

# An Empirical Study of Taiwan's Hospital Foundation Investment in Corporate Social Responsibility and Financial Performance

Hsiu-Pi Lin, Wen-Chen Huang, Hui-Fang Chen and Yan-Pin Ke

**Abstract**—Corporate Social Responsibility (CSR) has become a new trend of business governance. Few research studies on CSR published in Taiwanese academia, especially for medical settings, we were interested in probing the relationship of CSR and financial performance in medical settings in Taiwan. The results illustrate that: (1) a time delay effect exists with a lag between CSR effort and its performance in the hospital foundation, (2) input into the internal domains of CSR will be helpful to improve employee productivity in the hospital foundation, and (3) input into the external domains of CSR will be helpful in improving financial performance in the hospital foundation. This study overviews CSR in the medical industry in Taiwan and the relationship of CSR and financial performance. Discussions of possible implications from the study results are applied to consult the CSR concept that will be transferred into a business strategy for the organization manager.

**Keywords**—Corporate Social Responsibility (CSR), financial performance, hospital foundation,

## I. INTRODUCTION

CORPORATE Social Responsibility (CSR) can be defined as the active and voluntary contribution of companies to improve social, economic and environmental factors so as to improve their competitive position and added value. It has become a new trend of business governance. CSR can not only meet the public expectations of an excellent enterprise in societies, but can also be linked to a prosperity dividend in international trades, which decides upon the products entrances and barriers into the international markets. Thus, CSR provides products with an essentially effective weapon in the keen competition of foreign trade. CSR is considered a proactive business strategy and effective marketing tool to create and sustain a competitive advantage [1], [2]. The export-oriented economy of Taiwan faces globalization and international competition. That increasing pressure leads to CSR's attention. Common Wealth Magazine was the first organization in Taiwan to promote the "corporate citizenship" concept since 1997. Visionary magazine began to set CSR Awards in 2005. Taiwan's medical industry expands their service to China and gradually plans to spread into the international arena. Hospital accreditation and hospital medical laws hope to achieve more community involvement and social services. However, the medical industry studies of CSR have not yet been conducted in academia. This purpose of this study is to compensate for this gap. More specifically, this study will explore the relationship

between CSR and financial performance in Taiwan's medical industry.

## II. LITERATURE REVIEW AND HYPOTHESIS CONSTRUCTION

### A. Theoretical Model of CSR and The Measurement Dimension

Stakeholder theory is used as the basic foundation in this study. Stakeholder theory states that corporate actions, as a subject, play the role of the economic man and assume the role of the social man. In addition to attention and shareholders between the relationships, more attention should be paid to stakeholder relationships. Manufacturing companies that profit are accountable to shareholder interests, and bear on their employees, consumers, communities and the environment, the social responsibility of the so-called interested parties.

Jones [3] investigated the stakeholder within the stakeholder, such as shareholders, executive officers, managers and employees. This represents the actual participation in the operation of the enterprises. Their survival depends on the enterprise and focuses on the internal stakeholders self-serving behavior of the enterprise, which is considered inevitable responsibility. Outside stakeholders, including consumers, suppliers, governments, trade unions, and local communities, are not directly involved in the internal operations of enterprises, but will affect the operation of the external stakeholders. Outside stakeholder belong to a business's altruistic behavior. The pyramid model of CSR is the proposed theoretical framework for this study [4], [5]. The model of CSR includes four components: economic, legal, ethical, and discretionary issues. The basic level of this model is economic responsibility. Companies supplying goods and services effectively to meet the market demands maximize the profits of business owners. This is also the basis of other social responsibilities of business. Liability refers to business abiding by the law, according to social standards. The ethical responsibility of enterprises means they should conscientiously do right, uphold justice and be fair to avoid injury. Responsibility is the highest level of discretion for charity, in that a good corporate citizen should commit resources to the community. However, the charitable and ethical dimensions are not recognized with the objective and quantitative indicators. Coupled with the moral responsibility of the medical industry and charitable dimensions, the lack of information from the financial statements cannot be used to determine the corresponding indicators. Therefore, this study applies the economic dimensions of responsibility and liability for the health care industry to measure CSR investment [4], [6]. The Medical Industry Law Foundation regulates Taiwan's medical hospitals to be involved in CSR. CSR is divided into internal

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stakeholders and external stakeholders. Internal stakeholders include medical personnel, managers and other executives' CSR. External stakeholders include community residents and hospital patients' CSR.

