DYNAMIC MODEL OF DEPENDANCIES BETWEEN ECONOMIC CRISIS AND CORPORATE SOCIAL RESPONSIBILITY CONTRIBUTION TO SUSTAINABLE DEVELOPMENT

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Abstract

Global economic downturn has demanded urgent actions from economic actors to effectively mollify consequences of negative economic growth. It is evident that unevenness in crisis impact will damage quality of life of more vulnerable subjects than of those possessing greater financial resources. Corporate social responsibility (CSR) has been widely regarded as a positive phenomenon helping bridge the gap of social inequality and thus contributing to sustainable development. This paper examines to what extent and in what manner global economic downturn affects CSR contribution to sustainable development: authors develop an analytical model for capturing the tendencies of the shift of overall contribution for CSR to sustainable development. The theoretical and conceptual grounds that sustain the model are based on previous approaches. The resulting new approach permits an explanation of differentiation of economic crisis impact on enterprises’ CSR activities and thus on the change of overall CSR contribution to sustainable development.

Keywords: Corporate Social Responsibility, Sustainable Development, Economic crisis

Introduction

Since 1987 when the concept of “sustainable development” was publicly introduced by the Brundtland report of World Commission on Environment and Development (WCED), this notion has gained immense popularity among scientists, governments, and business people. A few years ago in a speech at an event organized by business action for sustainable development Kofi Annan, former UN Secretary-General, remarked: ‘And more and more we are realizing that it is only by mobilizing the corporate sector that we can make significant progress. The corporate sector has the finances, the technology and the management to make this happen’ (Wade, 2005). The recognition of importance of business involvement with sustainable development has aroused a variety of business partnerships (World Business Council for Sustainable Development, 2007) including Corporate Social Responsibility (CSR). However, as global economic crisis hits and future prospects are uncertain, enterprises tend to tighten their budgets and therefore abate their CSR activities. The important question is to what extent and how exactly economic crisis will affect overall CSR contribution to sustainable development. This article aims at proposing an analytical model unveiling the relations between economic downturn and the overall CSR contribution to sustainable development. The approach adopted is grounded on a systemic analysis of emotional well-being function and process modeling. The findings permit an analytical explanation of the dynamics of CSR contribution to sustainable development. The article is organized in a following fashion:

Firstly, sustainable development and CSR definitions are discussed and conditions under which CSR can contribute to sustainable development are presented.
Secondly, CSR measuring methods are discussed.
Emotional well-being function is introduced and CSR monetary value function is deduced.
CSR monetary function is analyzed in a crisis impact.
Finally, conclusions and discussion are presented.

CSR and sustainable development as essentially contested concepts (ECC)

CSR and sustainable development are broadly discussed concepts and targets of a series of investigations over last decades. However, uniformed definitions have not been retrieved yet. It is agreed that both CSR and sustainable development are essentially contested concepts (Gallie, 1956; Okoye 2009) as their meaning is always part of debate about their application (Moon et al., 2004). One of the reasons is because CSR and sustainable development are appraisive, internally complex and openly defined terms (Connolly, 1983).

Generally, the conception of CSR involves several matters related to a company’s behavior in its social environment beyond the exclusively economic realms with which companies are traditionally associated (Rigoberto and Daza, 2009). Thus, CSR has often been seen as apart from the profit-making
activity of the firm, not required by the law and not the result of governmental coercion (McWilliams and Siegel, 2002). However, since demarcation from the law and government coercion remains questionable (Moon, 2007; Auld et al. 2008) we will continue on the assumption that CSR, including environmental responsibility, consists of corporate activities that reflect and address both the social imperatives for business success and the social consequences of business activity (Moon, 2007). Such corporate activities, as mentioned, are conceived to be beyond exclusively economic incentives.

Sustainable development has broad appeal and little specificity, but some combination of development and environment as well as equity is found in many attempts to describe it (Parris and Kates, 2003). Sustainable development is commonly perceived as fighting poverty while protecting the environment on a macro-level (Baumgartner and Ebner, 2010). U.S. National Academy of Sciences review of the sustainability literature identified three major values to be sustained: nature, life support systems and community (Board on Sustainable Development, 1999). Sustainable development when incorporated by the organization is called corporate sustainability and it contains, like sustainable development, all three pillars: economic, ecological and social. These three dimensions interact (Ebner and Baumgartner, 2006). In other words, the condition toward the direction of sustainable development can be presented as simultaneous improvement in company performance in all three dimensions, economic, environmental and social (Figge and Hahn, 2001).

The intention of this paper is not to thoroughly analyze of the transformation of CSR and sustainable development conceptions over time, but rather to deal with their interaction in a changing environment. Therefore the paper will rely on general definitions of CSR and sustainable development.

