The Socially Responsible Company distinctive as an element for the creation of economic value of a company

El distintivo de Empresa Socialmente Responsable como elemento para la creación de valor económico de una empresa

Abstract

Purpose: The present investigation was designed to determine the possible relationship between obtaining the Socially Responsible Company distinctive and the generation of economic value by the obtaining companies.

Design/methodology/approach: A sample of 32 companies listed on the Mexican Stock Exchange that were awarded the Socially Responsible Company distinctive was drawn and two valuation focal points were considered: one before obtaining the distinctive and another subsequent to it. To establish the economic value of the companies, the free-cash-flow method was used. This study is considered, therefore, under the income approach of business valuation methods. Finally, the values obtained in both focal points were compared to determine the change in generated value attributable to the SRC distinctive.

Findings: The results confirmed that obtaining the distinctive as a Socially Responsible Company does have an impact on the generation of economic value for the companies belonging to the sample - measured through the free-cash-flow method. This impact was determined at an average 6.26%, reasonably resembling the distribution of individual results a normal probabilistic distribution.

Originality/value: This work adds value to the research on corporate social responsibility value measurement. This research study differentiates from others in the area due to the use of the CSR certification granted in Mexico by CEMEFI, as a social responsibility variable. In addition, the free-cash-flow method was used in the analysis, which is a novelty as it had not been applied to investigations of this type before. Likewise, this research work adds to past research in as much as it concludes that there is a positive relationship between corporate social responsibility and the generation of economic benefits.

Keywords: Socially Responsible Company, business valuation, free cash flow, Mexico, listed companies.

Resumen

Propósito: La presente investigación fue diseñada para determinar la posible relación entre la obtención del distintivo de Empresa Socialmente Responsable y la generación de valor económico para las empresas que lo obtienen.
Diseño/metodología/enfoque: Se tomó una muestra de 32 empresas que cotizan en la Bolsa Mexicana de Valores, que tenían el distintivo de Empresa Socialmente Responsable. Se consideraron dos puntos focales de valoración: uno antes de obtener el distintivo y otro posterior. Para establecer el valor económico de las empresas, se utilizó el método de flujo de caja libre. Por ello, este estudio se considera bajo el enfoque de ingresos de los métodos de valoración de negocios. Finalmente, los valores obtenidos en ambos puntos focales se compararon para determinar el cambio en el valor generado atribuible al distintivo SRC.

Resultados: Los resultados confirmaron que obtener el distintivo como Empresa Socialmente Responsable tiene un impacto en la generación de valor económico para las empresas que pertenecen a la muestra medida a través del Flujo de caja libre. Este impacto se determinó en un promedio de 6.26%, encontrándose que la distribución de resultados individuales se asemeja razonablemente a la distribución probabilística normal.

Originalidad/valor: Este trabajo agrega valor a las líneas de investigación sobre la medición del valor de la responsabilidad social corporativa. No obstante, se diferencia de otros estudios debido al uso de la certificación CSR otorgada en México por CEMEFI como una variable de responsabilidad social. Además, en el análisis se utiliza el método de flujo de caja libre, mismo que no se ha aplicado para investigaciones de este tipo en el pasado. Asimismo, este trabajo se suma a otros que concluyen que existe una relación positiva entre la responsabilidad social corporativa y la generación de beneficios económicos.

Palabras clave:

Empresa socialmente responsable, valuación de empresas, flujo libre de caja, México, empresas cotizadas.
1. Introduction

The administrative and financial theory considers that companies have as main objective the maximization of the benefits generated for their investors (Barroso Tanoira, 2008), due to this, a large number of companies around the world lose sight of the importance of the generation of benefits for other interest groups such as customers, workers, suppliers and society in general; by focusing solely on the profitability of the investment of its promoters.

Due to this, Lacruz Moreno (2005) explains that more and more consumers demand from companies more than just quality in the products and services offered, but also the fulfillment that various intangible aspects such as ethical competence and environmental conservation, among other elements that validate the role of the organization within society and its respective responsibility.

Similarly, Solís González (2008) expresses that we are facing a new paradigm of self-regulation on the part of companies, which are finally willing to rationalize to a certain extent the use of productive resources, including natural resources and force of work as well as its operation; this in order to limit its destructive effects and preserve the social and material bases of the market economy.

Additionally, due to the opening of markets, the intensification of competition and consumer sovereignty, companies seek to create competitive advantages that allow them to survive in an increasingly competitive world (Izquierdo & Capó Vicedo, 2009). It is in this context that the concept of corporate social responsibility emerges, considered as an element that must be integrated into the daily actions of companies, as a response to the current demands of society and as an opportunity to be more competitive by incorporating said practices to the management processes and business strategies.

For Professor James Austin of the Harvard Business School (Dinero, 2000), corporate social responsibility implies that "Companies start to think about how they can interact to generate added value and a social impact in the country or the community, evolving in the Corporate Social Responsibility (CSR) concept and migrate towards another type of relationship different from philanthropy ". For their part, Porto & Castromán (2006) point out that corporate social responsibility is the active and voluntary contribution of companies in social, economic and environmental improvement.

According to Cajiga (2010), the main business and social responsibility organizations in Mexico coincide in the idea that: Corporate social responsibility is a conscious and consistent commitment to fully comply with the purpose of the company, both in internal as well as external, considering the economic, social and environmental expectations of all its participants, showing respect for people, ethical values, the community and the environment, thus contributing to the construction of the common good.
Based on authors such as Chirinos et al., (2013), CSR consists of different programs that are fulfilled by companies with the aim of improving the quality of life within companies and supporting the environment. On the other hand, the Socially Responsible Company (SRC) represents all those programs or actions that are related to the internal public as well as maintaining a social commitment to the environment. Because of this, it is necessary to incorporate the concept of sustainability to transition from CSR to SRC.