### *B. Hypothesis Construction*

#### *1. The company, which involves CSR, attracts talented employees and increases productivity*

Knowledge is a key element of business continuity. The sources of knowledge are the business stakeholders [7]. From the economic point of view of knowledge, an enterprise meets the needs of internal stakeholders, such as the cultivation of talent and corporate research and development, not only to attract more talented people, but also to increase employees' competitiveness and enhance business performance. Enterprises engaged in CSR foster a positive image and attract high quality staff. Stuart [8] suggested that a company engaged in public welfare activities can increase employee's loyalty and attract well-educated employees. Bhattacharya et al. [9] suggested that corporations combining social responsibility with daily management show other explicit positive effects, such as employee loyalty, reducing the number of slowdowns, and the appearance of altruism. The implicit effects include job satisfaction and intentions for improvement. Integrating the above discussion, corporations involved into social responsibility can attract and nurture talented employees, as well as improve productivity.

#### *2. Corporations involved in social responsibility can enhance corporate reputation*

Montero et al. [10] concluded that the culture of CSR promotes safe and healthy working interests and enhances the corporate market reputation. Orlitzky et al. [11] suggested that reputation is an important medium with a positive correlation between a CSR and financial performance. The reputation and good financial performance happens simultaneously. In addition, good reputation also brings a higher rate of return [8].

#### *3. Corporations involved in social responsibility increase the number of customers*

Many researches [12], [13] found that some shareholders regard CSR as a symbol of management skills. CSR brings two intangible business resources: first, the contributions of CSR award free publicity to users and consumers and increase the number of potential customers. Social responsibility is considered a symbol of corporate reputation, which has a good impact on customer purchases to increase their profitability. The second is the business stakeholders, who observe the involved degree of CSR. The behavior of CSR can enhance the corporate social image and obtain financial support from important customers to increase their profits [14], [15]. An international survey in 1999 showed that 81% of consumers, who buy the same priced and quality products, choose to purchase from the company with good conduct. When companies perform more CSR activities, they strengthen the consumer product positive attitude, brand assessment, brand choice and brand recommendations. This is then elevated to an enterprise's economic efficiency [16], [17].

#### *4. Corporations involved in social responsibility make a good financial performance of enterprises*

Simpson and Kohers [18] found that the impact on business from CSR is divided into three aspects- normative, instrumental, and ethics. Instrumental means that CSR is a tool for enterprises to obtain maximum profits. The most relevant research, includes CSR and corporate financial performance (CFP) [11] and CSR and competitive advantage. Roman and Hayibor [19] compiled 46 CSRs and the financial performance of the relevant research results. They show that 63% of those corporations had a positive correlation; 10% had a negative correlation, and 27% had no correlation. So they think that CSR and corporate financial performance has a positive relationship. Simpson & Kohers[18] did the banking industry analysis and show that social responsibility and financial performance has a positive correlation. Bert [20] proposed the causal relationship between CSR and its financial performance. Good financial performance provides capital and investment to improve corporate environmental and social performance; good environmental and social performance results in a good financial performance. The Economist Intelligence Unit (EIU) explores the topic of CSR and investigated 566 U.S. firms. 75% of the respondents considered that the effective CSR policies have positive benefits on the company's financial situation. Herman Millar, for example, by taking a series of green practices on the company's environmental policy, increased 32% of their revenue. Reason [21] suggested that corporations engaged in social responsibility have a positive effect on sales growth. In other words, meeting the diverse interests of stakeholders improves the company's economic and financial performance [22], [23]. Referring to the above literature, we propose a model of CSR and financial performance. Corporate investing in CSR attracts high quality employees, enhances employee productivity, increases the number of customers, enhances corporate reputation, and improves corporate financial performance. In this study, the financial performance adopts the medical interest rate with a net profit after tax. The hypotheses of this study are as follows:

*H1: In hospitals, the internal stakeholders taking CSR help improve employee productivity.*

*H2: In hospitals, the external stakeholders taking CSR help improve the health interests of the investment rate.*

*H3: In hospitals, the external stakeholder taking CSR help improve the rate of net income.*

### III. RESEARCH METHODS

The research data is from the financial statements of fifty hospitals in Taiwan between 2004 and 2008. Among them, two financial statements were first published in 2008, so there is a lack of information from 2004 to 2006. In addition, seven hospital's financial statements lack information on internal and external CSR. Another five hospitals have a negative financial performance, due to large investment in fixed assets, instead of poor operating results. Finally, the variables collected for the remaining 36 hospitals include the medical benefit ratio, net profits after the tax rate, average

productivity, research funding, personnel training, health spending accounts for medical education, medical relief to income ratio balance, community medical services, and the balance of medical expenses to income ratio.

#### IV EXPERIMENTAL RESULTS

Using the chi-square goodness of fit test, we found no significant difference ( $\chi^2$  for the 3.391,  $p > 0.05$ ) between the proportions of subjects and all the 57 hospitals of Taiwan announced in 2008. At the hospital level, the majority are local hospitals. The number of regional hospitals is 12; there are also 12 local hospitals (Tables I & 2). Corporate social responsibility investment is 47.6% of medical income. External corporate social responsibility investment is 23.68% of medical income. Internal corporate social responsibility investment is 23.92% of the medical income. Overall, the hospitals' investment into corporate social responsibility is more than the minimum requirement of medical law. For external corporate social responsibility investment, the ratio used in customer is 67.94%; used in the community is 22.27%; used in others is 9.79%. CSR investment is 47.6% of medical income. External CSR investment is 23.68% of medical income. Internal CSR investment is 23.92% of the medical income. Overall, the hospitals' investment into CSR is more than the minimum requirement of medical law.

