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“CORPORATE SOCIAL RESPONSIBILITY AND FINANCIAL ANALYSIS OF THE BP DEEP-WATER HORIZON OIL SPILL”

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Introduction

There is a reason why sustainable development and implicitly corporate social responsibility are considered necessary nowadays. There are roughly 7 billion people living on Earth, nine times more than 250 years ago and these numbers only rise by 75 million yearly. Out of all these people roughly one billion people live in poverty, which is an excruciatingly high number. The gross world product is also 200 times higher than 250 years ago, which should account for some balance. All the people on Earth are the pillars of modern economy, where the poor strive to meet the basic needs, those above the poverty level to further prosper, while the high income earners gamble for technological advances to help their quest. Everyone strives to improve their social standing in an economy that rises by two to three percent points per year. One could think that all these statistics would account for balance among social classes. However, all these changes arise at the same rate with inequality in terms of income. There is a great discrepancy between the world's poor and the world's rich. This discrepancy gets higher and higher and it became unacceptable a long time ago. Not only the people, but the planet itself is threatened and modern problems include climate change, endangered species, soon depleted natural resources, the issue of drinkable water, and many more. This is problematic for the economy and in turn for people depending on all these factors. This is where sustainable development and social corporate responsibility step in: to stop all these problems. Corporations have the power and influence to change all these effects, to stop and reverse them by acting responsibly. CSR and sustainable development set some guidelines and parameters to help them in this quest.¹

During the last years the need for sustainable development and a better social engagement within big corporations has been more and more brought up for discussion. Not only the governments, but also societies all over the world demand a change in the way that companies conduct their daily business. This engagement has often been seen as hypocrisy, merely a method improve the public image in the marketplace and encourage sales. However, it slips

¹ Jeffrey D. Sachs, *The Age of Sustainable Development* (Columbia University Press, 2015), 2.

people's minds that such a strategy, if implemented correctly, would benefit all societies all over the world together with their environment on the long term.²

The present master thesis is written as a team effort, between the two University colleagues Madalina Voiculet and Radu Popescu. We decided to write the thesis together as we think that the two topics are closely intertwined – that of CSR and the BP horizon oil spill as a case study. The link is that the mistakes in the CSR area made the disaster possible, which led to the big swings in the stock price of the company disturbing the overall financials. This holistic approach helped provide us with a better overall picture of the tragic event.

Madalina, throughout her three years' experience in sales controlling, came often in contact with the topic of CSR and different ways of implementing it. Additionally, during her studies she presented in various courses about this topic. Most notably in the Seminar International Strategy and Organization taken in 2011, where the general course topic was CSR. The participants conducted presentations and group discussion on this topic offering each individual deep insight into all possible ramifications it may take, from whistleblowing to workplace discrimination. After conducting extensive literature research, completing the courses provided her with a broad understanding of the concept and a knowledgeable perspective. Around this time arose the interest for her to write on this subject. It is especially interesting as it is still a highly debated and modern topic to this day. Therefore, Madalina wrote the first two chapters of this thesis – 1 Sustainable development and 2 Corporate Social Responsibility.

Radu decided to zoom in on the Financial Analysis of the BP Deep-water Horizon Spill. Always being fascinated by numbers and the workings of the stock market, this topic appealed to him the most. Another deciding factor in writing about this topic was that, as an International Business Administration master student he took the specialization or KFK in Financial Markets. Therefore this topic suited him perfectly as it allowed him to use the theoretical knowledge in this field on a very concrete, practical case-study. Furthermore, during his studies, he worked as a Teaching Assistant in the Finance department, which again deepened his knowledge and raised his interest in Finance and Financial Markets more

² John Drexhage and Deborah Murphy, "Sustainable Development: From Brundtland to Rio 2012" (IISD, September 2010), 2–3.

specifically. Therefore, Radu wrote the last two chapters of this thesis – 3 Beyond Petroleum - BP and 4 Financial analysis of the BP Oil Spill.

The general structure of this paper is as follows: we will start with Sustainable Development in Chapter 1 (written by Madalina Voiculescu). We will try to define it, to go a bit deeper into its underlying dimensions and then research it later with the help of the BP case study, later in Chapter 3 (written by Radu Bogdan Popescu). We will then move on to CSR, its history, definition, examples, and basic principles in Chapter 2 (written by Madalina Voiculescu). Different CSR guidelines and indicators will be presented in order to be able to make a right estimation of the social engagement in BP's case. Afterwards we will present some indicators that define what it means to be seen as a sustainable company and then try to evaluate what were BP's results in this perspective in Chapter 4 (written by Radu Bogdan Popescu). The next step is to explain how the external factors can influence the company and we will form the link with sustainable development.

