Precise Poverty Alleviation and Enterprise Risk Bearing Level -Based on Empirical Data of Liquor Industry

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Abstract— As an important strategic decision of the country, accurate poverty reduction has become one of how businesses can fulfill their social responsibility. The liquor industry is a restricted industry, the level of its risk-bearing directly affects the development of enterprises. Taking the listed companies in the liquor industry from 2016 to 2020 as samples, this paper constructs a multiple linear regression model of precision poverty alleviation and enterprise risk-taking and then studies the relationship between precision poverty alleviation and enterprise risk-taking level through descriptive analysis, correlation analysis, and multiple regression analysis. This result shows that participating in precision poverty alleviation helps to reduce the risk-taking level of enterprises. When enterprises carry out continuous poverty alleviation, their risk-taking level will also decrease.

Keywords—Precise poverty alleviation; Risk-taking level; Liquor industry; Multiple regression analysis

1 Introduction

The concept of precise poverty alleviation was first proposed by General Secretary Xi during his visit to western Hunan in November 2013. The so-called precise poverty alleviation is the process of accurately identifying poor areas, poor villages, poor households, and poor individuals according to time and place, and assessment according to local poverty alleviation policies (Zhang JL et al., 2020) [1]. Later, in 2015, when General Secretary Xi visited Yunnan, he once again proposed that ' in-depth implementation of precise poverty alleviation, project arrangement, and fund utilization should improve accuracy and support at the point '. In October of the same year, the Poverty Alleviation Office of the State Council and other government departments formally launched the precise poverty alleviation activity of "Ten Thousand Enterprises Helping Thousands of Villages". According to the Wind database, 656 listed companies participated in targeted poverty alleviation in 2016, rising to 1,344 by 2019, representing a growth rate of 105% in just three years. Thus, entrepreneurs are also actively involved in national strategic actions. However, for enterprises, participation in targeted poverty alleviation activities can be regarded as a social responsibility, and is conducive to the formation of moral capital and reputation capital of enterprises, and plays a protective role of "insurance" (Feng LY et al., 2016) [2]; in combination with the special institutional background of our country, the government holds the power to allocate resources relating to the survival and sustainable development of enterprises, and if enterprises actively participate in targeted

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poverty alleviation, they can establish a good corporate image in front of the local government, thereby improving the allocation of key resources by the government, and ultimately improving the performance of enterprises (Zhang ZL et al., 2020) [3]; and at the same time, the government will provide policy support to relevant enterprises (Zhen et al., 2021) [4], thereby reducing corporate risks.

The liquor industry has been considered as a high-yield industry, but it is also affected by policy environment, economic environment, and other factors, such as the "plasticizer excess" event and the "liquor restriction" policy, which has led to its limited growth capacity (Zou J, 2013) [5], and there are greater risks for enterprises. Therefore, this paper studies the impact of precise poverty alleviation on the level of risk-taking in the liquor-making industry. The possible contribution lies in the fact that the present situation of the industry is more easily reflected in the sample of a specific industry, and the relationship between precise poverty alleviation and the level of risk-taking in enterprises is not limited to the precise poverty alleviation policy itself, but discussed from the perspective of reputation and government support.

2 Theoretical analysis and research hypothesis

As an important initiative for the country to realize the construction of a well-off society in all aspects, its poverty alleviation activities will eventually be transmitted to the capital market (Yang GC et al.,2021) [6]. The participation of enterprises in precise poverty alleviation is regarded as taking social responsibility and can obtain convenience in government subsidies (Zhang et al., 2013) [7], which increases short-term costs but can bring market value to enterprises in the long run (Zhang et al., 2020) [8] and obtain irreplaceable resources such as human capital in the process (Choi and Wang, 2009) [9]. According to the risk reduction hypothesis, the higher the degree of participation of enterprises in targeted poverty alleviation, the more advantageous resources can be obtained for enterprises in terms of government subsidies, reputation capital, etc., and can be timely identified and positively evaluated by capital market investors, thereby reducing stock market risks (Zhen et al., 2021) [4]. At the same time, precise poverty alleviation, as a socially positive act, can attract media attention (Ren and Changqiu et al.,2020) [10], and the resulting reputation can mitigate the negative impact of the crisis event that has occurred on the company (Feng and Liyan et al.,2016) [2], thus reducing the level of corporate risk-taking.