TABLE I  
DISTRIBUTION OF HOSPITAL FOUNDATION UNDER BRANCHES OF NATIONAL HEALTH INSURANCE

Branches	Population	Sample	%	$\chi^2$
Taipei	17	14	38.9%	3.391
Northern	8	6	16.7%	
Central	8	2	5.5%	
Southern	8	4	11.1%	
Kao-Ping	7	5	13.9%	
Eastern	9	5	13.9%	
Summary	57	36	100%	

TABLE II  
LEVEL DISTRIBUTION OF THE HOSPITAL FOUNDATION

level	N	%
Medical center	8	22.23%
Metropolitan	12	33.33%
Local Community	12	33.33%
other	4	11.11%
Summary	36	100%

For external CSR investment, the ratio used for the customer is 67.94%; community is 22.27%; and others is 9.79%. The most investment in CSR is for staff. Costs can be divided into research, training, and health education. The cost of the study includes teaching and educational activities, such as funding for hospitals (accounting for 34.28%). Personnel training costs,

including training the required personnel, training costs, the transaction costs, training costs at home and abroad, training fees, talent management costs, poor training, food travel construction and maintenance fees, and study costs (accounting for 52.40%). Health education funding costs include books and periodical costs (11.96%). Other cost items accounted for 1.36% (Table III).

TABLE III  
HOSPITAL FOUNDATION INTO CORPORATE SOCIAL RESPONSIBILITY DIMENSION

CSR	Dimension	%
external	Customer	67.94%
	Community	22.27%
	other	9.79%
	$\Sigma$	100%
internal	R&D	34.28%
	employee training	52.40%
	health education	11.96%
	other	1.36%
	$\Sigma$	100%

Table IV presents a regression analysis to find out whether the hospital investing in internal CSR has a positive impact on the average productivity of employees for the current year and future years. This study determined that for hospitals within the CSR 2004, the investment can be explained by the average productivity of staff (12.9%) with a total variance ( $p < 0.05$ ) in 2006. The investment in 2005, within the CSR 2007 and 2008, found the average productivity of employees as 66.4%, with the total variance of ( $p < 0.05$ ) for 2007 and 23.3% with the total variance ( $p < 0.05$ ) for 2008. Tables 4 can be inferred that the hospital for internal stakeholders investing in CSR helps to improve employee productivity in the future. Therefore, the results support hypotheses H1. Table 5 presents the regression analysis to understand whether the hospital investing in an external CSR improves the annual interest rate of the hospitals for the current year and the future year. The results showed that hospitals in 2004 and 2006, using the input of external CSR medical benefits in 2007 had a 29% rate and total variance ( $p < 0.05$ ). In 2008, the medical interest rate was 21.2% with the total variance ( $p < 0.05$ ), which can be explained by investing in external CSR in 2007. Therefore, the hospital investing in the external CSR in customers and communities helps to improve the medical interest rate for the current year and future years. This result supports hypothesis H2.

TABLE IV  
REGRESSION ANALYSIS OF INTERNAL CSR INVESTMENT AND PRODUCTIVITY AVERAGE EMPLOYEE

CSR	productivity average employee				
	2004	2005	2006	2007	2008
2004	1737832.7	7450642.7	73304582.6*	4352524	9220521.9
2005		6214778.5	32143290	125394690.6*	10089711*
2006			15882287	350022.2	11491079
2007				1959106.8	1929527.4
2008					3157237.7
R <sup>2</sup>	.000	.002	.129	.664	.233
F	.005	.034	4.721*	63.136*	9.416*

\* $p < 0.05$

TABLE V  
REGRESSION ANALYSIS OF EXTERNAL CSR INVESTMENT AND MEDICAL  
BENEFITS RATE

	medical benefits rate				
	2004	2005	2006	2007	2008
2004	8.133	5.921	8.646	6.461*	2.121
2005		4.52	6.130	.035	.951
2006			.764	3.030*	1.612
2007				.082	3.359*
2008					.660
R <sup>2</sup>	.013	.041	.203	.290	.212
F	.409	.658	2.545	6.336*	8.617*

\*p<0.05

Table VI presents the regression analysis of the hospital's external CSR and the net income. The study found that in hospitals in 2004, the investment in external CSR could explain net profits by 18.9% of the total variance ( $p < 0.05$ ) in 2005. In 2004 and 2006, the net profit after taxes was 39.4% of the variance ( $P < 0.05$ ), which can be interpreted by the external input CSR in 2007. Therefore, the hospital investing external CSR in customers and communities helps to enhance net income. H3a is supported by the findings.