Specifically, to obtain the distinction of SRC in Mexico, four basic or strategic lines or areas that explain its presence in all the company's activities must be considered. These are: 1.- Quality of life in the company, 2.- Business ethics, 3.- Linking with the community, 4.- Care and preservation of the environment (CEMEFI, 2012), which reflects a systemic approach to effectiveness of a company both inside and outside of it.

Having generally described the importance of corporate social responsibility today, it is important to consider that for such actions to be implemented in companies, it is essential for decision makers within them that these programs are passed on sooner or later in positive economic results; which, although they should not be considered as the only objective, are necessary for the survival of any organization in the long term. When carrying out a review of studies on the possible relationship between certification as a SRC and the improvement in economic benefits, very varied results were found in this regard.

In the research carried out by Derwall et al., (2011) it was concluded that the companies with social responsibility analyzed have a greater financial performance in the long term, generated by the improvement in their reputation and in the quality of life of its workers. The study carried out by Petersen & Vredenburg (2009) indicates that there is evidence that shows that the behavior of a SRC shows an increase in the economic value of it. In the findings of the work done by Lee & Faff (2009), highlights that they identified that in the regions of the United States of America and Europe, investors choose companies that invest to become Socially Responsible Companies.

In contrast, research such as that of Brammer, A., & Rayton (2007), found that companies with high scores in Corporate Social Responsibility, tend to show lower returns, in addition to attributing said results to the high costs in which Companies incur to improve environmental performance. Similarly, the study prepared by Lima et al., (2010) concludes that in the case of emerging countries there is a clear inverse relationship between socially responsible companies and their financial performance. In addition, research was found that indicates neutral relations, such as the one carried out by Aras et al., (2010), where they determined a null relationship between corporate social responsibility and financial performance.

When analyzing said studies and others, considering the economic-financial nature of the economic entities denominated as companies, it becomes evident that any method to measure this potential relationship must use some of the different valuation methods
of companies that they exist today. In this way, the value created for the company can be determined objectively by incorporating the SCR distinctive. In this regard, Fernández P. (2004) indicates that the valuation of companies is a necessary tool to determine the real value of companies and highlights the need for information required by investors for decision making as one of the main reasons for its use.

Despite this, and based on Rodríguez et al., (2012), the works related to the valuation of companies with a distinctive SRC in Mexico are scarce. One of the most outstanding ones elaborated by Accinelli & de la Fuente García (2013), elaborated based on a win-win paradigm using a matrix of company options, concluded that it was possible to determine that the companies will seek to implement policies friendly to the environment as an attempt to increase its present and future benefits, either through the intervention of a regulatory authority or the maximization of its benefits.

Another of the relevant studies conducted by Senior et al., (2007), focused on analyzing environmental responsibility as an opportunity to generate value in organizations using the value added method, expressed in their final thoughts that companies must move from instrumental reasoning to communicative reasoning; that is to say that instead of superficially identifying the items that make up environmental responsibility, they should concentrate on legitimate and fair processes that mean an improvement in the environmental conditions of the environment.

For its part, the research carried out by the prominent authors Porter & Kramer (2011) on what they call "Creation of Shared Value", concluded that the most important difference between Corporate Social Responsibility and Creation of Shared Value is that CSR practices are limited only to compliance with specific standards and specific parameters, which are generally obtained to improve public relations and not necessarily to have a beneficial impact on the social environment; which in the long term only involves costs for companies. In contrast, the Creation of Shared Value refers to a total reallocation of resources aimed at a new strategic positioning that aims to align the knowledge, activities, strengths and competencies of the organization towards a true satisfaction of social needs; which finally ends naturally affecting the maximization of the company's profits.

In this way, identifying that there are divergent results in the research conducted on the relationship between Corporate Social Responsibility and the creation of economic value for the company, as well as the identification of the valuation of companies as a very useful tool to be able to determine in this relationship, there is a need to carry out new business valuation studies that allow reaching clear conclusions regarding this topic.

Companies need strategies that allow them to reach a unique and valuable position, the SRC distinctive allows to achieve this advantage (Naranjo, 2011). Obtaining the distinction as SRC has positioned itself as a tool that companies seek to show their commitment to generate more fair and friendly conditions with the environment within the industry in which they operate, in such a way that their clients clearly recognize it.
This is important for companies that want to have a favorable public image that contributes to their market survival by promoting the joint development of all their stakeholders involved. Despite all this, there are approximately 4,926,061 companies in Mexico (INEGI, 2015), of which only 1,217 belong to the ESR distinctive (CEMEFI, 2016), recognition granted by the Mexican Philanthropy Center since 2000.

According to these data, only 0.02% of the total number of companies in Mexico has the SRC distinctive, which reflects the lack of acceptance that the initiative has had despite the recognition it gives and the 19 years it has existed. In this way, the present investigation has considered the obtaining of said distinctive as the clearest element to determine if a company is socially responsible or not; also, given the high availability of financial information from large companies listed on the Mexican Stock Exchange, it has been determined to analyze selected information from companies that meet both requirements. That is, analyze the publicly available financial information of large companies listed on the Bolsa Mexicana de Valores (BMV) and also have the Empresa Socialmente Responsable (ESR) distinctive for the periods analyzed, which will allow to determine a possible relationship between both variables.

The main purpose of the research is to determine if the SRC distinctive generates value for the companies studied, for which the literature corresponding to the SRC, valuation methods applicable to companies, as well as the financial information of the companies analyzed, will be used. It is important to mention that although the analyzed data come from large listed companies in the Stock Exchange, the results obtained in the present study are intended to serve for the decision making of the owners of small and medium enterprises with respect to the possible economic benefits of obtaining the distinction as SRC, thus improving the conditions and relations of these companies with their various interest groups.

Due to everything presented above, the general objective of this research work is to determine the possible impact of obtaining the distinction of SRC in the generation of economic value for companies.

