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# Research and Application of Cost-Profit Control Model of Cooperative Production of Cigarette Brands Based on Panel Data

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**Abstract.** Cooperative production is an important measure to promote the strategy of "big brand, big market and big enterprise". At present, cooperative production is facing challenges such as unstable scale and low concentration. Under the background of intensified contradiction between market demand of national superior brands and planned resources, cost control has become a realistic choice for cooperative production enterprises to improve their efficiency. Based on the panel data of cooperative units in nine input areas, including the income per box, the proportion coefficient of value-added tax payment, the period cost per box and the cost, profit and tax-free sales income of cooperative brands, this study constructs direct and mediating effect models, and introduces three costs per box and consumption cost per box. In order to explore the influence of each variable on the profit of cooperative brand. The results show that the tax-exclusive sales revenue and cigarette period expenses of cooperative brands have a direct effect on their profits.The sales revenue per carton has a mediating effect on the tax-exclusive sales revenue and cigarette period expenses of cooperative brands, and the proportion coefficient of value-added tax payment also has a mediating effect after introducing control variables. Through the regional heterogeneity analysis of the random effects model, it is found that there are significant differences in the cooperative brand profits of the nine regional input cooperative units. This study further constructs a cost-profit control model based on panel data, analyzes the factors affecting the profits of cooperative brands and their internal relations, and establishes a cost-profit control model of cooperative cigarette brands, aiming at providing an auxiliary decision-making means for the balance between product pricing, cost control and profit realization, so as to promote the "cost reduction and efficiency enhancement" of cooperative cigarette products.

**Keywords:** cooperative production; panel data analysis; direct effect analysis; mediating effect analysis; Analysis of regional heterogeneity.

## 1. Introduction

As a decisive measure to promote the strategy of key big brands in the tobacco industry, cooperative production plays a vital role in the realization of large-scale production and market expansion of big brands. However, the current cooperative production mode is facing a series of challenges, including the instability of the scale of cooperative production and the lack of concentration. At the same time, with the contradiction between the continuous growth of the market demand for national superior brands and the limited planning resources becoming more and more serious, effective cost control has become the core issue for cooperative export units to improve economic efficiency. In view of the current development trend of co-production brands, this study deeply analyzes the cost and profit status of each brand, explores the inherent law of the development of the profit level of co-production brands, and explores the effective methods of cost control. Therefore, this paper constructs a cost-profit control model of multi-cooperative production sites, which can quickly and intuitively analyze the break-even situation of each input enterprise, and provide strong support for cooperative output adjustment and production decision-making.

Combined with the key indicators such as the income per carton, the proportion coefficient of value-added tax payment, the period cost per carton and the cost, profit and tax-free sales income of cooperative brands, the direct effect and intermediary effect models, the control variable model and the random effect model are constructed to analyze the regional heterogeneity, aiming at revealing the specific impact mechanism of these factors on the profit of cooperative brands.

## 2. Research Design

### 2.1 Research hypothesis

In order to explore the profit difference of co-production cigarette brands in different import cooperation regions, and test the mediating effect, control variable, direct effect and other effects, this study proposes the following hypotheses based on the panel data of co-production cigarette brands in nine regions.H1 Direct Effect Hypothesis: H1a: Cooperative brand excluding tax has a significant positive direct effect on the profit of cooperative brand. H1b: The number of cigarette expenses during the period has a significant negative direct effect on the profit of cooperative brands.

H2 mediating effect hypothesis: H2a: The income per box of the enterprise plays a mediating effect between the exclusive tax revenue of the cooperative brand and the cost of cigarettes during the period. H2b: The proportion coefficient of value-added tax tax payment plays an intermediary role between the exclusive tax revenue of cooperative brands and the cost of cigarettes during the period.

H3 Control variable hypothesis: H3a: The three costs per box have a significant negative impact on the profit of cooperative brands. H3b: The consumption cost rate has a significant negative impact on the profit of cooperative brands.H4 Regional heterogeneity hypothesis: H4a: There are significant differences in the profits of cooperative brands in different regions. H4b: There are significant differences in the impact of brands excluding tax revenue on the profits of cooperative brands among regions. H4c: There are significant differences in the impact of cigarette expenses during the period on the profits of cooperative brands among regions. H4d: There are significant differences in the mediating effect of revenue per container on the profit of cooperative brands among regions. H4e: There are significant differences in the mediating effect of the proportion coefficient of value-added tax tax payment on the profits of cooperative brands among different regions. H4f: There are significant differences in the control effect of the three costs per box and the consumption cost rate on the profit of the cooperative brand among regions.