Unlike other decision-making behaviors of the management, Enterprises' participation in targeted poverty alleviation can improve managers' social capital promptly on time, and because of the agency problem between managers and shareholders, the management enjoys the immediate benefits in the operation while shareholders need to pay for the behaviors of their management. Therefore, for the sake of the management's interests, when the participation in targeted poverty alleviation can meet the needs of the development of enterprises, the willingness of managers to use the existing resources of enterprises to improve the level of risk-bearing may be reduced, thereby reducing the level of risk-bearing of enterprises (Tang YM et al., 2021) [11]. Theoretically speaking, both the public and the government want to continue the precise poverty alleviation, and the work of poverty alleviation is not a matter of a moment. If the enterprises carry out sustained and precise

poverty alleviation, they will be able to reflect the society that this is driven by internal ethics rather than external factors, and the good impression in the investors' hearts will spread to other aspects of the enterprises to form moral capital, which has a positive impact on the level of risk-bearing of the enterprises. Therefore, continuous precise poverty alleviation can help to reduce the level of risk alleviation.

Based on the above analysis, the following hypotheses are formulated:

Hypothesis1: Participation in precision poverty alleviation helps reduce the level of corporate risk-taking.

Hypothesis2: Sustainable poverty alleviation by enterprises also helps to reduce the level of risk-taking.

3 Empirical analysis

3.1 Data sources and sample selection

In this paper, all the continuous variables were subjected to a 1% upper and lower tailing process for listed liquor companies from 2016 to 2020. The data are obtained from the CSMAR database, and the missing data on precise poverty alleviation are completed by the specific item of "fulfillment of social responsibility for precise poverty alleviation" in section 5 "Important Matters" of the company's annual report.

3.2 Model Design and Variable Definition

3.2.1 Model design

$$Risk_{i,t}=\alpha+\beta_1 TPA_{i,t}+\beta_2 X_{i,t}+\varepsilon_{i,t} \quad (1)$$

$$Risk_{i,t}=\alpha+\beta_1 CNTA_{i,t}+\beta_2 X_{i,t}+\varepsilon_{i,t} \quad (2)$$

$Risk_{i,t}$ represents the level of risk-taking, i represents the firm, t represents the year, $TPA_{i,t}$ means whether or not i enterprises participate in precise poverty alleviation in t year, and $CNTA_{i,t}$ means whether or not i enterprises have sustained poverty alleviation in t year, $X_{i,t}$ represents a series of control variables.

3.2.2 Definition of variable

a) Explained variables: the level of enterprise risk-taking. In this paper, the risk-taking level of the liquor industry is measured by the volatility (ROA) of Minggui (2013). ROA is the ratio of profit before interest and tax to total assets at the end of the period. Adj _ ROA (as shown in formula (3)) is obtained by subtracting the annual industry average from the company ROA to alleviate the impact of industry and cycle. Specifically, the formula (4) and (5) are used to calculate the standard deviation and range of ROA (Adj _ ROA) adjusted by the industry, with each 3 years (t year to 1 + 2 years) as an observation period. At the same time, referring to Faccio et al. (2011) and Song Jianbo (2017), the results are multiplied by 100 to obtain Risk1 and Risk2 to measure the level of risk-taking.

$$Adj\_Roai,t = \frac{EBITi,t}{ASSETi,t} - \frac{1}{X}\sum_{k=1}^{x}\frac{EBITi,t}{ASSETi,t} \quad (3)$$

$$Risk1i,t = \sqrt{\frac{1}{T-1}\sum_{t=1}^{T}(Adj\_Roai,t - \frac{1}{T}\sum_{t=1}^{T}Adj\_Roai,t)\text{^}2|T = 3} \quad (4)$$

$$Risk2i,t = Max\big(Adj\_Roai,t\big) - Min(Adj\_Roai,t) \quad (5)$$

b) Explanatory variables: Participation in targeted poverty alleviation. By reference to Yi Xuan (2020), the definition of "participation in precise poverty alleviation (TPA)" for companies disclosing precise poverty alleviation information is 1, otherwise 0; Continuous poverty alleviation (CNTA), if the company has a follow-up poverty alleviation plan to take 1, otherwise 0.