1 Relevant literature on sustainable development and CSR

The literature for both sustainable development and CSR is extensive, with a great amount of books available on the subject.

1.1 Sustainable Development

Sustainable Development found its origins in the eighteenth century, with very little literature being available at the time. However the most relevant work pertaining to this topic appeared after the year 1970.³ From the wide range of available works, in this paper were used mainly the books from Grunwald and Kopfmüller⁴, Hauff⁵, Rogall⁶ and various writing of the United Nations^{7,8}, among many other sources. For instance, various reports and writings from the “World Commission on Environment and Development” were used.⁹ Especially the work of Grunwald and Kopfmüller is important in this context, as they describe the history of sustainable development with great detail, addressing its predecessor, the German term “Nachhaltigkeit”, which was coined in the eighteenth century.¹⁰

³ Jeremy L. Caradonna, *Sustainability: A History* (Oxford University Press, 2014), 2.

⁴ Armin Grunwald and Jürgen Kopfmüller, *Nachhaltigkeit* (Campus Verlag, 2006), 14.

⁵ Michael von Hauff and Alexandro Kleine, *Nachhaltige Entwicklung: Grundlagen und Umsetzung* (Walter de Gruyter GmbH & Co KG, 2014), 10–11.

⁶ Holger Rogall, *Neue Umweltökonomie - ökologische Ökonomie: ökonomische und ethische Grundlagen der Nachhaltigkeit, Instrumente zu ihrer Durchsetzung* (Springer-Verlag, 2002), 43.

⁷ I. Annex, “Report of the United Nations Conference on Environment and Development,” in Rio de Janeiro (3–14 June 1992) A/CONF, vol. 151, 1992, 12.

⁸ “Brussels, 20.6.2011 COM(2011) 363 Final,” in Rio+20: Towards the Green Economy and Better Governance. COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS, n.d., 2, accessed July 14, 2015.

⁹ World Commission on Environment and Development, “Report of the World Commission on Environment and Development: Our Common Future,” 1987, 43.

¹⁰ Grunwald and Kopfmüller, *Nachhaltigkeit*, 14.

1.2 CSR

Corporate Social Sustainability has its roots in Sustainable Development, therefore literature concerning these two topics is various and somewhat intertwined. Book to this topic have been published since the early 70s and it is a popular topic to this day.¹¹ Many sources have been used in compiling the chapters regarding CSR within this paper. Notable sources are Milton Friedman's famous book "Capitalism and Freedom"¹² or available guidelines such as the GRI.¹³ One very important source is Archie B. Carroll's concept of the CSR pyramid.¹⁴ In these regard, there are also certain committees that provide information on the matter, for instance the "World Business Council on Sustainable Development".¹⁵ Other small articles were also used to depict a full picture, for instance Dahlsrud's summary of available CSR definitions.¹⁶

¹¹ Wayne Visser et al., *The A to Z of Corporate Social Responsibility: A Complete Reference Guide to Concepts, Codes and Organisations* (John Wiley & Sons, 2009), 122–123.

¹² Milton Friedman and Rose D. Friedman, *Capitalism and Freedom* (University of Chicago Press, 1962), 112.

¹³ "What Is GRI?," accessed April 5, 2015, <https://www.globalreporting.org/information/about-gri/what-is-gri/Pages/default.aspx>.

¹⁴ Archie B. Carroll, "The Pyramid of Corporate Social Responsibility: Towards the Moral Management of Organizational Stakeholders," *Business Horizons*, no. 34:4 (August 1991): 39.

¹⁵ Phil Watts et al., *WBCSD World Business Council for Sustainable Development Meeting Changing Expectations*, 3, accessed August 15, 2015, <http://www.wbcsd.org/pages/edocument/edocumentdetails.aspx?id=82>.

¹⁶ Alexander Dahlsrud, "How Corporate Social Responsibility Is Defined: An Analysis of 37 Definitions," *Corporate Social Responsibility and Environmental Management* 15, no. 1 (2008): 3ff.