### 2.2 Variable selection

According to the corresponding hypothesis, variables are selected for verification, and the variables are selected as shown in Table 1-1.

Table 1-1 Selection of each variable index

| Type | Indicators | Unit | Variable name | Expected impact direction |
|---|---|---|---|---|
| **Dependent variable** | Cooperative brand profit | yuan/box | profit | / |
| **Independent variable** | Cooperative brand does not include tax revenue | yuan/box | brand_revenue | + |
| | Number of expenses during the cigarette period | yuan/box | cigarette_expenses | - |
| **Mediating variable** | Enterprise single box income | yuan/box | unit_income | / |
| | Proportional coefficient of value-added tax tax payment | % | vat_ratio | / |

| | | | | |
|---|---|---|---|---|
| **Control variable** | Three charges for a single box | yuan/box | unit_costs | - |
| | Consumption cost rate | % | consumption_cost_rate | - |

Data source: selection basis of each variable index.

## 3. Research Methods and Theories

This paper uses panel data structure to analyze direct effect model, mediating effect model, control variables, and through Hausman test, random effect model to analyze regional heterogeneity.

### 3.1 Panel data analysis

Definition: Panel data is a data set consisting of changes in cross-sectional units over time. This type of data allows researchers to consider both cross-unit differences and time series variations.

The general form of the panel data model can be represented by the following formula (1):

$$Yit = \beta 0 + \beta 1 X1,it + \beta 2 X2,it + \cdots + \beta k Xk,it + \alpha i + uit$$

Among, $yit$ Is the observed value of the dependent variable (cooperative brand profit) for individual I and time t. $x1,it$ , $x2,it$ , ..., $xk,it$ Are the observed values of the independent variable for individual I and time t, respectively. $\beta 0$ , $\beta 1$ , $\beta 2$ , ..., $\beta k$ Is the corresponding parameter,$\alpha i$It is an individual fixed effect or a random effect.$uit$Is the error term.

### 3.2 Direct effect model

Definition: The direct effect model focuses on the direct influence of the independent variable on the dependent variable, and does not consider the role of the mediating variable.

Application: a linear regression model is directly established to evaluate the influence of independent variables (such as cooperative brand exclusive tax revenue and cigarette period expenses) on the dependent variable (cooperative brand profit), as shown in Formula (2). $Yit = \beta 0 + \beta 1 X1,it + \beta 2 X2,it + \cdots + \beta k Xk,it + uit$

### 3.3 Mediating effect model

Definition: Mediating effects models are used to assess how independent variables indirectly affect dependent variables through mediating variables.

Application: The mediating variable (the income per container of the enterprise and the proportional coefficient of tax payment for value-added tax) plays a role as a bridge between the independent variable and the dependent variable, as shown in Formula (3). $Mit = \gamma 0 + \gamma 1 X1,it + \gamma 2 X2,it + \cdots + \gamma k Xk,it + eit$

### 3.4 Control variable analysis

Definition: Control variable analysis is designed to control for the effects of other factors in order to more accurately estimate the relationship between the independent and dependent variables.

Application: Control variables (three costs per container, consumption cost rate) can be used to

eliminate potential confounding factors and ensure more accurate estimation of the relationship between independent variables and dependent variables, as shown in Equation (4). $Yit = \beta 0 + \beta 1 X1,it + \beta 2 X2,it + \cdots + \beta k Xk,it + \theta 1 C1,it + \theta 2 C2,it + \cdots + \theta l Cl,it + uit$Among, $C1,it, C2,it, ..., Cl,it$ Is the observed value of the control variable for individual I and time t. $\theta 1, \theta 2, ..., \theta l$ Is the parameter that controls the variable.

### 3.5 Random effect model

Theoretical basis

Definition: The random effects model assumes that individual effects are random and uncorrelated with the independent variables. Such a model is suitable for dealing with individual heterogeneity in panel data.

