Relationship between Corporate Social Responsibility and Corporate Value of Listed Forestry Companies: A case study in China

E Liu[1]*, Thomas Bilaliib Udimal[1],Liangang Zhang[1],Yanhua Chen[1],Mingcan Luo[1],Jiancheng Chen[2]

[1]*Economy and Management School, Southwest Forestry University, Kunming, Yunnan, China*
[2]*Economy and Management School, Beijing Forestry University, Beijing, China*
*Corresponding author.

Abstract

In this study, a sample of 100 was obtained from 20 listed forestry companies in China to explore the relationship between corporate social responsibility and corporate value for the period 2013 to 2017. The study concentrated mainly on corporate social responsibility to the shareholders, creditors, suppliers, consumers, employees, government and community and how it influence corporate value. In front of the covid-19, companies are facing market pressure and non-market pressure in fulfilling their social responsibilities The SPSS statistical software was used for analysis. The result shows a positive relationship between corporate responsibility to shareholders, creditors, employees, consumers, suppliers and government and corporate value. In a short period, the enterprise's donation would bring down the enterprise's value, but in the long-run, the enterprises that donate more would experience an increase in enterprise's value. The positive effect of corporate social responsibility on the enterprise value of forestry-listed companies is not obvious in the short term.

Keywords：*Social responsibility of forestry enterprises, value of forestry enterprises, forestry listed companies*

I.Background

At the beginning of 2020, the Covid-19 broke out and spread rapidly around the world. The cumulative number of confirmed diagnoses worldwide has exceeded 14 million in July 2020, and the cumulative number of confirmed diagnoses in 22 countries has exceeded 100,000, and it is still in the process of continuous transmission. For companies, the Covid-19 is a non-cyclical sudden external shock. Its impact on business operations is by no means short-term. It will also affect people's consumption patterns, business production methods, and long-term technological progress. As a company's non-market strategy, the position of corporate social responsibility in business decision-making is bound to be affected and faces the risk of being "marginalized".

The importance of companies to their host communities has long been discussed among various stakeholders. Companies are not only responsibly to the owners but also to the stakeholders which include host communities.[1]Issues of corporate social responsibility became prominent in mid-1990s in many parts of the world.[2]

In the era of rapid economic development, scholars' evaluation of enterprises has gradually transited from the level of economic benefits to the level of corporate social responsibility. How corporate value is affected by social responsibility has attracted the attention of scholars. The Chinese government in 2008 came out with a CSR reporting system, which covers performance on social, economic, environmental and employee aspects. There are quantifiable measures of various dimensions of CSR by Chinese firms.[3]

Some studies have looked at the role of employees in the firm's performance.[4-6]Little is known about the impact of firm's CSR on its corporate value especially in China. This study therefore seeks to bridge this gap by looking at how CSR by firms have contributed to the corporate value in the case of forest related industries in China.

The content, information disclosure and evaluation of the social responsibilities of forestry enterprises is one area that has attracted the attention of many scholars in forest related studies. However, the study on how social responsibilities by forestry enterprises   lead to the creation of enterprise's values has not received much attentions as it is still in the preliminary research stages. The results of related studies showed that fulfilling corporatesocial

responsibilities can enhance corporate values. On the one hand, the theoretical basis can promote the forestry business managers to take the initiative to undertake social responsibilities. On the other hand, this research can promote the harmonious and orderly development of society. Therefore, it is necessary to analyze the relationship between corporate social responsibility and corporate value based on Chinese forestry listed companies.

II. Literature Review

In this paper, a summary was made firstly on the related research, which studied the social responsibility of forestry enterprises mainly from the following aspects:

2.1 Evolution of the Social Responsibility of Forestry Enterprises

Several qualitative studies analyzed the content of corporate responsibility from the perspective of managers, and concluded that corporate social responsibility should include employees, natural environment and sustainability, customers and legitimacy, and charities. [7] However, recent evolution of forestry corporate responsibility has divided it into economy, human resources, environment, community, government, responsibility, R & D, and sustainability.[8] From the perspective of social responsibility of forestry enterprises, because forestry enterprises directly affect the natural environment in the process of production and management, environmental issues have always been a major problem of corporate social responsibility in the early stage of development. [9]Environmental issues in the forestry sector include water drainage and air emissions (1970s), recycling (mid-1980s), chlorine drift (late 1980s), forestry and forest management (early 1990s), forest certification (mid-1990s), and global climate change and the role of forests (early 21st century). From 2000 to 2005, forestry enterprises were having increasing social responsibility undertakings in human resources, employment, health and safety, community participation and stakeholder consultation. [10]Management practionners regarded materiality analysis as a useful tool for CSR practice.[11]