2 Sustainable development

(written by Madalina Voiculet)

The topic of sustainable development has gained a lot of attention in the last years. The following chapter underlines its importance. We will describe how its origin and will also try to provide a good overview of the different dimensions it can take. In the end we will also create the link from sustainable development to CSR.

2.1 A brief history

Sustainability started as an ideology about 40 years ago and became a household word only by the 90s. The first related term, namely “Nachhaltigkeit”, was coined in connection with forestry as early as the eighteenth century. In this context, excessive deforestation led to a significant decrease in forests, which had repercussions on animals and people alike. This circumstance led to the general belief that such activities have to be undertaken responsibly and within range of available resources. Gradually, it became clear that the industry could not continue to function as it previously had, without any regard for nature’s limitations and possibilities. Measures had to be taken.¹⁷ The prevailing opinion is that the modern term sustainable development was first coined and made available for the general public by G. H. Brundtland in a document commissioned by the United Nations. The definition he used in this paper was the following:¹⁸

“Sustainable Development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”¹⁹

This definition tells us that the present generation should under no circumstances put in danger the livelihood of the future generations. They should keep in mind that they leave the

¹⁷ Grunwald and Kopfmüller, Nachhaltigkeit, 14.

¹⁸ Caradonna, Sustainability, 2 and 6.

¹⁹ World Commission on Environment and Development, “Report of the World Commission on Environment and Development: Our Common Future,” 43.

planet as a gift for the generations to come. They should take this responsibility very seriously and therefore implement a long run sustainable plan.²⁰

This concept was not always met with enthusiasm, as some writers thought it impossible for it to catch on with the mainstream public. The renowned environmental writer Rob McKibben went as far as calling it in his New York Times article a “buzzles buzzword” that will never gain popularity. In his opinion, a growth in both economy and responsibility toward the environment cannot go hand in hand. They are opposing forces. The reason for this is that growth, both economic and in population size, leads to destructive behaviors which cannot be overcome by upgrading to state-of-the art technologies.²¹

His opinion, however, proved to be wrong: sustainable development is a well-established notion nowadays in almost every corner of the world. This notion was coined in the 1992 conference from Rio de Janeiro – namely the “United Nations Conference on Environment and Development”. A wide media coverage coupled with willingness to cooperate from different states lead to a legitimacy of sustainable development – because during this summit the “Rio Declaration on Environment and Development” was signed.²² This declaration consists of 27 principles designed to aid sustainable development within each territory. To name a few of the principles and their content:²³

- The first principle states the people are responsible for conducting sustainable development;
- The second principle states that every state has the right to manage its resources as it deems fit, while respecting the policies concerning its environment and will not infringe on other states’ similar rights;
- The sixth principle states that countries which present the lowest level of development will be given priority to other countries;
- The seventh principles states that all states should cooperate with each other and divide their responsibilities to protect the environment;

²⁰ Ibid.

²¹ Bill McKibben, “Buzzless Buzzword,” The New York Times, April 10, 1996, sec. Opinion, <http://www.nytimes.com/1996/04/10/opinion/buzzless-buzzword.html>.

²² Grunwald and Kopfmüller, *Nachhaltigkeit*, 22–23.

²³ Annex, “Report of the United Nations Conference on Environment and Development.”

- The twelfth principle states that every country should pass laws to aid the environment.

Within this conference a total number of 178 nations committed to keeping the guidelines for sustainable development. Unfortunately, it is exactly what these 27 principles are: merely guidelines. There are not enforceable by law, but mere suggestions. For this reason other actions followed after the conference in Rio. In 1997 a conference on climate was held in Kyoto. It was established there that by 2002 every nation should establish its own strategy for implementing sustainable development. In 2002 another conference was held in Johannesburg where this decision was enforced. In 2012 a new conference took place in Rio where the subjective of a “green economy” was discussed, a concept on which a sustainable economy will be based. The UN Secretary General will decide by 2015 on goals for sustainable development and every nation has to implement them. However, these goals are, again, not legally binding whatsoever.²⁴ Within this context, green economy was defined as an economy with its central focus on nature, society, and their well-being rather than profitability.²⁵

2.2 Definition

Sustainable development does not have a general definition and the term is defined in many different ways. An attempt to compile a list of definitions resulted in 57 different wording for the same definition.²⁶ Another study shows that in only 14 years, beginning with 1980, there were more than 80 ways in which sustainable development was defined. It is to this day a term which doesn't have a fixed definition and may mean different things in different contexts, from an ecological approach to an ethical one. However, the gist of the term is generally agreed upon as will be seen from further definitions.²⁷

One of the earliest ones is given by James Coomer who said that: “The sustainable society is one that lives within the self-perpetuating limits of its environment. That society [...] is not a

²⁴ Hauff and Kleine, *Nachhaltige Entwicklung*, 10–11.