**CSR contribution to sustainable development**

It is evident that company can contribute to sustainable development via its CSR activities if its CSR values coincide with those of sustainable development. This also seems to be the most favorable case for CSR contribution. The question is whether CSR contributes to sustainable development when CSR ultimate goal is not sustainability. The variety of CSR theories (shareholder value (Halme and Niskenan, 2001); stakeholder theory that comes from ethics (Freeman, 1984; Donaldson and Preston, 1995; Phillips et al., 2003); corporate citizenship related to the political concept of citizen (Andriof and McIntosh, 2001; Logsdon and Wood, 2002; Matten and Crane, 2005); CSR (Carroll, 1979; MintzBerg, 1983); corporate social performance related to sociology (Wood, 1991; Orlitzky et al., 2003; Callan and Thomas, 2009); and corporate codes of conduct (Kolk et al., 1999; Sethi, 2002) to name just a few of the many) permits firms may hold different approaches to what their CSR is serving for (e.g. direct feed into bottom-line). Under the circumstances when company’s CSR is directed mainly to short term profit, CSR contribution to sustainable development is questionable. First of all, there always has to be guaranteed a short term win-win scenario from the firm’s perspective whereas sustainable development by definition is targeted at a long-term period (World Comm. Environ. Dev. 1987) Secondly, additional conditions have to be assured in order CSR partnership with a non-business partner to become sustainable (Reed and Reed, 2009). A number of scholars argue that short term profit oriented CSR is unlikely to contribute to sustainable development values (Partners in Change, 2000, 2004; Venkateswaran, 2004; Jenkins (2005); Christian Aid, 2004).

Scientific literature has more positively regarded prospects for CSR to contribute to sustainable development when CSR is incorporated into company’s long term strategy. The main difference from short term profit oriented CSR is that companies seek to uncover and pursue long term win-win situations what appear to be win-loss situation in the short term turned into win-win situation in the long term. Moon (Moon, 2007) promotes Hart’s ‘A natural-resource-based view of the firm’ which claims that ‘strategy and competitive advantage will be rooted in capabilities that facilitate environmentally sustainable economic activity’ (Hart, 1995). Moon sees open prospects for companies to embrace CSR in their long term strategies and effectively contribute to sustainable development – this attitude is illustrated by examples from developing world. Auld (Auld et al., 2008) claims that long term oriented CSR efforts deserve the most sustained attention because they hold the greatest transformative potential.

We rely on our previously introduced CSR definition which says that CSR is not directed at short-term profits. Such CSR is thought to largely contribute to sustainable development.

**Measuring CSR**

The efforts to measure and evaluate CSR have erupted in recent scientific literature, but the discussion is just beginning. A study done by PriceWaterhouseCoopers in 2003 and cited by Bestratén and Pujol (2005) indicated that social responsibility is still in a state of clarification and consolidation in companies and that
the incorporation of relevant indicators is still incipient. The study presented several organizations that offer guidelines for evaluating and measuring some aspects of CSR. These include EFQM Business Excellence Model (European Foundation Quality Management), Dispositions of the United Nations and the ILO, the European Community Green Book, the SAI 8000 Index, the Global Reporting Initiative Guide and the Ethos CSR Indicators in Brazil (Bestratén and Pujol, 2005).

However, some scholars are in general critical toward efforts of measuring CSR. For example Gjølberg (2009) argues that it is not always possible to measure social responsibility practices and create CSR indices. Korhonen (2003) has elaborated a well-grounded critique toward CSR measurement and expressing CSR activities in monetary units which suggests that "information on the ecological and social impacts of companies needs to be combined with economic monetary indicators, but not expressed in monetary terms". This view is supported by Dobers (2009).

Despite criticism, new CSR measurement concepts, models and tools are being elaborated. For instance, the concept of “social balance” which provides a method for evaluating CSR by offering society an inventory of the social actions taken by a company through its social responsibility program has emerged (Rigoberto and Daza, 2009). This concept, however still lacks universal criteria, rules and conventions that would enable to homogeneously compare and evaluate CSR in all companies. Rigoberto and Daza (2009) in one of the latest works on the issue of CSR measurement dealt with the lack of global indicators and developed an analytical approach that shows quantitative determination of a global indicator for social responsibility and the development of a method for calculating a monetary value of CSR. The method permits an analytical model for appraising and measuring CSR. In this paper we will utilize the developed approach for evaluating the shift of CSR contribution to sustainable development under economic crisis impact.