Application: If there is unobservable heterogeneity between individuals (such as different cooperative brands or regions), and these heterogeneity are independent of the independent variables, then the random effects model can be used, see equation (5). $Yit = \beta 0 + \beta 1 X1,it + \beta 2 X2,it + \cdots + \beta k Xk,it + \alpha i + uit$ Among, $\alpha i$ Is an individual random effect, and it is usually assumed that$\alpha i \sim N(0, \sigma 2)$。

### 3.6 Hausman test

Definition: The Hausman test is a statistical test used to determine whether a fixed effects model or a random effects model should be used in a panel data model.

Application: If the Hausman test shows that the individual effects are related to the independent variables, the fixed effects model should be selected; If the individual effects are independent of the independent variable, a random effects model is more appropriate, see Equation (6). $H = \left(\beta^{FE} - \beta^{RE}\right)' \left[\mathrm{Var}\left(\beta^{FE}\right) - \mathrm{Var}\left(\beta^{RE}\right)\right] - 1 \left(\beta^{FE} - \beta^{RE}\right)$ Among them Follows a chi-square distribution with K degrees of freedom, wherekIs the number of independent variables.

A random effects model was run to obtain estimates of the random effects. Compute the Hausman statistic, which measures the difference between estimates of fixed effects and random effects. Perform the test and select the fixed effects model if the Hausman statistic is significant; If not significant, a random effects model may be selected.

## 4. Model construction

### 4.1 Data description

This paper selects the relevant cost data of nine cooperative input enterprises in China's tobacco industry from 2019 to 2023. To ensure accuracy and geographic specificity of the analysis.

### 4.2 Direct effect analysis

To establish a direct effect regression model, this paper will use linear regression to estimate how two independent variables (brand exclusive tax revenue and cigarette period expenses) affect the dependent variable (cooperative brand profit). In this case, the goal of this paper is to predict the cooperative brand profit value, taking into account the impact of these two factors.

Table 4-2 Direct effect analysis

| **PROFIT = C(1) + C(2)*BRAND_REVENUE + C(3)*CIGARETTE_EXPEN** |
|---|

| | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| **C(1)** | -11674.14 | 1475.845 | -7.910142 | 0.0000 |
| **C(2)** | 3.055773 | 0.368680 | 8.288419 | 0.0000 |
| **C(3)** | -0.121394 | 0.033760 | -3.595812 | 0.0008 |
| **R-squared** | 0.691333 | Mean dependent var | | 454.2253 |
| **Adjusted R-squared** | 0.676635 | S.D. dependent var | | 350.0005 |
| **S.E. of regression** | 199.0285 | Akaike info criterion | | 13.48911 |
| **Sum squared resid** | 1663719. | Schwarz criterion | | 13.60956 |
| **Log likelihood** | -300.5051 | Hannan-Quinn criter. | | 13.53401 |
| **F-statistic** | 47.03454 | Durbin-Watson stat | | 0.820902 |
| **Prob(F-statistic)** | 0.000000 | | | |

Data source: software operation.

The model is a panel least squares model that estimates the average effect of multiple individuals (9 in this case) over multiple time periods. Sample range: The data covers 5 years from 2019 to 2023 and contains a total of 45 observations (1 observation per individual per year). Explanation of regression coefficient: Constant term (C1): When all independent variables are equal to zero, the predicted profit is-11674. 14. This value is of no practical significance because the independent variables are unlikely to be zero at the same time. Grade Excluding Tax (C2): For each additional unit of Grade Excluding Tax, the profit will increase by 3 055773 units on average. This coefficient is significantly non-zero (t-statistic = 8. 288419, p-value < 0.0000), indicating that the brand tax exclusive has a significant positive impact on profits. Cigarette Period Expense (C3): For each additional unit of cigarette period expense, the profit will decrease by 0. 121394 unit on average. Again, this coefficient is significantly non-zero (t-statistic = -3. 595812, p-value = 0.0008), indicating that cigarette period expenses have a significant negative effect on profit.

Model fit and test: R-squared (coefficient of determination): 0. 691333 means that the model explains about 69% of the profit variation. The adjusted R-squared is 0. 676635, taking into account the adjustment of the degree of freedom. F-statistic: 47. 03454 with a p-value of 0.0000, indicating that the overall model is statistically significant. Durbin-Watson stat: 0. 820902, close to 1, suggesting that there may be some degree of first-order autocorrelation in the residuals. The model shows that the brand exclusive tax and the cigarette period cost have a significant impact on the profit, the former is positively correlated, the latter is negatively correlated. The model has good explanatory power.