Finally, as the scope and limitations of the research it can be highlighted that the study is considered from the perspective of the valuation of companies, and seeks to measure the impact on the value of the companies analyzed from their obtaining the label as SRC. The population and sample considered include companies that are listed on the Mexican Stock Exchange and have the SRC distinctive for the determined valuation time points. The studies were carried out based on an exhaustive review of the corresponding literature, the audited financial statements of the companies examined, and the contribution of information provided by experts.

2. Literature review

Following are some of the most outstanding works recently made regarding the state of the art on the determination of possible correlations between corporate social responsibility and the creation of economic value.
The paper elaborated by Mittal et al., (2008) focused on analyzing the linkage between economic value added and corporate social responsibility concluded that their research does not conclusively prove that CSR initiatives have a negative impact on a business’ performance for all the years, they found however, evidence against the claim that CSR initiatives have universal or systematic positive financial impacts on companies. They also state that it is always important to consider that the businesses that are inclined to engage in SCR initiatives tend to be those that are already financially successful and that can afford the added SCR overhead.

In the research carried out by Fernández et al., (2009) on the reactions on Spanish investors in the stock market, they came to the conclusion that there is no short-term relationship with sustainability news or corporate social responsibility; they found that such a lack of relationship or reaction can be caused because investors believe that the reported facts regarding corporate sustainability will not affect the company's profit and loss account.

The study on the analysis of the relationship between social and economic results of Spanish savings banks prepared by Cabeza-García et al., (2010), found that investment in social activities seems to have a negative effect on business profitability, both economically and financially.

On the other hand, the work of the exploratory analysis of CSR in Mexico and its dichotomy in social and environmental activities of the company Briseño et al., (2011) concluded that companies must report not only their financial performance, but also of its advances in corporate governance, social aspects and protection, improvement of the environment and highlighting the areas in which it is feasible to generate greater added value for companies and for society in general; generating answers to the questions posed by the related groups in this common space of apparently opposite concepts.

The research called "Corporate Social Responsibility and Resilience", prepared by Piñeiro & Romero (2011), highlights that through the combination of CSR and resilience, it is possible to conceive the possibility of creating a new type of company focused on the generation of sustainable and shared value; for which, the company has to generate new competences and group the different interest groups in the decision making process.

In the conclusions of the study on CSR as a competitiveness strategy, the authors showed that companies that behave responsibly are those that have managed to stay more years in the market, perhaps because the implemented strategies that generate value, and that is why they are preferred by consumers. However, it is clear that the company implements CSR strategies based on the economic performance it expects to obtain (Lopez et al., 2011).

The work titled "Corporate Social Responsibility: Diagnosis of the Current Situation in the Dominican Republic" highlights in its main conclusions that the reasons for the
interest on the part of the companies and their CSR efforts, vary in nature, and may be
to avoid further government regulation, the relationship between corporate governance
and its benefit to the company, the interest of customers for greater social awareness,
discarding a direct relationship with better financing costs either through the Stock
Exchange or banking institutions (De la Cruz, 2012).

The research of Miralles et al., (2012) on the analysis of the performance of socially
listed companies in the Spanish Stock Exchange during the period 2001-2010, through
the analysis of portfolio management, stands out in its main findings that investment in
socially responsible companies provides a return adjusted to the risk of a negative
nature. They also concluded that the results obtained in said analyzed time frame show
that in the market investment in social responsibility represents a financial cost instead
of an award for the investor, which persisted even after adding additional control
variables.

The study on the corporate social responsibility of the footwear sector in Colombia,
had important results as the management strategy is understood by entrepreneurs in
the sector as a model to attract the demand for their products, where the main benefits
are based on the positioning of organizations at the same time that they favor their
workers Sepúlveda et al. (2013). Additionally, the autor found that these actions are
still misunderstood in the industry as an element that does not represent an investment
at the strategic level, rather it is considered as an added expense to the efforts of
organizational direction.

One of the most outstanding conclusions in the work on the costs of CSR in
environmental change carried out by Bonia-Reverter et al., (2013), consists of that the
application of corporate social responsibility in the environmental field reduces
consumption costs, while increasing the overall environmental costs of production
management, monitoring and control, improvements to facilities, training and
emergency plans; this reflects the need to constantly determine the changes in costs
and the implications they generate, both for the organization and for society.

For its part, the study of Gallardo-Vázquez & Sánchez-Hernández (2013) on the
incidence of Corporate Social Responsibility in the competitive success of micro-
enterprises in Spain, carried out through the technique of structural equations applied
to a representative sample of companies in the region, confirmed that a responsible
management approach has a decisive impact on their competitiveness. The results
allowed to conclude that the directive implications are clear, CSR can be considered
as a source of competitive advantage in the market, regardless of the business
dimension and the sector in which the company works.

The research carried out by Lopes de Oliveira & Moneva (2013) on the verification of
the relationship between social responsibility and the economic-financial performance
of two companies engaged in the oil, gas and biofuel business; showed information
that aims to conclude that investments in social and cultural programs (community
development, composed of education and training, health, art and culture and social
integration) are the best factors that explain the economic-financial performance of the two companies analyzed.

The study on the relationship between corporate social responsibility and the financial result of savings banks and the analysis of the double direction of causality between both variables carried out by Martínez et al., (2013), made it possible to find that after making different estimations with the selected data panel, it was possible to identify the existence of a negative interactive relationship. This implies that there is a negative synergy between profitability in the savings bank sector and corporate social responsibility, measured by spending on social work.

In the research focused on analyzing the impact of the SRC with respect to the stock market value of the companies Charlo et al., (2013), the authors conducted an analysis of the differences between economic-financial variables of the companies that make up the FTSE4Good IBEX (index formed by companies that present corporate responsibility) with respect to the companies that belong to the IBEX, its benchmark index. In their main findings, they indicated that socially responsible companies have higher values in the beta variable or systematic risk, that Spanish responsible companies are larger than non-responsible companies, which additionally provide a higher return on market risk, and that the companies that are within the responsibility index of Spain report greater benefits. The foregoing indicates that the companies that carry out social responsibility activities listed in said stock index present a higher return for a similar systemic risk compared to those that do not carry them out, thus representing an incentive for investors.