²⁵ “Brussels, 20.6.2011 COM(2011) 363 Final.,” 2.

²⁶ Susan Murcott, “Sustainable Development: A Meta Review of Definitions, Principles, Criteria, Indicators, Conceptual Frameworks,” in *Information Systems*. Presented at the Annual Conference of the American Association for the Advancement of Sciences, Seattle, WA, February, 1997, 13–18.

²⁷ M. H. Fulekar, Bhawana Pathak, and R. K. Kale, *Environment and Sustainable Development* (Springer Science & Business Media, 2013), 26–27.

“no growth” society. It is, rather, a society that recognizes the limits of growth [...] that looks for alternative ways of growing.”²⁸

One general accepted definition is based on the “triple bottom line” model and is given, among others, by Rogall. According to him “sustainable Development means besides achieving an international equilibrium between the present and future generations, also achieving high ecologic, economic and social standards, with regard to the environment’s capacity”.²⁹

This definition includes, in comparison to the one provided by Brundtland³⁰, the ecologic, economic, and social component. In the next subchapter we will discuss in more detail these three components. Additionally, Rogall talks in his definition about an international equilibrium. This means that it is not enough to create a local equilibrium that is within a single society, nation or country. These methods should be promoted globally both in developed and underdeveloped countries, in order to eliminate the existent differences. A homogenous strategy is needed more than single implemented strategies.³¹

2.3 The “triple bottom line” and its critique

As seen in the definition provided by Rogall the focus is not only on the ecologic aspect, but also on the economic and social factors. The starting point in this case is that sustainable development as an objective that can only be reached as long as the economic, the ecologic, and the social aspect of sustainability are equally met. These three dimensions cannot exist one without the other and are equally ranked. The term for these dimensions “triple bottom line” was first introduced by John Elkington in 1994 and refers to the responsibility of corporations to fulfill all the three needs: the ecological need, the social need, and the economic need.^{32,33}

²⁸ James C. Coomer, *Quest for a Sustainable Society: Pergamon Policy Studies on Business and Economics* (Elsevier, 2013), 1.

²⁹ Rogall, *Neue Umweltökonomie - ökologische Ökonomie*, 43.

³⁰ For this definition see page 8, footnote 19 of this paper

³¹ Rogall, *Neue Umweltökonomie - ökologische Ökonomie*, 43.

³² Ibid.

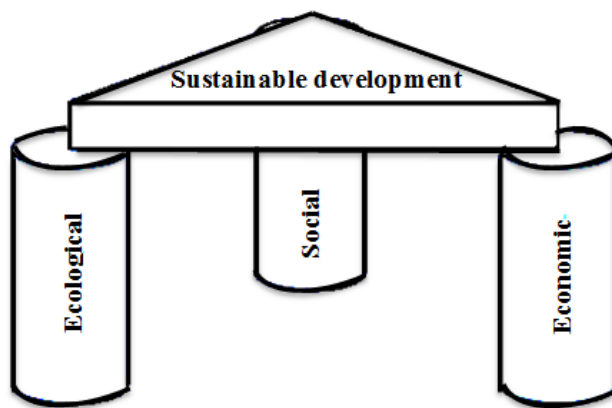
³³ Adrian Henriques and Julie Richardson, *The Triple Bottom Line: Does It All Add Up* (Earthscan, 2013), 18.

This theory is represented in Fig. 1.³⁴

It is important to note in this figure that the pillars support the roof equally. If one were to crumble, the whole system would collapse, and not held by the remaining two. This shows the way the concept is understood by most scholars. The concept of this figure does not mean that all three components need to be weighted equally all the time. One can be more important than the other depending on the context or company. They just need to be established from the beginning that they all need to be fulfilled, but priorities are allowed to shift as long as it does not endanger the whole construct. Within a corporation or society one or more of the pillars can become priorities. For instance the financial gain for a country can be the focus, as long as social and ecological dangers are not played down. So one cannot completely overshadow the other or others and the whole concept remains true.³⁵

In the following chapter we will describe this model, with emphasis on the economic dimension.

