

# Analysis of the Impact of Takeaway Companies' Spending Strategies on Profits

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**Abstract:** This paper studies the impact of sales expenses and employee wages on corporate profits. By using the multiple linear regression model commonly used in econometric analysis, an empirical analysis is carried out based on the micro data of takeaway companies in five provinces and cities including Beijing. The results show that, at least in the short term, both sales expenses and employee wages have a positive impact on the profits of takeaway companies; among them, the impact of sales expenses is greater, and the promotion of profit growth of takeaway companies is also more obvious.

**Keywords:** Sales Expenses; Employee Wages; Profit of Takeaway Companies; Multiple Linear Regression Model

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## 1. Introduction

With the advent of the "Internet +" era, online takeaway platforms have sprung up like mushrooms after a spring rain, which has promoted the development of takeaway companies, and provided a new growth for the economy, while also greatly facilitating people's lives. Since the outbreak of COVID-19, the urban operation guarantee function of takeaway has become more prominent. It is of great practical significance to study the relationship between the operation strategy of takeaway companies and the profits of takeaway companies. Different from traditional research methods, from the perspective of micro-empirical evidence, this paper uses the multiple linear regression research tool in econometrics to analyze the impact of the spending structure of takeaway companies on their corporate profits, focusing on the role of sales expenses and employee wages. The results are different from those of traditional research theories.

## 2. Models and data

In this paper, the multiple linear regression model is used to analyze the impact of the expenditure structure of takeaway companies on corporate profits. The multiple linear regression model is often used to analyze multivariate disturbance problems, that is, the explained variable in a problem is affected by the changes of multiple independent variables. The impact of expenditure structure of takeaway companies on corporate profits is a typical problem of this type. Corporate profits are affected by many factors such as sales expenses, employee wages, and financial expenses. Under such circumstances, it is particularly important to establish a multiple linear regression model by means of econometrics to accurately analyze the impact of various expenditures. 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 corporate profit, the independent variable  $x_i$  is the sales expense, and the coefficient  $\beta_1$  represents the degree of influence of the sales expense on the corporate profit. A series of control variables  $z_i$  are added, including employee wages, financial expenses, etc. In the estimation process of the model, this paper uses the least squares method in the mathematical optimization technique to find the best function matching of parameters by minimizing the sum of squares of errors. The parameters to be estimated can be easily obtained by using the least squares method, and the sum of squares of the errors between the obtained parameters and the actual parameters can be minimized. According to the Gauss-Markov theorem, given the assumptions of classical linear regression, a least squares estimator is a linear unbiased estimator with minimal variance. Therefore, when the classical assumption holds, there is no need to look for other unbiased

estimators, none of which are better than ordinary least squares estimators. If there is a good linear unbiased estimator, the variance of this estimator is at most as small as the variance of the ordinary least squares estimator, and no less than the variance of the ordinary least squares estimator.

The data used in this paper comes from the field survey data of 143 takeaway companies in five provinces including Beijing, Jilin, Shandong, Shanghai, and Guangdong conducted by Renmin University of China in 2015. In the specific investigation, the list of takeaway companies was obtained from the local statistics department, and random sampling was used to determine the research companies. The data of the survey include face-to-face interviews and telephone interviews. The content of the investigation includes the basic information, personnel allocation information, production and operation information and financial status information of the enterprise. The coverage of the data is relatively wide, and the information and content of the survey can meet the requirements of the analysis in this paper.

### 3. Analysis and conclusion

This paper uses the commonly used quantitative analysis software Stata to realize the model establishment and data processing process. The output results of the multiple linear regression model are shown in Table 1.

**Table 1 Results of multiple linear regression model**

| variabels    | (1)<br>profit       | (2)<br>profit        | (3)<br>profit         |
|--------------|---------------------|----------------------|-----------------------|
| Sale         | 19.39***<br>(2.325) | 18.25***<br>(2.205)  | 12.87***<br>(2.096)   |
| Management   |                     |                      | 3.909***<br>(0.594)   |
| finance      |                     | 0.00607<br>(0.00664) | 0.000902<br>(0.00586) |
| deposit      |                     | 0.286***<br>(0.0661) | 0.103<br>(0.0642)     |
| debt         |                     | 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

Column (1) of Table 1 reports the regression results of the net profit of the takeaway company on the sales expenses. Without adding any control variables, the regression coefficient of the sales expenses is 19.39, which is statistically significant, indicating that when only the sales expenses are considered under the circumstance of 1 yuan in sales expenses, the net profit of the company can be increased by 19.39 yuan. Column (2) of Table 1 reports the regression results of the net profit of takeaway companies on sales expenses, financial expenses, bank deposits and bank liabilities. From the regression coefficient point of view, there is a significant positive correlation between sales expenses and the company's net profit. The average influence coefficient of sales expenses is 18.25, indicating that under the control of other related variables, each additional 1 yuan in sales expenses can make the enterprise Net profit increased by 18.25 yuan. In addition, bank deposits and corporate net profit also have a significant positive correlation. Column (3) of Table 1 reports the regression results of the net profit of takeaway companies on sales expenses, employee wages, financial expenses, bank deposits and bank liabilities. From the regression coefficient point of view, there is a significant positive correlation between sales expenses and employee

wages and corporate net profit. The average influence coefficient of sales expenses is 12.87. It can increase the net profit of the enterprise by 12.87 yuan; the average influence coefficient of employee wages is 3.909, indicating that under the control of other relevant variables, each additional 1 yuan of employee wages can increase the net profit of the enterprise by 3.909 yuan.

The results of the multiple linear regression model show that: first, the sales expenses of takeaway companies do have a positive impact on the net profit of the company. In takeaway companies, sales expenses are all positive factors that affect the company's net profit; second, the wages of employees of takeaway companies will also have a positive impact on the company's net profit, and there is a substitution relationship with sales expenses. At least in the short term, sales expenses have a greater impact on corporate net profit; third, variables that represent corporate size, such as bank deposits, will also have an impact on corporate net profit.

#### **4. Suggestions and Prospects**

This paper studies the factors that affect the net profit of enterprises from the perspective of the expenditure strategy of takeaway enterprises. The main focus is on the impact of two types of expenses such as sales expenses and employee wages on the company's net profit. The results of the empirical study found that both sales expenses and employee wages will have a positive impact on the net profit of enterprises. From the perspective of influence, the role of sales expenses is greater than that of employee wages. From the perspective of cost-benefit analysis, sales expenses can effectively increase the current net profit of the company and provide a guarantee for the sustainable development of the company. At different stages of the development of takeaway companies, companies should adjust their cost strategies according to their strategic goals, and take into account corporate social responsibilities while pursuing maximizing net profit.

At the same time, it should be noted that the data in this paper comes from the takeaway company survey database, and its data structure is cross-sectional data, which cannot well measure the long-term trend of takeaway companies. Further research will be based on a richer panel database, and then Get a more accurate estimate of the impact of two types of expenses, selling expenses and employee wages, on the company's net profit.

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