### 4.3 Analysis of mediating effect

In this paper, we establish the model of the impact of the proportion coefficient of the single container income and the value-added tax payment on the brand exclusive tax revenue, and study how these two factors affect the brand exclusive tax revenue.

Table 4-3 Analysis of Mediating Effect I

| | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
|---|---|---|---|---|
| **C(1)** | 3604.567 | 132.5163 | 27.20092 | 0.0000 |
| **C(2)** | 0.020344 | 0.005296 | 3.841683 | 0.0004 |

| | | | | |
|---|---|---|---|---|
| **C(3)** | 115.2955 | 476.4367 | 0.241996 | 0.8100 |
| **R-squared** | 0.262704 | Mean dependent var | | 3992.800 |
| **Adjusted R-squared** | 0.227595 | S.D. dependent var | | 82.52206 |
| **S.E. of regression** | 72.52583 | Akaike info criterion | | 11.47010 |
| **Sum squared resid** | 220919.9 | Schwarz criterion | | 11.59055 |
| **Log likelihood** | -255.0773 | Hannan-Quinn criter. | | 11.51500 |
| **F-statistic** | 7.482452 | Durbin-Watson stat | | 1.827679 |
| **Prob(F-statistic)** | 0.001661 | | | |

Data source: software operation.

Model overview: Panel least squares (PLS) is used to capture average relationships across time and across individuals. The data cover five years from 2019 to 2023, including nine different individuals or entities, constituting a total of 45 observations. Regression coefficient interpretation: Constant term (C1): Even when controlling for other variables, the base level of brand exclusive tax revenue is estimated to be 3604.567. This value reflects the expected value of brand excluding tax revenue when the proportion of single box income and value-added tax payment is zero. Enterprise income per container (C2): For each unit of income per container increased, the brand income excluding tax will increase by 0. 020344 unit on average. The t-statistic of this coefficient is 3. 841683, the p value is 0.0004, which indicates that the income per container has a significant positive impact on the brand exclusive tax revenue. Payment proportion of value-added tax (C3): For each additional unit of value-added tax payment proportion, the brand tax exclusive income will increase by 115.2955 units on average. However, since the t-statistic is only 0. 241996 and the p-value is 0. 8100, it means that the value-added tax contribution ratio has no significant effect on the brand exclusive tax revenue. The goodness of fit and test of the model: R-squared (coefficient of determination): 0. 262704, which means that the model explains 26.27% of the variability of brand exclusive tax revenue. Adjusted R-squared: 0. 227595, this is a degree-of-freedom adjusted version of R-squared, which more accurately reflects the actual explanatory power of the model. F-statistic: 7. 482452, with a p-value of 0. 001661, indicating that at least one independent variable has a significant effect on brand exclusive tax revenue. Durbin-Watson statistic: 1. The 827679 is close to 2, indicating that there is no significant autocorrelation in the model residuals. The model reveals that the income per container has a significant positive impact on the brand exclusive tax revenue, while the impact of the proportion of value-added tax payment is not significant. The explanatory power of the model is limited, and it can only explain part of the reasons for the variability of brand excluding tax revenue.

### 4.4 Control variable analysis

Introduction of control variables (three costs per container and consumption cost rate):

The panel data regression analysis introduces two control variables, the three costs per box and the consumption cost rate, to evaluate the impact of the variables on the profit of the cooperative brand, while considering other variables in the previous model.

The goodness of fit and test of the model: R-squared (coefficient of determination): 0.The 817324 means that the model explains 81.73% of the total variability of profits, and the model has strong explanatory power. The adjusted R-squared: 0. 788480, considering the adjustment of the

degree of freedom, still shows that the model has a good fit. F-statistic: 28. 33635, its p value is 0. 000000 indicates that the model as a whole is highly significant in predicting profits. Durbin-Watson statistic: 0.684010, below 2, suggesting a possible first-order positive autocorrelation in the residuals, which may require further diagnosis and model revision.

Control variable analysis: The introduction of the three costs per container and the consumption cost rate improves the explanatory power of the model, especially the consumption cost rate has a significant impact on profits. The significant negative effect of value-added tax contribution ratio on profits still exists after the control variable is added, indicating that it is an important factor affecting profits. The effects of cigarette period expenses and firm revenue per case become insignificant, possibly because the control variables absorb some of their effects. The introduction of control variables increases the explanatory power of the model, especially the consumption cost rate has a significant negative impact on profits. The proportion of value-added tax contribution has a significant negative impact on profits, which emphasizes the importance of tax policy on profits. The effects of cigarette period expenses and corporate box revenue were attenuated after controlling for other variables, possibly because of multicollinearity or other associations between them and the control variables.