**System design**

We assumed that CSR activities, by definition are not directed to short term profit of the company. Such CSR which values are beyond purely economic realms and which addresses issues concerning company’s responsibilities to its stakeholders contributes to sustainable development. Herein we introduce the concept of global economic crisis. How does the crisis affect CSR contribution to sustainable development? In this section we will build an integrated framework of dependencies between economic crisis and CSR contribution to sustainable development.

We presume that financial crisis does not alter the meanings and values of CSR and sustainable development. Logically, in order to understand the shift of CSR contribution to sustainable development we have to locate a global indicator in an enterprise level referring to the overall value of CSR of the company and then capture crisis’ influence to this indicator. In this case we will rely on CSR measuring model developed by Rigoberto and Daza (2009) which is based on emotional well-being function. We present a brief outline of how CSR is measured in the model in question.

The behavior of the company can be represented by the mathematical emotional well-being function $BE(w)$. $BE(w)$ is an extended classical economic utility function and is able to explain the behavior of people and companies by simultaneously incorporating both the typical rational economic facet with that of individuals and companies that are motivated concurrently by other values. Emotional well-being is understood to be the degree of satisfaction resulting from an act, whether its motivation is purely economic or a mixture of this with another rationale interpreted, in this case, as social responsibility. $BE(w)$ can be represented by:

$$BE(w) = a_1 \sin(\pi w) + a_2 \ln(w) + c$$  \hspace{1cm} (1)

with $0 \leq a_1 \leq 1$; $0 \leq a_2 \leq 1$; $(a_1 + a_2) = 1$

Where $w$ = wealth; $c$ is a constant and an independent of wealth. The function $BE(w)$ has two envelope functions: the outer envelope function $U_1(w)$, which is joined to the function by the relative tangential maxima, and the inner envelope function $U_2(w)$, whose points are tangential and minimum relative to the function $BE(w)$. The $U_3(w)$ functions are found between these two, differing only in the position of their coefficients $c$. Figure 1 shows these functions.
The model states that emotional well-being depends on the three following effects: $BE(w) = \text{social responsibility} + \text{economic} + \text{enjoyment of belonging}$ to the company. The social responsibility effect $= a_1 \sin(\pi w)$, the economic effect $= a_2 \ln(w)$, and enjoyment of belonging $= c$. Coefficients $a_1$ and $a_2$ represent the weighting or coefficients of sensitivity of the behavior of individuals or companies acting with the ethics of social responsibility and economics, respectively. It means that if $a_1 = 1$ then $a_2 = 0$ and company base its activity only on social responsibility ethics and vice versa if $a_1 = 0$ then $a_2 = 1$ and company actions are based purely on economic rationale (its emotional well-being function is equal to $U_1(w)$ function). Commonly, it is expected that $a_1 = 1$ or $a_2 = 1$ are extreme cases.

CSR in this model is understood as a sacrifice of a greater utility for social responsibility values. This is shown in Figure 1. Economic individual’s sacrifice is represented by the $e-b$ line, meaning that if the individual were acting only by economic values, for a wealth of $w_2$, the individual should have an utility of “$e$”, given at the highest part of the utility function. In the new emotional well-being situation, nonetheless, this same level of wealth $w_2$ is really located at point “$b$”. In other words, the person sacrifices economic utility for other values such as social responsibility. Thus, this line is an appraisal of social responsibility.

Function $U_2(w)$ refers to a minimum emotional safety level which below individual does not wish to any make economic decision. With a wealth $w_2$ individual still receives returns, as the minimum is required $U_1$ (point “$f$” of the graph). If the person chooses this option, the compensation for moving away from the economic sacrifice is $BE_2 - U_3$, that is to say, point “$b$”. It is a sort of “emotional safety net” that allows an individual to face emotionally the utility’s decrease. This minimum safety net can be expected to be greater than the sacrifice of distancing oneself from the behavior of an exclusively economic individual.

The model proposes that monetary value of CSR can be calculated with the formula:

$$CM(W) = W \left[ \frac{a_1 \sin(w \pi)}{BE} \right] \quad (2)$$

Where $CM(W) = \text{CSR monetary value function}; W = \text{value of the company}; w = \text{value of the company expressed in decimals}; a_1 = \text{the weight of social responsibility}; BE = \text{global level of emotional well-being}$.

Thus we have an integrated system in which a parameter, representing overall CSR monetary value of the company is distinguished. This parameter now can be put into process analysis in which economic crisis impact to CSR monetary value will be analyzed.
Process analysis

We have showed that CSR monetary value depends on several criteria. In this section we will investigate how parameters $a_1$ (company willingness to take CSR activities) and $w$ (wealth, equal to the value of the company’s total assets) are affected by economic crisis and how this crisis impact results in CSR monetary value shift.