The paper elaborated by Hermawan & Mulyawan (2014) which main objective was to analyze the profitability and corporate social responsibility of Indonesia’s listed companies, suggests in its findings that the quality of CSR disclosure in the Indonesian listed companies has little correlation to company’s financial performance, especially profitability analysis; which indicates that the motivation of Indonesian CSR disclosure is merely to maintain good reputation to shareholders, rather than a consequence of allocating surplus funds.

The research devoted to analyzing the relationship between corporate social responsibility initiatives and the financial result in the context of multinational companies carried out by Aguilera et al., (2015), showed in its results that there is no direct relationship between the development of socially responsible initiatives and financial performance. However, the authors comment that the presence of these companies in regions with a differentiated institutional profile can lead to more visible social responsibility practices on the part of the stakeholders contributing to a substantial improvement in their financial performance.

The paper made by Sarmah et al., (2015) about social responsibility and value co-creation in India, the authors concluded that keeping in view the three dimensions of sustainability “people, planet and profit”, multiple stakeholders are included in CSR and that corporate social responsibility initiatives should focus on the benefits delivered by
all parties in the value chain that can create future value. They also conclude that integrity with other stakeholders can help the company in achieving profitable business outcomes while motivating the partners to pursue integrity.

The work carried out by Valenzuela et al., (2015), whose main objective was to analyze whether the adoption of strategies to disseminate voluntary information on CSR practices through different means of communication has an impact on financial performance and the corporate reputation; identified that a responsible treatment of employees positively impacts on corporate reputation measured as the growth of sales.

The paper focused on determining if profitability is driven by corporate social responsibility in Pakistani banks elaborated by Awais et al., (2015), proved that significant and negative relationship exists between CSR, ROE and ROA; meaning that the increase in the amount spent on CSR initiatives decreases ROE and ROA. They also found that the increase in CSR initiatives also increases EPS, meaning a significant and positive relationship.

The study carried out by Hernández & Sánchez (2016) aimed at analyzing the influence of CSR on the business results of MSMEs, through a model based on data from sustainability reports, allowed concluding that micro, small and medium enterprises Companies that develop corporate social responsibility activities improve their results.

In the work titled: "Does been socially responsible pays off? Feedback from Portuguese small and medium-sized companies, carried out by Fonseca & Lopes (2016), obtained as the main result the evidence that proves the positive relationship between social performance and key business results; confirming that it pays to invest in corporate social responsibility even in economically less competitive scenarios and for small and medium companies across all business sectors.

For its part, the research on the influence of social responsibility on the performance of family businesses carried out by Hernández-Perlines (2017), by means of second-generation structural equations applied to Spanish companies, had as its main contribution that social responsibility influences positively on the performance of family businesses, being able to explain 45.8% of its variance.

The study on the benefits of socially responsible investment in the performance of Mexican pension funds carried out by De la Torre & Macías (2017), showed in its most outstanding results that when investing its component of shares in the Index of Prices and Quotes, Investment Companies of Retirement Funds do not lose average-variance efficiency, referring to the performance of the IPC; it was also observed that if a SIEFORE used the IPC in its portfolio that maximizes the Sharpe index during periods of high volatility, its performance is higher than that observed when using other indexes.
The article about the relationship between corporate social responsibility and sustainable financial performance in Taiwan, elaborated by (Chieh-Tse Hou, 2018), concluded that there is a positive and significant relationship between the CSR practices of firms and the level of financial performance in Taiwan, indicating that companies that continue to improve their social responsibility and sustainability improve their relationship with stakeholders which results in better performance of those companies; thus CSR can impact companies’ reputations helping generate a better financial performance.

The investigation carried out by Khan et al., (2018) regarding the effect of corporate social responsibility on profitability of banks in China, using CSR as independent variable and concluding that growth and size of firm have positive & significant effect on ROE and income variability have negative effect on ROE and ROA, they also conclude that all variables have positive effect on Earnings Per Share but expected income variability of firms have negative effect on EPS. Their study suggests that that firms mainly working on large scale should pay attention & should maintain proper head in their budget for the CSR so that the corresponding strategies may be implemented easily.

In the paper focused on determining the relationship between Corporate Social Responsibility and Profit in Romanian Companies carried out by Hategan et al., (2018), the authors concluded that the odds of doing CSR for the listed companies with profit are 8.31 times greater than the odds of the companies which registered losses; additionally, it could increase the value of corporate giving by 0.03% of turnover. Also, the odds of recording profit for the companies that had CSR resulted 14.48 times greater than the odds of companies that did not have SCR activities.

Finally, the investigation about the moderating role of financial ratios in Corporate Social Responsibility disclosure and firm value made by Naseem et al., (2019), confirms in its findings that a high level of CSR disclosure captures the attention of stakeholders and that CSR disclosure may be used to resolve agency issues, the results also suggest that SCR disclosure can improve the performance of organizations as manifested in the significant differences between the financial performances of those companies that disclose and do not disclose their CSR activities.

As can be seen in the literature review previously cited, there is a broad state of the art regarding the determination of the potential correlation between the performance of socially responsible activities in companies and their financial performance; it is important to emphasize that the methods used, the samples analyzed, as well as the results obtained, show great variability. That is why the importance of this subject is again confirmed, as well as the use of new methodologies to clarify the existence and, where appropriate, the nature of this relationship.
3. Methodology

As described in the introduction of this research paper, the main objective is to identify the possible relationship that obtaining the SRC distinctive has in the generation of economic value for companies; for this purpose, it has been decided to use the valuation approach of income capitalization of companies, specifically the determination of value through the Free Cash Flow or FCF.