2.2 Influencing Factors of Forestry Enterprises on Fulfilling Social Responsibilities

There are many factors influencing forestry enterprise manager's decision to implement social responsibilities. These factors are grouped into internal factors and external factors. In the research on the internal factors of social responsibility of forestry enterprises, the enterprise scale is the most common internal factor. It is argued that the enterprises yielding higher annual sales have a larger enterprise scale. [12] This study combined the annual sales with the level of CSR implementation for regression analysis which showed a significant positive correlation between annual sales and enterprise scale. The higher the annual sales, the higher the implementation level of corporate social responsibility. Based on the net sales of 100 large enterprises, CATPAC was used to analyze the four types of large enterprises of different sizes. They concluded that, small enterprises emphasize forest certification, sustainable forestry management, law-abiding and other related corporate social responsibility activities, while medium-sized enterprises focus on social development. All medium-sized enterprises have similar social and environmental activities. Large enterprises have various types of corporate social responsibility activities. The important factors affecting the social responsibility of forestry enterprises are the organizational form and enterprise culture. In the study of related enterprises in extractive industries (oil and gas, mining and forestry) from 1986 to 1995, found that organizational characteristics are an important factor affecting the sustainable development of enterprises. [13]The differences of corporate social responsibility has been studied among forestry, cooperative banks and retail enterprises, and found that the organizational form is an important factor affecting corporate social responsibility. The social responsibility of forestry enterprises lies mainly in maintaining the development of neighboring towns. [14]Educational level is found a positive effect on CSR.[15] In general, cooperative enterprises (banks and retailers) will pay more attention to global and environmental tasks, while cooperative enterprises (banks and retailers) will focus more on local responsibilities. The values and attitudes of enterprise managers towards corporate social responsibility will also have an important impact on corporate social responsibility.[16]

Country and region are the main external factors that affect the social responsibility of forestry enterprises. Some researchers have concluded that in America, both moral and charitable responsibilities have influence on consumers behaviour, but in China, only charity influenced consumers' preferences. [17] Studies on Corporate social responsibility within of the forestry sector in the United States and India, have concluded that there were major differences in the economic, social and environmental aspects between the forestry sectors of the two countries. [18]While region has a significant impact on the type of corporate responsibility execution. Forestry enterprises in Africa pay close attention to health programs, such as educating communities and employees' learning about HIV/AIDS, whereas forestry enterprises in Latin America care about community development, education and training programs. In Asia, forestry enterprises show more solicitude for the environmental performance of the industry. Small-scale tree growers are are more responsible through tree growers' associations. [19]In Oceania, forestry enterprises often participate in environmental management activities, and in North America, forestry enterprises advocate sustainable forestry management. Apart from these factors, stakeholders are also of great importance to enterprises. Consumers are more likely to choose products made by the forestry enterprises with a higher level of corporate social responsibility undertaking, and they are willing to pay a premium for forest products with environmental certification as well. [20] A moderated mediation model of perceived CSR-brand fit and sustainable customer engagement behavior is proposed.[21]

2.3 Research on Corporate Social Responsibility in China

There are relatively few researches on the social responsibility of forestry enterprises in China, and most of the literatures focus on the qualitative description of the main contents of the social responsibility of forestry enterprises. Pioneer study points that the social responsibility of forestry enterprise. Forestry enterprises should bear the social responsibilities in five aspects: economic responsibility, ecological responsibility, resource saving responsibility, staff responsibility, and the development of science and technology and independent intellectual property rights.[22] Later, scholars began to study the social responsibility of forestry enterprises from different perspectives. They were roughly divided into three groups. The first group divided the content of the social responsibility of forestry enterprises into shareholders, creditors, employees, consumers, customers, communities, government, environment, etc. based on the stakeholder theory. [23-25]Another group pointed out that China's forestry enterprises should bear not only economic responsibility, but also social and ecological environmental responsibilities, based on the triple bottom line theory.[26] The third group, based on Carroll's "pyramid hierarchy model of corporate social responsibility", charitable responsibility, ethical responsibility, legal responsibility and economic responsibility are the social responsibilities that China's forestry enterprises should fulfill.[27]