c) Control variable: Asset-liability ratio (Lev): ratio of total liabilities to total assets; two-in-one (DR): the value of CEO and chairman concurrently is 1, otherwise 0, and the degree of two-in-one positions is directly proportional to the risk level of the enterprise; turnover of total assets (TAT): the ratio of operating income to total assets at the end of the period; Tobin Q: the ratio of market value to total assets; enterprise size (Size): the total assets of enterprises are taken as the natural logarithm.

3.3 Regression analysis

3.3.1 Descriptive statistical analysis

Table 1 shows the descriptive statistical results of variables. The mean value of Risk1 is 0.0292, the minimum and maximum values are 0.00281 and 0.273, respectively, which indicates that the level of enterprise risk-taking in the liquor industry is low, and there is no significant difference among the companies. The mean value of TPA was 0.747, indicating that 74.7% of the companies in the liquor industry participated in targeted poverty alleviation and had higher corporate social responsibility (CSR). The average value of CNTA is 0.684, which shows that 68.4% of the enterprises are sustained poverty alleviation, indicating that precise poverty alleviation behavior implemented by enterprises is a long-term strategic measure rather than a temporary rise.

In addition, the average value of DR is 0.211, indicating that only 21.1% of companies had a combination of two jobs, and the degree of integration is low. The average value of Size is 2.201, indicating that the whole liquor industry is strong. The average value of lev is 0.368, which indicates that the average asset-liability ratio of the liquor industry is 36.8%, the overall level is stable, but the minimum and maximum asset-liability ratio of the liquor industry is 13.7% and the maximum is 180%, which indicates that there is a big difference among companies, and the high asset-liability ratio may face a larger debt repayment risk, so it is particularly important to maintain a reasonable asset-liability ratio.

Table1 Descriptive Statistics

Variables	Statistical variable				
	N	Mean	SD	Min	Max
Risk1	95	0.0292	0.0416	0.00281	0.273
TPA	95	0.747	0.437	0	1

CNTA	95	0.684	0.467	0	1
Lev	95	0.368	0.235	0.137	1.800
DR	95	0.211	0.410	0	1
TAT	95	0.512	0.151	0.0985	0.897
TobinQ	95	4.156	2.926	1.060	16.92
Size	95	2.201	3.995	2.587	2.134

3.3.2 Correlation analysis

Table 2 shows the Pearson correlation coefficient of enterprise risk-taking level. Risk1 has a significant negative correlation with whether or not enterprises participate in poverty alleviation, indicating that enterprises participate in targeted poverty alleviation and lower the level of enterprise risk-taking, thus preliminarily testing the hypothesis. Risk1 and CNTA also showed a significant negative correlation, indicating that when enterprises sustained poverty alleviation, the level of enterprise risk-taking will be reduced.

Asset-liability ratio and Tobin 's q are significantly positively correlated with corporate risk-taking level, indicating that the higher the level of debt, the higher the market value, the higher the corporate risk-taking; the total asset turnover rate and the integration of the two positions are negatively correlated with the level of corporate risk-taking, indicating that the two-position part-time situation reduces the level of corporate risk-taking.

In order to further test whether there is multicollinearity among variables, the variance expansion factor (VIF) of the calculated variables is 2.09, which is far less than the alert value of 10, so there is no multicollinearity problem in this paper.