The foregoing is because said method, within the income approach, is the one that best fits the characteristics of the phenomenon under study in the present work. This is because determining the value of a company by estimating its cash-free flows can be achieved by using data widely available from companies, in addition to offering an objective and accurate result on the value of the organization based on their income and expenses through a specific period of time.

In addition to the previously mentioned, the choice of this methodology has been made based on the literature review, this allows to maximize the theoretical and practical contribution of the present study work. The specific methodology that has been applied is described in detail in the steps presented below.

1. Calculation of the statistically representative sample.

The criterion that has been proposed is to analyze selected financial information of those companies that fulfill the following three requirements:

2. To have the SRC distinctive for the year 2017.

Based on these criteria, it was determined that only 32 companies comply with all of them, so it is considered that being such a small population, it is not pertinent to apply the corresponding formula for the determination of a representative sample. In this way, the total population will be used as the final sample to be analyzed, that is 32 companies.

2. Obtaining data for the analysis.

Using secondary information sources, an extensive search was carried out in order to find the financial data necessary to estimate the Free Cash Flow, which is shown in the two main Financial Statements, which are:

Within the Statement of Financial Position or Balance Sheet, the following values were obtained and / or estimated:

1. Fixed asset.
2. Working Capital.
3. Invested capital.

Within the Profit and Loss Statement or Income Statement, the following values were obtained and / or calculated:
1. Sales, costs and expenses.
2. Taxes, interest, amortization and depreciation.
3. Earnings before interest and after taxes.

Additionally, the Free Cash Flow methodology requires the use of the Capital Asset Valuation Model or CAPM to estimate the discount rate, so it was necessary to determine the data of:

1. Industry growth rate.
2. Market Beta risk.
3. Risk-free rate.

**3. Estimation of the value of the companies with the SRC distinctive for the year 2018 through the Free Cash Flow.**

Once the selected financial data required by the chosen methodology is available, the respective calculations are carried out to determine the value of the companies under study through the Free Cash Flow. This process basically consists of using the historical information of certain accounts of the financial statements belonging to four years prior to the focal period from which the value is to be determined; the average of said data is then estimated and projected five years ahead of said focal period. The last step is to determine the present value of the projected periods, including the corresponding residual value and with this, the company’s value is obtained for the established focal period.

It is important to mention that the main contribution of this work consists in the elaboration of this process for two focal points, that is, the determination of the value of the companies through the Free Cash Flow for two different points in time. The year 2017 is considered because it is the most recent year for which the value of these companies with the SRC distinctive can be estimated because the availability of the data; the second focal year is considered as a prior year of reference before companies obtained the SRC distinctive or within a few years of having obtained it. In this way, the present study reviewed historical information from four years before for both focal periods and then projected five years into the future, also for both points in time; all of the above was estimated for each of the 32 selected companies and with the final objective of comparing said values.

In order to show the methodology used, the calculation of the Free Cash Flow for one of the companies analyzed is detailed below. For reasons of efficiency, the estimates of the rest of the chosen companies will be omitted; reiterating that the estimates were the same for all of them.

The first step is to use as a basis the data corresponding to the Income Statement of previous years to determine the value of the earnings before interest and taxes (EBIT), for which it is required to previously estimate the value of the profits before interest,
taxes, depreciation and amortization (EBITDA), data to which depreciation and amortization is added, if any; as shown in Table 1.

**Table 1 Calculation of the Earnings Before Interests and Taxes (EBIT)**

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBITDA</td>
<td>$2,506,190.23</td>
<td>$2,144,674.04</td>
<td>$1,457,304.00</td>
<td>$2,025,508.13</td>
</tr>
<tr>
<td>EBIT</td>
<td>$1,313,916.29</td>
<td>$1,124,384.78</td>
<td>$764,018.41</td>
<td>$1,061,909.87</td>
</tr>
<tr>
<td>Depreciation and Amortization</td>
<td>$1,192,273.94</td>
<td>$1,020,289.25</td>
<td>$693,285.59</td>
<td>$963,598.27</td>
</tr>
</tbody>
</table>

**Source:** own elaboration based on research results

In the next step, it is proceeded to estimate the indicator of net operating profit after taxes (NOPAT), by calculating the difference between EBIT and taxes (Table 2); this information will be useful in later calculations.

Then, the analysis of the data corresponding to the Balance Sheets of the periods prior to the focal year is carried out to determine the total amount of capital invested by means of the sum of the investments made (Table 3).

**Table 2 Estimate of Net Operating Profit After Tax (NOPAT)**

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOPAT</td>
<td>$919,741.40</td>
<td>$787,069.35</td>
<td>$534,812.89</td>
<td>$743,336.91</td>
</tr>
<tr>
<td>EBIT</td>
<td>$1,313,916.29</td>
<td>$1,124,384.78</td>
<td>$764,018.41</td>
<td>$1,061,909.87</td>
</tr>
<tr>
<td>Taxes</td>
<td>$394,174.89</td>
<td>$337,315.43</td>
<td>$229,205.52</td>
<td>$318,572.96</td>
</tr>
</tbody>
</table>

**Source:** own elaboration based on research results

**Table 3 Calculation of the total invested capital**

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invested capital</td>
<td>$2,081,410.66</td>
<td>$1,781,168.63</td>
<td>$1,210,302.42</td>
<td>$1,682,200.41</td>
</tr>
<tr>
<td>Working capital</td>
<td>$2,180,004.47</td>
<td>$1,865,540.35</td>
<td>$1,267,632.92</td>
<td>$1,761,884.13</td>
</tr>
<tr>
<td>Current assets</td>
<td>$3,385,491.81</td>
<td>$2,897,136.98</td>
<td>$1,968,601.87</td>
<td>$2,736,161.49</td>
</tr>
<tr>
<td>Short term liabilities</td>
<td>$5,565,496.29</td>
<td>$4,762,677.33</td>
<td>$3,236,234.79</td>
<td>$4,498,045.62</td>
</tr>
<tr>
<td>Long term Assets</td>
<td>$4,261,415.14</td>
<td>$3,646,708.98</td>
<td>$2,477,935.34</td>
<td>$3,444,084.54</td>
</tr>
<tr>
<td>Other Assets</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

**Source:** own elaboration based on research results

By dividing the NOPAT previously calculated between the estimated invested capital, the indicator called return on invested capital (ROIC) is obtained, as shown in Table 4.