Other researchers believe that forestry enterprises should not only bear general social responsibility, but also special social responsibility, because the business object of forestry enterprises is forest resources.[28-29] In addition to qualitative description, some scholars have also conducted quantitative research and analysis on the performance of forestry corporate social responsibility. Some studies have A grow body of research designed constructed the frameworks for of forestry corporate social responsibility using according to the stakeholder theory (Liu, 2015).[30] Different scholars use different evaluation methods. For instance, fuzzy comprehensive evaluation method and analytic hierarchy process were used to evaluate the comprehensive performance of social responsibility of state-owned forestry enterprises, and divided the social responsibility of forestry enterprises into economic, ecological, legal and moral responsibilities.[31]

It is concluded that there are three major methods for evaluating the performance of corporate social responsibility in both the East and the West, and they are the index method, content analysis method and contribution rate method. There are also two indicators for measuring the enterprise value: financial value and market value. Many scholars divided corporate social responsibility into multiple dimensions and used Tobin's Q value to express the corporate value, from which they drew a conclusion about the relationship between different interest groups' social responsibility and the corporate value. However, due to the lack of a unified norm for defining the scope and evaluation indicators of social responsibility, as well as because of the inconsistent theories used to divide social

responsibility, findings have been inconclusive. Scholars lack representative conclusions in the researches. In many previous studies, researchers rarely combine the relationship between social responsibility and corporate value. In view of the particularity of the forestry industry, the research used forestry listed companies as the research object, determined the corporate social responsibility through the shareholders, creditors, employees, consumers, suppliers, government and community. On this basis, the fulfillment level of social responsibility of forestry enterprises was combined with the corporate value of the forestry enterprises in this paper, and then an empirical study was carried out on the relationship between them.

III. DATA AND METHOD

3.1 Selection of Samples

According to the definition of forestry listed companies, there are 35 forestry listed companies in China. Samples were selected from these forestry listed forestry-listed companies. The rules are as follows: (1) The forestry listed companies which were ranked as *ST and ST from 2013 to 2017 were excluded, because these enterprises usually have extremely bad business status and abnormal data which cannot accurately reflect the evaluation results; (2)The forestry enterprises listed after 2013 were excluded due to data unavailability. Therefore, the time span of the study is 2013-2017. (3) The enterprises whose operation business changed from forestry related business to forestry-unrelated business in 2013-2017 were also excluded. In the end, 20 forestry listed companies from 2013 to 2017 were selected with a total of 100 research samples.

3.2 Data Source

The relevant data   on enterprise value are mainly from Shanghai Stock Exchange and Shenzhen Stock Exchange。Some data are derived from China Stock Market & Accounting Research Database. The indicators of corporate social responsibility mainly come from the annual statements of listed companies. The enterprise value mainly comes from the market data and stock list data of listed companies. The enterprise scale data also comes from the annual statements of listed companies, as well as the data of total assets in the income statement and balance sheet. In this paper, a summary was made on the data of relevant listed companies from 2013 to 2017, and 20 companies that met the standards were selected as the samples.

3.3 Research Hypothesis

From the perspective of stakeholders (shareholders, creditors, employees, consumers, suppliers, government and communities), a theoretical analysis was made in this paper on the relationship between stakeholders and enterprises, and eight hypotheses were hence proposed:

H1: Corporate responsibility to shareholders is positively correlated to the corporate value.
H2: Corporate responsibility to creditors is positively correlated to the corporate value.
H3: Corporate responsibility to employees is positively correlated to the corporate value.
H4: Corporate responsibility to consumers is positively correlated to the corporate value.
H5: Corporate responsibility to suppliers is positively correlated to the corporate value.
H6: Corporate responsibility to the government is positively correlated to the corporate value.
H7: Corporate responsibility to communities is positively correlated to the corporate value.
H8: There is a certain lag of the positive impact of corporate social responsibility on the corporate value.

