and more accurate estimates of the impact of research spending and World Cup advertising spending on corporate profits will be made.

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