**Economic crisis impact on wealth ($w$).** A crucial determinant of asset prices is thus the amount of credit provided by the financial system (Allen *et al.*, 2009). Holmstrom and Tirole (1998) claim that if a firm is hit by a liquidity shock and needs more funds to continue, it may be unable to raise them in the market. If it cannot continue because of this, then it may go bankrupt and this can cause a significant loss in welfare. The occurrence of this event is more likely when credit markets are disrupted. This is what exactly happened in 2007 financial crisis. In August 2007, the interbank markets, particularly for terms longer than a few days, experienced considerable pressures and central banks were forced to inject massive liquidity. September 2008 Lehman’s bankruptcy induced substantial losses to several counterparties, investors withdrew from the markets and liquidity dried up. Finally, a significant fall in output occurred globally. 2007 crisis, which started as real estate crisis evolved into financial crisis and subsequently it has developed into economic and social crisis. One of its results was a significant drop of firms’ assets prices. In our model (2) this decline in prices causes CSR monetary value shift. If put graphically $CM(W)$ function, it looks like this (Figure 2):

![Figure 2. CSR monetary value function CM(W)](image)

That is, if the primary firm’s asset price was $w_1$ and it dropped to $w_2$, then $CM(W)$ value from $CM_1'$ level declined to $CM_2'$. Thus monetary value of CSR has diminished in response to contagion of firm’s equity.

**Economic crisis impact on $a_1$ (global CSR indicator).** As the recession has deepened and spread, companies are making drastic decisions to improve their bottom line. Cost containment has been a nearly universal response. According to Manubens (2009), there is a high risk that “some brands will use this negative incentive to bypass social compliance and gain a comparative cost advantage, putting brands with an ethical sourcing culture, which insist on fair labor and human rights practices, at a competitive cost disadvantage”. Corporations, that are dominated by a short-term profit-and-loss goals will likely abate their CSR activities be and be reluctant to go beyond the bare minimum legal requirements. Thus commitment to CSR under economic crisis may wane.

However, the decline in CSR motivation may not be a universal tendency. Examples of Wal-Mart (Manubens, 2009) or South American companies, launching CSR evaluation tool IndicaRSE, or Golder Associates statements (in press) indicate that many large companies CEOs demonstrate commitment to CSR and sustainable development even in economic crisis.
In summary, global CSR indicator $a_1$ faces tendency to decrease in many enterprises under economic crisis, although the type and extent of reductions may be disparate among companies and industries. Figure 3 illustrates this decline and its impact on CSR monetary value:

![Figure 3. CSR global indicator $a_1$ and CSR monetary value function $CM(W)$ relationship](image)

Function $CM(W)$ is the CSR monetary value function, demonstrated in Figure 2. If parameter $a_1$ declines, $CM(W)$ transforms to function $CM_2(W)$, with relevantly lower tangential maxima. The CSR monetary value, if analyzed the primary function $CM(W)$ should reach the level of $CM_1'$ when wealth $w$ changes from $w_1$ to $w_2$. However, the decrease of parameter $a_1$ alters the primary $CM(W)$ function transforming it to the function $CM_3(W)$: CSR monetary value instead of dropping to the level of $CM_3'$ dips more, up to the level of $CM_3'$. Thus we see that decline in firms’ commitment to CSR sharpens CSR monetary value drop under the circumstances of economic crisis.

Conclusions

In this paper we set an aim to investigate how economic crisis, which is together financial crisis, influence CSR contribution to sustainable development. We have designed a system in which we assumed that CSR and sustainable values are not changed by economic crisis. We employed Rigoberto and Daza’s model to measure CSR monetary value and in process analysis we explained economic crisis impact on CSR monetary value. We suggest the following findings.

1. CSR contribution to sustainable development is volatile under economic crisis conditions. It is almost certain that CSR contribution to sustainable development will decrease as long as firm’s equity declines which is very probable case in economic crisis.

2. CSR contribution to sustainable development will decrease to a greater extent in those firms which employ CSR activities as an obedience to external environment. In contrary, those firms which remain committed to CSR values during economic crisis will face lesser degree of contraction of their CSR activities contribution to sustainable development.

Future directions for research

The financial crisis has generated substantial amounts of new research. On the issue of CSR contribution to sustainable development many questions remain to be addressed. In this paper, for instance, we have not distinguished or analyzed the external factors influencing firm’s decision to embark on CSR. Future researches could provide answers to the questions like how economic crisis alters external pressure like market drivers, social drivers, governmental drivers and globalization (Moon, 2007) which affects firm’s commitment to CSR as well as how CSR and sustainable development values are transformed.
References