3.4 Model construction

The natural logarithm of TobinQ was used for the measurement, and the OLS method was used to construct the model, with TobinQ as the dependent variable. The earnings per share (x1), debt to asset ratio (x2), accounts

payable turnover rate (x3), main business cost rate (x4), wage and welfare rate (x5), income tax rate (x6), community contribution rate (X7) and enterprise scale (Y1) serve as the control variables. The model was constructed as follows:

Ln TobinQ=β_0+β_1X1+β_2X2+β_3X3+β_4X4+β_5X5+β_6X6+β_7X7+ρ_1Y1+ε

Where, β_0 is the intercept, β_1, β_2, β_3, β_4, β_5, β_6, β_7, and ρ_1 are the parameters to be estimated, and ε is the random error.

3.4.1 Descriptive Statistical Analysis
Use SPSS software for multiple regression analysis, the regression results are shown in Table 1:

Table 1 Statistical description of variables

		Min	Max	Mean	Std. Dev
Dependent variable	Ln TobinQ	-0.0612	3.0125	0.659366	0.5076532
Independent variable	X1	-86.6987	59.6839	8.169850	12.9634098
	X2	0.9876	92.1573	49.823641	19.6842302
	X3	0.9827	1958.6201	18.062357	102.3026564
	X4	-0.4943	7.7023	0.204373	0.5420382
	X5	0.0046	0.2026	0.049732	0.0328064
	X6	-0.9632	0.2589	0.032586	0.1256345
	X7	0.03621	0.1256	0.043568	0.0096631
Control variable	Y1	0.0000	1.0000	0.630001	0.4860000
Valid N			20		

3.4.2 Correlation Analysis
In order to verify whether there is correlation among dependent variables, independent variables and control variables, and whether there are multiple collinearities among independent variables, the Pearson correlation coefficient test was carried out between the variables. The correlation analysis of independent variables is shown in Table 2.

Table 2 Analysis of independent variables

	X1	X2	X3	X4	X5	X6	X7	Y1
X1	1	-0.365	-0.13	0.215	0.015	0.776	0.243	-0.087
X2	-0.365	1	-0.198	0.076	-0.328	-0.243	-0.147	0.205
X3	-0.13	-0.198	1	-0.063	0.214	0.297	0.021	0.178
X4	0.215	0.076	-0.063	1	-0.025	0.189	0.105	0.021
X5	0.015	-0.328	0.214	-0.025	1	0.007	0.018	-0.093
X6	0.776	-0.243	0.297	0.189	0.007	1	0.263	-0.006
X7	0.243	-0.147	0.021	0.105	0.018	0.263	1	-0.012
Y1	-0.087	0.205	0.178	0.021	-0.093	-0.006	-0.012	1

According to Table 2, the correlation coefficient $|r_{max}|=0.776<0.8$ indicates that there is no high correlation between the variables, while most $|r|<0.3$ indicates that the correlation between most variables is low, and it is preliminarily determined that there is no linear correlation between each two of them.

IV. Results and Analysis

4.1 Results analysis

Table 3 presents the result for regression analysis. . According to the regression results, $|t|>1$ for X1, X2, X3, X4, X5, X6, and X7, which indicates that corporate social responsibility to the shareholders, creditors, employees, consumers, suppliers, the government and communities have a significant impact on the enterprise value. Besides, the t value is respectively X1, X3, X4, X5, and X6 (positive) , from which it can be inferred that there is a positive correlation between corporate social responsibility to the shareholders, employees, consumers, suppliers, the government and the enterprise value. That is to say, hypotheses H1, H3, H4, H5, and H6 are true. If the t value is a negative value, then X2, X7, and X2 are the asset liability ratio. The lower the asset liability ratio, the higher the enterprise value. The t value of X2 is smaller than -1, indicating a positive correlation between the corporate social responsibility to creditors and the enterprise value. Therefore, hypothesis H2 is true. The t value of X7 is a negative value, indicating that there is a negative correlation between corporate social responsibility to the community and enterprise value, because an enterprise that donates more has a lower enterprise value. That is, hypothesis H7 is not true.