**Table 4 Estimate of Return on Invested Capital (ROIC)**

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROIC</td>
<td>44.2%</td>
<td>44.2%</td>
<td>44.2%</td>
<td>44.2%</td>
</tr>
<tr>
<td>NOPAT</td>
<td>$919,741.40</td>
<td>$787,069.35</td>
<td>$534,812.89</td>
<td>$743,336.91</td>
</tr>
<tr>
<td>Invested capital</td>
<td>$2,081,410.66</td>
<td>$1,781,168.63</td>
<td>$1,210,302.42</td>
<td>$1,682,200.41</td>
</tr>
</tbody>
</table>

**Source:** own elaboration based on research results
The indicator of return on equity (ROE) is then determined by means of the division of net income represented by NOPAT divided by the stockholders’ equity shown in the balance sheet (Table 5).

**Table 5 Calculation of Return on Equity (ROE)**

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE</td>
<td>10.6%</td>
<td>10.6%</td>
<td>10.6%</td>
<td>10.6%</td>
</tr>
<tr>
<td>Net profit</td>
<td>$919,741.40</td>
<td>$787,069.35</td>
<td>$534,812.89</td>
<td>$743,336.91</td>
</tr>
<tr>
<td>Capital</td>
<td>$8,707,142.59</td>
<td>$7,451,143.34</td>
<td>$5,063,044.93</td>
<td>$7,037,130.66</td>
</tr>
</tbody>
</table>

Source: own elaboration based on research results

Next, data on capital investments or changes in CAPEX and changes in working capital are used to estimate the total expenditures by estimating their algebraic sum (Table 6).

By means of the division between total estimated outflows and the calculated NOPAT, the corresponding reinvestment rate is obtained for the periods indicated in Table 7.

**Table 6 Estimate of the total expenses**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total expenses</td>
<td>-$207,957.20</td>
<td>-$395,400.13</td>
<td>$326,851.59</td>
</tr>
<tr>
<td>Changes in working capital</td>
<td>-$361,633.74</td>
<td>-$687,593.54</td>
<td>$568,388.89</td>
</tr>
<tr>
<td>Changes in CAPEX</td>
<td>$153,676.54</td>
<td>$292,193.41</td>
<td>-$241,537.30</td>
</tr>
</tbody>
</table>

Source: own elaboration based on research results

**Table 7 Calculation of the reinvestment rate**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinvestment rate</td>
<td>-23%</td>
<td>-50%</td>
<td>61%</td>
</tr>
<tr>
<td>Total expenses</td>
<td>-$207,957.20</td>
<td>-$395,400.13</td>
<td>$326,851.59</td>
</tr>
<tr>
<td>NOPAT</td>
<td>$919,741.40</td>
<td>$787,069.35</td>
<td>$534,812.89</td>
</tr>
</tbody>
</table>

Source: own elaboration based on research results

When performing the multiplication of the ROIC and the reinvestment rate previously estimated, the growth rate corresponding to the periods analyzed is obtained (Table 8).

**Table 8 Estimate of the growth rate**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth rate</td>
<td>-10.0%</td>
<td>-22.2%</td>
<td>27.0%</td>
</tr>
<tr>
<td>ROIC</td>
<td>44%</td>
<td>44%</td>
<td>44%</td>
</tr>
<tr>
<td>Reinvestment rate</td>
<td>-23%</td>
<td>-50%</td>
<td>61%</td>
</tr>
</tbody>
</table>

Source: own elaboration based on research results

Once all the indicators shown previously have been calculated, the next step is to determine the Free Cash Flow as shown in Equation 1.
FCF = EBIT − taxes + depreciation and amortization − capital investments − changes in working capital

This formula is used for each period and at the end the average flow is estimated for all the years analyzed (Table 9).

**Table 9 Conformation of the Free Cash Flow (FCF)**

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIT</td>
<td>$1,313,916</td>
<td>$1,124,385</td>
<td>$764,018</td>
<td>$1,061,910</td>
</tr>
<tr>
<td>Taxes</td>
<td>$394,175</td>
<td>$337,315</td>
<td>$229,206</td>
<td>$318,573</td>
</tr>
<tr>
<td>NOPAT</td>
<td>$919,741</td>
<td>$787,069</td>
<td>$534,813</td>
<td>$743,337</td>
</tr>
<tr>
<td>Depreciation and amortization</td>
<td>$1,192,274</td>
<td>$1,020,289</td>
<td>$693,286</td>
<td>$963,598</td>
</tr>
<tr>
<td>Capital investments</td>
<td>$153,677</td>
<td>$292,193</td>
<td>$241,537</td>
<td>$119,501</td>
</tr>
<tr>
<td>Changes in working capital</td>
<td>-$361,634</td>
<td>-$687,594</td>
<td>$568,389</td>
<td>-$442,447</td>
</tr>
<tr>
<td>Free Cash Flow</td>
<td>$2,319,973</td>
<td>$2,202,759</td>
<td>$901,247</td>
<td>$2,045,468</td>
</tr>
</tbody>
</table>

Average FCF 2009-2012 = $1,863,465

**Source:** own elaboration based on research results

Once the average Free Cash Flow has been estimated for the analyzed period, we proceed to calculate the average of the Gross Domestic Product or GDP for the same period of time in order to use that rate to make a five-year projection based on the average obtained. From the average of the free cash flows, said value increases for each period projected by the average GDP growth rate during the analyzed years, in this case 4.14%.