Table2 Pairwise Correlations

Variables	Risk1	TPA	CNTA	Lev	DR	TAT	Tobin Q	Size
Risk1	1.000							
TPA	-0.386***	1.000						
CNTA	-0.380***	0.856***	1.000					
Lev	0.429***	-0.229**	-0.350***	1.000				
DR	-0.113	-0.235**	-0.149	-0.164	1.000			
TAT	-0.376***	0.098	0.133	-0.133	0.009	1.000		
TobinQ	0.283***	-0.062	-0.017	0.250**	-0.235**	0.000	1.000	
Size	-0.199*	0.228**	0.264***	-0.171*	-0.096	-0.110	0.309***	1.000

3.3.3 Regression result analysis

Table 3 shows the regression results of whether to participate in poverty alleviation and corporate risk-taking level. Column (1) and Column (2) are the calculation methods of standard deviation and extreme value of enterprise risk level respectively. The results show that the TPA regression coefficient in column (1) is significantly negative at the level of 5%, indicating that enterprises' participation in precise poverty alleviation will reduce the level of enterprise risk-taking. This stems from the fact that when companies participate in targeted poverty alleviation, they can effectively play the role of reputation insurance, which can be used as a corporate talisman. At the same time, because companies have invested a lot of

manpower, material resources, and financial resources to participate in targeted poverty alleviation, they will pay more attention to low-risk activities in the subsequent business process, so the level of risk-taking can be reduced.

The regression coefficient of Size is significantly negative at the level of 1%, indicating that the larger the size of the enterprise, the more attention will be paid to corporate risk, and the lower the level of corporate risk-bearing; the TPA regression coefficient in column (2) is also significantly negative at the level of 5%, which is consistent with the conclusion of Risk1. The result validates hypothesis 1 of this paper.

Table 3 Regression Results

Variables	Risk-taking level	
	Risk1	Risk2
TPA	-0.020**(-2.57)	-0.039**(-2.59)
Lev	0.018(1.19)	0.032(1.06)
TAT	-0.076***(-3.68)	-0.144***(-3.62)
DR	-0.011(-1.38)	-0.022(-1.41)
TobinQ	0.004***(3.19)	0.007***(3.12)
Size	-0.012***(-4.63)	-0.023***(-4.58)
Constant	0.335***(5.66)	0.646***(5.62)
R-squared	0.523	0.515

Table 4 shows the results of regression between sustained poverty reduction and corporate risk-taking. The results show that the CNTA regression coefficients in column (1) are significantly negative at the level of 5%, indicating that when enterprises carry out sustainable poverty alleviation, the level of enterprise risk-taking will be reduced. The regression coefficient of Size is significantly negative at the level of 1%, indicating that the larger the enterprise scale, the more attention will be paid to enterprise risk, and the lower the level of enterprise risk-taking. The CNTA regression coefficient in column (2) is also significantly negative at the level of 5%, which is consistent with Risk1's conclusion. The results confirm hypothesis 2 of this paper. And R2 is 0.430 and 0.421 in Risk1 and Risk2, respectively, indicating that the explanatory power of the results is good.

Lev is significantly positive at the level of 10%, indicating that the higher the asset-liability ratio, the higher the level of corporate risk-taking. The reason is that the debt-to-asset ratio is too high to increase the risk of debt repayment. Once the capital chain is broken, it may cause the suspension of the entire company's business activities or directly lead to bankruptcy. Therefore, the liquor industry should strengthen the management of the debt-to-asset ratio.

Table 4 Regression Results

Variables	Risk-taking level	
	Risk1	Risk2
CNTA	-0.019**(-2.30)	-0.036**(-2.31)
Lev	0.032*(1.96)	0.059*(1.84)
DR	-0.007(-0.77)	-0.013(-0.80)
TAT	-0.096***(-4.23)	-0.184***(-4.17)

TobinQ	0.004***(3.23)	0.008***(3.19)
Size	-0.000***(-2.72)	-0.000***(-2.71)
Constant	0.069***(4.29)	0.134***(4.30)
R-squared	0.430	0.421

4 Conclusions

Based on the empirical data of the liquor industry in 2016- 2020, the relationship between precise poverty alleviation and enterprise risk-taking level is studied. The results show that participation in precise poverty alleviation is helpful to reduce enterprise risk-taking levels. And when companies continue to help the poor, the level of risk-taking also decreases. To encourage enterprises to participate in targeted poverty alleviation, the government can use its influence in allocating social resources to provide enterprises with more resources or preferential policies, so that enterprises participating in targeted poverty alleviation can benefit from incentive policies, To enhance their willingness to participate in targeted poverty alleviation and achieve the win-win goal of enterprises and governments.

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