TABLE VI  
REGRESSION ANALYSIS OF EXTERNAL CSR INVESTMENT AND NET INCOME

	net income				
	2004	2005	2006	2007	2008
CSR					
2004	.413	25.192*	3.336	18.661*	8.133
2005		8.431	5.654	.382	6.557
2006			.739	5.998*	3.334
2007				.372	.387
2008					4.086
R <sup>2</sup>	.000	.189	.007	.394	.167
F	.002	7.440*	.075	10.060*	1.123

\*p<0.05

From the results of the regression analysis, it is informed that investing the internal CSR into the hospital staff helps to improve the average employee productivity. The results support H1. From Tables 4-7, they show that the hospital investing in external CSR into customers and communities helps to improve the medical interest rate, the net profit after tax and other financial performance indicators. The results support hypotheses H2 and H3.

## V. DISCUSSION

### A. To Review the Hospital's CSR

This study adopts the legal and economic framework of the pyramid model [5] to examine the correlation between the external input of social responsibility and financial performance in Taiwan's medical industry and the financial industry. We examined the CSR from the legal aspects of medical institutions. Medical Law regulates that the Medical

Foundation should provide more than ten percent of their annual medical income balance to support the activities relating to research and development, personnel training, and health education, as well as more than ten percent for processing medical relief, community medical services and other social services matters. In addition, the new hospital evaluation system focuses on the education and training of employees and community services as a special chapter for hospital accreditation. This study found that hospitals investing in external CSR are 23.68% of medical revenue; total investment in CSR is 23.92%, which is greater than the 10% regulated by medical law, of medical income balances. In addition, to meet the regulations forced by law, the hospital increases their voluntary social responsibility commitment. This study found several reasons for this: first, to view internal CSR investment, it can be classified as research and development, personnel training, and health education categories, which are the regulatory requirements of medical items. This may reflect the health care sector for investment in CSR. There is still a tendency to respond to such regulations and evaluation system requirements. Another finding is that while the ratio of investment in CSR is more than regulatory requirements, the community hospitals have a charity image. Second, the study examined hospital financial statements and found that external CSR and health care expenditures for relief, community health or social services or personnel costs do not relate to a project to offset bad loans by 9.23%. This may represent the current financial statements on CSR in the distortions. Although the hospital has published financial statements through the review mechanism, whether the funds are implemented for assumed activities is difficult to trace.

### C. To Explore the Internal CSR Associated with The Average Productivity of Employees

Hospital 2004 CSR, within the investment, can be explained by the average productivity of employees in 2006. In 2005, investment in internal CSR can be explained by the average employee productivity in 2007 and 2008. The hospital staff in the internal CSR helps to improve the average employee productivity, but there is a time lag effect. A possible reason for the hospitals in CSR, such as research and development, personnel training and health education funding, is that staff can directly benefit. So part of the employee productivity effect can be seen.

The research and development and personnel training departments need to spend time and money on their employees. The employees, only after a period of time, yield average productivity gains, resulting in internal CSR in the average productivity and employee time lag effect.

### C. External CSR and Health Interest Rate, Net Profit Association

Basically, in the medical industry and financial industry, the CSR for the external inputs are all significantly positive. First View Hospital outside of CSR has a relationship between financial performances. A hospital in 2004 and 2006 and the input of external CSR can be explained by the medical interest rates in 2006. External CSR 2007 can be explained by the input of medical interest rates in 2008. Outside the hospital, in 2004, the investment could explain CSR 2005 net profits after tax.

For 2004 and 2006, the investment can be explained by the external CSR 2007 net profits after tax. This highlights two possible phenomena: (1) the hospital's CSR investment and financial performance have positive correlation, and (2) there are deferred effects between the hospital's CSR investment and financial performance. Investments in CSR could take a long time to appear. Adam and Shavit [24], on CSR and financial performance between the proposed theoretical models of a parabola, said: "beginning execution of CSR will increase costs, so have a negative impact on profit. But with the increase of social responsibility, with the coming of the image and reputation, will make the profit increase." Taiwan consumers are free to choose health care providers; patients are free to choose which clinic or hospital they attend for medical treatment, without any restrictions.

CSR through an external input allows the hospital to obtain a good reputation. Good reputation impacts customer purchases [25]. More specifically, the hospital can attract potential customers, such as community residents, and increase the profitability of the hospital. The Ministry of Economic Affairs and Investment Bureau column also mentioned the case of SMEs in Europe for the benefits of CSR, although they cannot be quickly apparent. However, investment in CSR contains a lot of potential and intangible value systems that may be shown in an indirect way.

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