By having the value of five years projected into the future, we proceed to estimate the discount rate with which we will seek to obtain the Net Present Value or NPV of the company. The CAPM method was used to calculate this rate, as shown in Equation 2 and Table 10

\[
\text{CAPM} = (\text{Risk premium} \times \text{Market beta}) + \text{country risk} + \text{risk free rate. (2)}
\]

**Table 10 Calculation of CAPM (Capital Asset Pricing Model)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPM</td>
<td>5.60%</td>
</tr>
<tr>
<td>Risk free rate USA 10 year bonds</td>
<td>2.64%</td>
</tr>
<tr>
<td>Market yield (S&amp;P 500)</td>
<td>4.53%</td>
</tr>
<tr>
<td>Risk premium</td>
<td>1.88%</td>
</tr>
<tr>
<td>Beta</td>
<td>0.90</td>
</tr>
<tr>
<td>Country risk Mexico</td>
<td>1.26%</td>
</tr>
</tbody>
</table>

**Source:** own elaboration based on research results

It is important to note that the risk premium was estimated by means of the difference between the reference market yield (S&P 500) and the risk free rate (10-year US bonds) during the periods analyzed. These data are different for each of the two focal
points. Additionally, the beta of the industry corresponds to the one belonging to the analyzed business in each case, so this value was different for each company.

This step consists in determining the value of each company using all the estimated free cash flows, the determined discount rate and the residual or perpetuity value of the company analyzed (Table 11).

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>Residual value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proyected Free Cash Flow</td>
<td>$1,940,612</td>
<td>$2,020,954</td>
<td>$2,104,621</td>
<td>$2,191,752</td>
<td>$2,282,491</td>
<td>$163,084,291</td>
</tr>
</tbody>
</table>

**Company value** $172,022,832.75

Source: own elaboration based on research results

To calculate the residual value (Equation 3), the value of the last projected year, the average GDP growth rate during the period and the estimated CAPM are used (Equation 3).

\[
Residual \ value = \frac{($2,282,491 \times (1+4.14\%))}{5.6\% - 4.14\%} = 163,084,291 \ (3)
\]

The value of the company is obtained by discounting the net present value of the projected cash flows by means of the calculated CAPM rate and adding at the end the corresponding residual value or perpetuity (Equation 4).

\[
Value \ of \ the \ company = \frac{1,940,612}{(1+5.60\%)^4} + \frac{2,020,954}{(1+5.60\%)^5} + \frac{2,104,621}{(1+5.60\%)^6} + \frac{2,191,752}{(1+5.60\%)^7} + \frac{2,282,491}{(1+5.60\%)^8} + 163,084,291 = 172,022,832.75 \ (4)
\]

4. **Estimation of the value of the companies analyzed prior to the certification as SRC through the FCF.**

In this step of the proposed methodology, all the calculations described in the previous step are carried out again, this time taking into consideration the periods prior to the certification as a SRC of each specific company; which allows to obtain a second value of the companies through the free cash flow.

5. **Identification of the economic value created for a company by its certification as a SRC.**

The last part consists of determining the difference between both estimated values for each company, that is, between the value obtained in step 3 based on information after obtaining the distinctive and the value resulting from step 4 calculated from previous data to certification. In this way, it is possible to identify if the distinction as a SRC...
allowed companies to increase or decrease their economic value, both individually and in total.

4. Results presentation

Once the proposed methodology was applied and the value of the companies belonging to the sample was determined by estimating the free cash flow for the two focal points, one considered as prior to obtaining the distinctive as SRC and another subsequent to it, it is then proceeded to compare both values. It is important to mention that some of the data handled were expressed in millions of Mexican pesos and others in thousands of millions of Mexican pesos, however, taking into account that the data to analyze is the relative value with respect to the increase or decrease of its Flow Free of Cash for the periods analyzed, the results presented are expressed in percentage terms.

According to everything presented above, Table 12 shows the summary of the changes in the value of each one of the analyzed companies expressed in percentage, taking into account the values of free cash flows for the two determined focal points and attributing said change to obtaining the distinctive as a SRC.

As it is possible to observe in Table 12, the per cental changes in the value of the free cash flow of the companies were diverse, from companies that gained 51.60% to companies that lost 17.63%, attributable to obtaining the SRC distinctive due to the two focal points that were taken into account. Additionally, the average change of the 32 companies analyzed was 6.26%, representing a positive change or increase in the average value obtained from the distinction as SRC.

Table 12: Porcentual differences between the obtained values

<table>
<thead>
<tr>
<th>Changes in the value of each company analyzed expressed as a percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRUPO MODELO, S.A.B. DE C.V.</td>
</tr>
<tr>
<td>GRUPO GIGANTE, S.A.B. DE C.V.</td>
</tr>
<tr>
<td>GRUPO CARSO, S.A.B. DE C.V.</td>
</tr>
<tr>
<td>COMPÀNIA MINERA AUTLAN, S.A.B. DE C. V.</td>
</tr>
<tr>
<td>GRUPO INDUSTRIAL SALTILLO, S.A.B. DE C.V.</td>
</tr>
<tr>
<td>BANCO BILBAO VIZCAYA ARGENTARIA, S.A.</td>
</tr>
<tr>
<td>GRUPO PALACIO DE HIERRO, S.A.B. DE C.V.</td>
</tr>
<tr>
<td>GRUPO TMM, S.A.</td>
</tr>
<tr>
<td>GRUPO AEROPORTUARIO DEL SURESTE, S.A.B. DE C.V.</td>
</tr>
<tr>
<td>VITRO, S.A.B. DE C.V.</td>
</tr>
<tr>
<td>CORPORACION MOCTEZUMA, S.A.B. DE C.V.</td>
</tr>
<tr>
<td>GRUPO POSADAS, S.A.B. DE C.V.</td>
</tr>
<tr>
<td>CONSORCIO ARA, S.A.B. DE C.V.</td>
</tr>
<tr>
<td>GRUPO HERDEZ, S.A.B. DE C.V.</td>
</tr>
</tbody>
</table>
Table 13 Analysis of the normal distribution of the results obtained

<table>
<thead>
<tr>
<th>Position below the normal distribution curve.</th>
<th>Corresponding ideal percentage</th>
<th>Percentage of results obtained.</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 2 standard deviations.</td>
<td>4.2%</td>
<td>3.13%</td>
</tr>
<tr>
<td>Less than 2 standard deviations and more than 1.</td>
<td>27.2%</td>
<td>21.88%</td>
</tr>
<tr>
<td>Less than 1 standard deviation.</td>
<td>68.2%</td>
<td>75.00%</td>
</tr>
</tbody>
</table>

Source: own elaboration based on research results

As a measure of the validity of the results obtained, an analysis of the behavior of the percentage values obtained when comparing its distribution with the normal statistical distribution was made, the summary of results appears in Table 13.