Table 3 Regression results

Model	B	Std.Error	Beta	t	Sig.	Tolerance	VIF
X1	0.052	0.036	0.158	1.403	0.001	0.421	4.324
X2	-0.058	0.007	-0.193	-3.814	0.002	0.703	1.869

X3	0.000	0.000	0.056	1.112	0.067	0.706	1.417
X4	0.068	0.037	0.078	1.829	0.007	0.926	1.356
X5	2.697	0.781	0.187	3.459	0.001	0.588	1.706
X6	5.501	1.784	0.191	3.082	0.002	0.463	2.167
X7	-49.857	30.132	-0.079	-1.872	0.056	0.917	1.247
Y1	-0.091	0.056	-0.093	-2.051	0.038	0.875	1.142

In order to verify hypothesis H8, the LnTobinQ value in 2017 was used as the dependent variable, and the independent variable from 2013 to 2016 was used as the explanatory variable for regression, and then the annual change of the t value of each variable was calculated in table 4.

Table 4 t-statistics from 2013 to 2016

Independent variable	t2013	t2014	t2015	t2016
X1	0.173	0.398	1.213	1.641
X2	-1.423	-1.604	-1.801	-2.353
X3	0.816	0.932	1.067	1.649
X4	0.798	1.075	1.594	1.877
X5	1.094	1.463	1.598	1.913
X6	0.834	0.922	1.256	1.326
X7	-1.371	-0.174	0.082	0.404

According to the t-statistics in the five years, the t values of X1, X2, X3, X4, X5, X6 and X7 are increasing year by year. It can be seen that there is a certain lag in the positive impact of corporate social responsibility on the corporate value, which satisfies hypothesis H8. In 2013 and 2014, the t value of X7 is negative, and in 2015 and 2016, the t value is positive, and the value is increasing year by year. Therefore, the performance of corporate responsibility to communities is not conducive to the promotion of corporate value in the early stage and in a short term, but it is conducive to the promotion of corporate value in the long run. Therefore, if the premise "in the long run" is added, hypothesis H7 is also true.

4.3 Analysis of Empirical Results

4.3.1 An Empirical Analysis of the Relationship between the Current Corporate Social Responsibility and Corporate Value

It can be inferred from the regression results that, there is a positive correlation respectively between the corporate responsibility to shareholders, creditors, suppliers, consumers, employees, and government and the corporate value, which satisfies hypotheses H1, H2, H3, H4, H5, H6. However, the t value of X7 is a negative value, which indicates a negative correlation between the corporate responsibility to communities and the enterprise value. In 2013 and 2014, the t value of X7 was a negative value. In 2015 and 2016, the t value was a positive value, and the data was increasing year by year. Therefore, fulfilling corporate responsibility to communities goes against the promotion of the corporate value in the early stage and in a short term, but is conducive to the promotion of the corporate value in the long run. Therefore, if the premise "in the long run" is added, H7 is also true.

4.3.2 An Empirical Analysis of the Lag Relationship between the Corporate Social Responsibility and Corporate Value
According to the t-statistics in the five years, the t values of X1, X2, X3, X4, X5, X6 and X7 are increasing year by year. Therefore, one can see that, there is a certain lag in the positive impact of fulfilling corporate social responsibility on the corporate value, and hypothesis H8 is true.

V. Conclusions

In this paper, we employed econometric models to explore not only the relationship between the current social responsibility and enterprise value, but also the relationship between later corporate social responsibility and enterprise value. The conclusions are as follows:

The fulfillment of responsibilities to shareholders, creditors, employees, consumers, suppliers and government of forestry-listed companies has a significant positive impact on the enterprise value. Shareholders give financial support to the companies. When the companies make profits, they should pay dividends to the shareholders. Employees work for the companies and process and/or produce commodities for them. Hence, the companies should pay employees on time. The companies cannot produce products without raw materials. Suppliers are the exact roles that provide raw materials. Once the commodities are produced, the companies need to sell them to consumers. In all these processes, the government should provide guidance through policy formulation to guide their operations.   All these factors are external forces that are necessary in the development of enterprises.