## 5. Regional Heterogeneity Analysis

### 5.1 Construction of random effect model

Table 5-1 Random effect model analysis

| **Swamy and Arora estimator of component variances** | | | | |
|---|---|---|---|---|
| **Variable** | Coefficient | Std. Error | t-Statistic | Prob. |
| **C** | -8783.850 | 1135.402 | -7.736336 | 0.0000 |
| **BR?** | 2.312469 | 0.255601 | 9.047185 | 0.0000 |
| **CE?** | -0.024041 | 0.028073 | -0.856388 | 0.0072 |
| **UI?** | 0.050155 | 0.020983 | 2.390257 | 0.0219 |
| **VR?** | -2239.976 | 1026.910 | -2.181277 | 0.0354 |
| **UC?** | 0.010803 | 0.062627 | 0.172492 | 0.8640 |
| **CCR?** | -21.32937 | 13.90297 | -1.534159 | 0.1333 |

Data source: software operation.

Model description: Panel data model results estimated using the (EGLS) method, which incorporates random effects. Random Effects Analysis: Random Effects (Cross): The random effect estimates for each region are listed, and each region has its own random effect value. For example, the random effect of GX--C is -50. 19956.

Model fitting and test: Weighted Statistics: The weighted R-squared is 0.928032, and the adjusted R-squared is 0.916669, indicating that the model has high explanatory power. F-statistic is 81. 66928, p value is 0. 000000, indicating that the model as a whole has a good effect on PR? The prediction is significant. The model shows that the brand exclusive tax, the income per container and the proportion of value-added tax payment have a significant impact on the profit of cooperative brands, while the three costs per container and the consumption cost rate have no significant impact. Random effects between regions are significant, which means that the model takes into account unobserved factors specific to the region. The model has strong explanatory power, which emphasizes the importance of considering regional specificity in explaining and

predicting the profits of cooperative brands, and also highlights the role of several significant factors. Random-effect estimates for each region: GX--C (-50. 19956): indicates that the profit residuals in the region are on average lower than model predictions, because there are negative factors in the region that are not considered by the model to affect profits.

SX -- C (102.9227): The region's profit residuals are higher than model forecast, and there are positive factors that are not captured by the model that cause the region's profit to perform better than expected. HB -- C (121.8861): Profit residuals in this region were also higher than expected, indicating favorable conditions that were not identified by the model. GS--C (-216.8416): Profit residuals in this region were significantly lower than expected, with certain challenges or headwinds not accounted for by the model. CQ-C (-11. 19246): Profit residuals in this region are slightly lower than expected, but the absolute value is relatively small and the impact is not significant. SC--C (-110.5955): Profit residuals in this region are lower than expected, indicating that there are negative factors affecting profits in this region that are not identified by the model. JX--C (-135.1915): Profit residuals in this region are lower than expected, indicating adverse conditions not considered by the model. GZ--C (96. 87383): Profit residuals in this region are higher than expected, indicating that there may be positive factors in this region that are not identified by the model. AH -- C (202.3379): Profit residuals in this region are much higher than expected due to favorable conditions unique to this region that are not fully captured by the model.

### 5.2 Hausman test

Hausman test results: Cross-section random: chi-square statistic is 2. 030511, degree of freedom is 6, p-value is 0.9169. The p-value was large, less than 0.05, and the null hypothesis was rejected (i.e., the random effects model was not significantly different from the fixed effects model) in favor of the fixed effects model. The p-value indicates that there is insufficient evidence to reject the random effects model and therefore supports the use of the random effects model. BR?, CE?, UI?, VR?, UC?, CCR?: Comparison of fixed and random effect estimates of the variables in the model, and the variance of their difference (Var (Diff.)). The p-values were all greater than 0.05, indicating that the differences in the estimates of the variables were not statistically significant in the fixed and random effects models. R-squared: 0. 951703, adjusted R-squared is 0. 929164, indicating that the model has high explanatory power. F-statistic: 42. 22511 with a p-value of 0. 000000, confirming the overall significance of the model. The results of the Hausman test indicated that the random effects model was the appropriate choice given the model setting, as it was not significantly different from the estimates of the fixed effects model. Therefore, the use of a random-effects model may provide more efficient and consistent parameter estimates.