The results obtained in percentage show a reasonable similarity with the ideal percentage proposed by the normal distribution, being a slightly higher concentration in the central part of the curve, that is, between -1 and +1 standard deviations. In this way, the results obtained have a solid statistical validity that allows us to conclude that obtaining the SRC distinctive granted by CEMEFI for companies listed on the Mexican Stock Exchange considered in the sample has effectively affected the value of said companies by increasing their value measured by free cash flow by an average of 6.26% after the distinction.
5. Conclusions and discussion of results

This research work has been carried out under the approach of recognizing the importance of the SRC as a new way of doing business, as a new paradigm of inclusion in decision-making for all those involved in the activities of companies; therefore, it is evident the need to measure its economic impact in such a way that its potential benefits are shown and thus more and more organizations have incentives to join this new trend.

When carrying out the review of the corresponding literature, it was determined that there are several studies that have focused on establishing the possible relationships between the economic benefits and the incorporation of activities that imply corporate social responsibility, the results found were diverse; concluding the need to continue carrying out research in this regard and using methodologies different from those commonly used.

Due to the nature of the companies, it was determined to use the income capitalization approach and specifically the free cash flow method to estimate the value prior to and after the distinction of the companies analyzed and thus conclude the possible impact on the economic value of organizations that have adopted corporate social responsibility practices. The above was applied to a sample of companies clearly identified as socially responsible companies with public and audited financial information listed on the Mexican Stock Exchange.

The result showed an average increase of 6.26% in the economic value of the companies studied, attributable to obtaining the distinction as SRC, verifying that the distribution of the individual percentages resembles in an important way the normal distribution. In this way it is concluded that the investment in obtaining the distinctive eventually becomes an increase in the economic value of the free cash flow. These results agree with those obtained in the investigations of Lopez et al., (2011), Gallardo-Vázquez & Sánchez-Hernández (2013), Lopes de Oliveira & Moneva 2013), Charlo et al., (2013), Valenzuela et al., (2015), Sarmah et al., (2015), Hernández & Sánchez, (2016), Fonseca & Lopes (2016), Hernández-Perlines (2017) and De la Torre & Macias (2017); which showed that the actions of corporate social responsibility are somehow reflected in benefits for the value of the companies.

Likewise, the results obtained contrast with the findings of the works of Fernández et al., (2009), Bonia-Reverter et al., (2013) and Aguilera et al., (2015) which did not find any type of relationship between corporate social responsibility and obtaining economic value for companies. Similarly, there is a discrepancy with the conclusions obtained in the studies carried out by Cabeza-García et al., (2010), De la Cruz (2012), Miralles et al., (2012) and Martínez et al., (2013) where they determined that there is a negative correlation between the investment in socially responsible activities and the generation of economic value for the companies that practice them.
More specifically, since there were both positive and negative changes in the Free Cash Flow of the companies analyzed, this finding agrees with the conclusion made by Mittal et al., (2008) which states that there is no evidence that CSR initiatives have a universal and positive impact on the financial results of the companies. The results of the current investigation also validate the conclusions of the paper made by Chieh-Tse Hou (2018) which states that the positive relationship between CSR practices and financial performance can help generate a better financial position in the long term by improving their relationship with the stakeholders; this is demonstrated by comparison of the values corresponding to the two focal points used. Also, the findings made in the present study, which were focused on financial indicators based on cash flow and net present value, complement the results obtained by papers like the one made by Khan et al., (2018) that used financial results based on earnings and returns, that also concluded that there is a positive and significant effect on them done by CSR activities.

The results obtained however, differ from the investigation made by Hатегan et al., (2018) that establishes a direct correlation of odds between the listed companies doing CSR and registered profits; which is not the same for the companies analyzed in the current paper, showing companies doing CSR activities with both positive and negative results. Similarly, the study made by Naseem et al., (2019) states that there is significant differences between the financial performance of companies that disclose their CSR activities compared to the ones that doesn’t, which is not the case for the results of the current investigation since all of the analyzed companies continually disclose all of their CSR information in order to keep their distinction as a SRC. In a related matter, the findings made by Hermawan & Mulyawan (2014) who that there is little correlation to company’s financial performance and the quality of CSR disclosure, which is clearly different from the results obtained here that establish the constant and public disclosure of CRS activities as the variable that represents the CRS itself.

Finally, the results obtained by the study made by Awais et al., (2015) showed divergence in the relationship between CSR and several financial indicators, which is similar to the results presented in here that show companies that both increased their value measured by the FCF as well as companies that decreased their value by the same parameter. This indicates that the impact of doing CSR activities may not be the same for different kinds of companies, operating in different sectors and during different periods in time.

The present work provides validity to the argument that efforts to improve the company’s relationship with the rest of the interest groups involved in its operation, has a positive effect on the economic value of it. In this way, the research carried out contributes to future research on the creation of economic and financial value from obtaining certifications in social responsibility for the companies that invest in said activities. Subsequent studies could focus on conducting an in-depth analysis of the quantitative and qualitative variables that allow this increase in economic value to be generated.
6. References