In the short run, there is a negative correlation between corporate social responsibility and corporate value, but in the long run, the correlation is positive. That is to say, there is a significant lag in the positive impact of corporate social responsibility on the corporate value. After a foothold in the society, enterprises should repay the society. They should see what they could do to contribute to the society according to their own economic conditions. Large enterprises with good economic capacity should dedicate more to social public welfare undertakings, while small enterprises should also carry out public welfare activities. Regardless of the size of enterprises, to have a foothold in the society, enterprises need contribute to the society. Only in this way can they become excellent citizens. Besides, the public will trust the enterprises with better reputation and honor more. There is an inherent relationship of mutual benefit between stakeholders and enterprises. Only by grasping the relationship between them can enterprises have a win-win situation.

The impact of corporate social responsibility on the corporate value is not obvious in the early stage. In other words, corporate social responsibilities will not witness immediate results and enterprises need to wait a certain amount of time to see the improvement of their corporate values. In the early stage, although the corporate value of an enterprise will not rise significantly in the short term after the enterprise fulfills its social responsibility, the process of fulfilling the social responsibility is a process of wealth accumulation in the long run. Enterprises should be sincere and know how to repay those who have brought benefits to them. They should look far into the future. Although they would not see immediate achievements and not gain immediate benefits after they fulfill their social responsibility, it is conducive to their long-term development.

On the whole, the covid-19 will affect the company's responsibility performance in five aspects, including employee responsibility, fair operation, consumer responsibility, public welfare and charity, and environmental responsibility. After the outbreak, the environmental responsibilities of forestry companies have both pressures and opportunities. On the one hand, although the epidemic has affected the operation of enterprises and reduced revenue and profits, the government's requirements for ecological environment governance have not been lowered. Relatively speaking, enterprises will put pressure on environmental responsibility investment. On the other hand, after the outbreak of the epidemic, the public and consumers pay more attention to the environmental protection and health attributes of consumer products, and the voice of sustainable consumption is even higher, which also brings certain opportunities for the environmental protection.

Acknowledgments

References

[1] GRAFSTRÖM, M., GÖTHBERG, P. & WINDELL, K. 2008. Företagsansvar i förändring. Liber, Malmö.

[2] HAMANN, R. 2003. Mining companies' role in sustainable development: The'why'and'how'of corporate social responsibility from a business perspective. Development Southern Africa, 20, 237-254.

[3] LIU, B., SUN, P.-Y. & ZENG, Y. 2020. Employee-related corporate social responsibilities and corporate innovation: Evidence from China. International Review of Economics & Finance, 70, 357-372.

[4] ACHARYA, V. V., BAGHAI, R. P. & SUBRAMANIAN, K. V. 2014. Wrongful discharge laws and innovation. The Review of Financial Studies, 27, 301-346.

[5] MAO, C. X. & WEATHERS, J. 2019. Employee treatment and firm innovation. Journal of Business Finance & Accounting, 46, 977-1002.

[6] CHEN, J., LEUNG, W. S. & EVANS, K. P. 2016. Are employee-friendly workplaces conducive to innovation? .Journal of Corporate Finance, 40, 61-79.

[7] Li NToppinen A. "Corporate responsibility and sustainable competitive advantage in forest-based industry: Complementary or conflicting goals?". Forest Policy and Economics, 2011, 13 (2): 113-123.

[8] Vidal N G, Kozak R A. "Corporate responsibility practices in the forestry sector: definitions and the role of context". The Journal of Corporate Citizenship, 2008, (31): 59–75.

[9] Tuppura A, Toppinen A, Jantunen A. "Proactiveness and corporate social performance in the global forest industry". International Forestry Review, 2013, 15 (1): 112-121.

[10] Vidal N G, Kozak R A. "The recent evolution of corporate responsibility practices in the forestry sector". International Forestry Review, 2010, 10 (Jan 2008): 1-13.

[11] Åsa Lindman, Helena Ranängen, Osmo Kauppila,Guiding corporate social responsibility practice for social license to operate: A Nordic mining perspective,The Extractive Industries and Society,,Volume 7, Issue 3,2020,Pages 892-907,ISSN 2214-790X,https://doi.org/10.1016/j.exis.2020.07.013.