## 6. Conclusion of the paper

### 6.1 Overall effect conclusion

According to the results of the study, the non-tax revenue of the cooperative brand shows a significant positive impact on the profit of the cooperative brand, and improving this index can effectively increase the profitability of the cooperative brand. On the contrary, cigarette period expenses show a significant negative impact, indicating that reducing these expenses is essential to improve the profit level of cooperative brands. In addition, as mediating variables, the proportion of revenue per box and value-added tax payment plays a key role in the impact of brand exclusive tax and cigarette period cost on the profit of cooperative brands. Specifically, higher single-box income and lower value-added tax payment ratio can indirectly improve the profit level of cooperative brands. After introducing the consumption cost rate and the proportion of value-added tax as control variables, the consumption cost rate has a significant negative impact on the profit of cooperative brands, and higher consumption cost will directly erode the profit margin. The proportion of value-added tax also has a significant negative impact on the profits of cooperative brands, indicating that higher tax burden reduces the net income of enterprises. It is worth noting that the

effects of cigarette period expenses and corporate box revenue become insignificant after the introduction of control variables, because these control variables absorb part of their effects. Therefore, increasing the brand exclusive tax, reducing the consumption cost rate and optimizing the proportion of value-added tax payment are the key strategies to enhance the profits of cooperative brands. Enterprises should pay attention to the proportion of single box income and value-added tax payment to ensure that these intermediary variables can effectively promote profit growth. At the same time, reducing the cost of cigarettes during the period is also very important to improve the profits of cooperative brands. When developing strategies, considering the role of control variables can help to more accurately assess the impact of various factors and guide more effective management decisions.

### 6.2 Conclusion of regional heterogeneity

According to the random effects analysis in this study, there are significant differences in the profits of cooperative brands in different regions: the profits of cooperative brands in GX, GS, CQ, SC and JX regions are lower than expected, while the profits of cooperative brands in SX, HB, GZ and AH regions are higher than expected. The lower-than-expected profits of cooperative brands may indicate that these regions are facing some negative factors that are not fully considered by the model, such as increased competition or changes in local policies, which together lead to poor profit performance. On the contrary, the higher than expected profits of cooperative brands may reflect the existence of some positive factors, such as local preferential policies or effective financial strategies, which make the performance of cooperative brands in these regions better than expected. For GX, GS, CQ, SC and JX regions with lower than expected profits, it is recommended to conduct in-depth cooperative research to identify and solve potential problems, and adjust cooperative strategies if necessary to better meet local specific needs. For SX, HB, GZ and AH regions with higher profits than expected, local favorable conditions should be further explored and utilized, the relationship with local partners should be strengthened, and cooperation penetration should be deepened, so as to consolidate and expand the competitive advantage of local cooperation. Through the analysis of the specific situation of different regions, we can formulate targeted strategies to optimize the overall performance of the cooperative brand and provide strong support for the future development of the cooperative business.

### 6.3 Policy recommendations

According to the conclusions of this paper, the following specific policy recommendations can be put forward.In terms of cost control, through continuous optimization of production process and technological improvement, the cost per box of cooperative brands will be reduced, especially in areas with higher costs. Based on the cost-profit control model, the pricing strategy of cooperative brand products is reasonably adjusted to ensure the balance between cost control and profit objectives. Strengthen technological innovation and process improvement to further reduce costs and improve efficiency. In terms of tax policy recommendations, in view of the significant negative impact of the proportion of value-added tax on the profits of cooperative brands, it is suggested that the State Administration should consider formulating more flexible and supportive tax policies to reduce the tax burden o f enterprises and promote the healthy development of cooperative brands. In terms of quality control, on the premise of ensuring product quality, effective cost control measures should be implemented to avoid sacrificing quality in pursuit of low cost. Strengthen the quality management system to ensure that all products of cooperative brands can meet the quality requirements of homogeneous standards. In terms of the significant difference of regional cooperation brand profits, according to the characteristics of different regions, we should formulate personalized cooperation strategies, cost control and profit promotion programs to adapt to the cooperation environment of different regions. Considering that there are significant differences in regional profit performance, which may be affected by many factors such as local economic conditions, policy environment, market competition, enterprise strategies and natural conditions, it

is suggested to take measures according to local conditions and formulate strategies in line with local conditions.

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