[12] Han X O, Hansen E. "Corporate Social Responsibility Implementation in the Global Forest Sector". Journal of Corporate Citizenship Fall, 2012, (47): 101-118.

[13] Bansal P. "Evolving sustainably: a longitudinal study of corporate sustainable development". Strategic Management Journal, 2005, 26(3): 197-218.

[14] Mattila M. "Personnel's perceptions in three Finnish companies: local CSR vs global CSR?". Social Responsibility Journal, 2005, 3(3): 4-8.

[15] Helin Sun, Jia Zhu, Tao Wang, Yue Wang,,MBA CEOs and corporate social responsibility: Empirical

evidence from China,Journal of Cleaner Production,Volume 290,2021,125801,ISSN 0959-6526,https://doi.org/10.1016/j.jclepro.2021.125801.

[16] Wang L, Juslin H. "Corporate social responsibility in the Chinese forest industry: Understanding multiple stakeholder perceptions". Corporate Social Responsibility and Environmental Management, 2013, 20(3): 129-145.

[17] Cai Z, Aguilar F X. "Corporate Social Responsibility in the Wood Products Industry: US and Chinese Consumers' Perceptions". Forest Products Journal, 2014, 64(3-4): 97-106.

[18] Panwar R, Hansen E. "The standardization puzzle: an issue management approach to understand corporate social responsibility standards for the forest products industry". Forest Products Journal, 2007, 57 (12): 86–90.

[19] Dismas L. Mwaseba, Antti Erkkilä, Esbern Friis-Hansen, Aristarik H. Maro, John D. Maziku,Responsibilization in governance of non-industrial private forestry: Experiences from the Southern Highlands of Tanzania,Forest Policy and Economics,Volume 118,2020,102243,ISSN 1389-9341,https://doi.org/10.1016/j.forpol.2020.102243.

[20] Aguilar F X, Vlosky R P. "Consumer willingness to pay price premiums for environmentally certified wood products in the U.S". Forest Policy and Economics, 2007, 9(8): 1100-1112.

[21] Stephanie Hui-Wen Chuah, Dahlia El-Manstrly, Ming-Lang Tseng, Thurasamy Ramayah,Sustaining customer engagement behavior through corporate social responsibility: The roles of environmental concern and green trust,Journal of Cleaner Production, Volume 262,2020,121348,ISSN 0959-6526,https://doi.org/10.1016/j.jclepro.2020.121348.

[22] Hu J, Chen G H. "Social responsibility of forestry enterprises". Forestry of China, 2007, (14): 58.

[23] Zhang W M, Sui S. "Discussion on social responsibility of forestry enterprises in China". Journal of Forest Economics, 2012, (7): 85-89.

[24] Zhang W M. "Core value of social responsibility of forestry enterprises". China WTO Tribune, 2012, (12): 81-82.

[25] Gen Y D, Zhang M H. "Evaluation and research on social responsibility of forestry listed companies". Journal of Forest Economics, 2011, (10): 64-67.

[26] Gao E H. "The value embodiment of multiple social responsibilities of forestry enterprises and the means of implementation". Journal of Forest Economics, 2012, (11): 119-121.

[27] Zhao Y, Zhang J H. "Reflection on the social responsibility of forestry enterprises in state owned forest areas -- taking Heilongjiang Province as an example". Forest Resources Management, 2014, (1): 36-40.

[28] Jiang D Q, Tian Z W. "Discussion on the social responsibility of forestry enterprises in China". Journal of Forest Economics, 2011, (8): 75-78.

[29] Zhang S R. "On the social responsibility of forestry enterprises". Journal of Sichuan Economic Management Institute, 2013, 24(3): 32-34.

[30] Liu M Y, Zhao J X, Liu Y N. "Empirical study on social responsibility evaluation of forestry enterprises based on analytic hierarchy process". China Collective Economy, 2015, (15): 75-76.

[31] Shi C H, Yu C F. "Research on comprehensive performance evaluation indexes of state-owned forestry enterprises based on social responsibility". Technology Wind, 2015, (9): 256-256.