Figure 1 “Triple bottom line”



Source: own illustration based on Michael von Hauff and Alexandro Kleine, *Nachhaltige Entwicklung: Grundlagen und Umsetzung* (Walter de Gruyter GmbH & Co KG, 2014), 164.

³⁴ Hauff and Kleine, *Nachhaltige Entwicklung*, 164.

³⁵ Ibid.

2.3.1 Economic sustainability

The economic sustainability is defined as follows: “The economic system has the following components: private businesses, companies and the government. The main objective of this system is the production of goods and services”.³⁶

The meaning of this definition is quite clear: in order to define a system as productive for the society, the volume of goods and services needs to be quantified. As higher it gets, as higher the satisfaction that the system brings to the society. However, this wouldn't be an issue if the resources were not limited. Therefore, before taking any decisions, in order to achieve a sustainable growth, the future generations shouldn't be affected (managing natural resources in a way that future generations can still benefit from them) and also the need of implementing a guideline that the productivity of the system remains unchanged.

Related to economic sustainability is the term of economic capital. This is defined as the capital that is used in production, especially for human capital, knowledge or capital equipment. Examples of this kind of capital are patents or employees. This type of capital can be best quantified in monetary units out of the three existing types of capitals related to sustainable development.³⁷

2.3.2 Ecological sustainability

As the name suggests, the ecological dimension of sustainability is primarily about nature and the environment. The fact that we're using nature or the environment to procure resources is seriously endangering our atmosphere and especially the ecosystems. This also has a negative impact on our daily lives. The ecological sustainability is also strongly dependent on the economic one because you can't achieve an ecological sustainability if the production and amounts of consumer goods are not following a sustainable development strategy. The problems that need to be addressed are topics like climate change, ozone depletion, water pollution, excessive fishing, deforestation, and water shortage.³⁸

³⁶ Grunwald and Kopfmüller, *Nachhaltigkeit*, 47.

³⁷ Alexandro Kleine, *Operationalisierung einer Nachhaltigkeitsstrategie: Ökologie, Ökonomie und Soziales integrieren* (Springer-Verlag, 2009), 10.

³⁸ Hauff and Kleine, *Nachhaltige Entwicklung*, 17–18.

The ecological sustainability has as its primary objective the preservation of the ecological system, respectively of the ecological capital stock.³⁹

Related to the ecological aspect is the ecological capital. Ecologic capital is comprised out of the exiting renewable resources, land, and other ecological components such as solar energy or the climate. The terms natural capital and ecologic capital are most often used as synonyms, with differences between them being hard to define.⁴⁰

2.3.3 Social Sustainability

The social dimension affects all societies over the globe. The idea here is to create for everyone the same chances or circumstances for the foreseeable future. This dimension is linked to everything Earth can provide, but also to the idea that there should be a rightful distribution of the goods that are being produced from natural resources. A particular emphasis is put on trying to eliminate the difference between the rich developed countries and the poor emerging or underdeveloped ones. This element of the social sustainability is described as international fairness. Another purpose of this dimension is to create the same living conditions for the future generation. This is especially important as the living conditions nowadays are so irregularly distributed. This is the definition of “intergenerational fairness”. Social sustainability is not only about the equal distributions of natural resources, but also about having the same right for education or work for all societies and their respective classes.⁴¹

In correlation to social sustainability is social capital. Social capital is mainly defined as the infrastructure of certain properties. It also has an intangible part, namely the benefits all individuals gain from using said infrastructure. This is a highly subjective component, as it depends on a personal perception of each individual. That is why it is hard to attribute a value to it.⁴²

³⁹ Ibid.

⁴⁰ Kleine, Operationalisierung einer Nachhaltigkeitsstrategie, 10.

⁴¹ Jonathan M. Harris, “Sustainability and Sustainable Development,” Internet Encyclopedia of Ecological Economics, 2003, 1–6.

⁴² Kleine, Operationalisierung einer Nachhaltigkeitsstrategie, 11.

2.3.4 Critique regarding the “triple bottom line” model

Like every theory, the “triple bottom line” model has gathered a lot of critique. In today’s literature there are still representatives of the theory that the ecologic aspect is central for sustainable development. The other two components are not ignored completely within this theory. Instead, the general belief is that environmental protection should be designed in an economic and social way. One problem with this model is that the three components thereof could collude or be in competition with each other. For instance, a company could face the problem of expanding its production volume and therefore earning, but to the disadvantage of its natural surroundings. Or a company would increase its earning if it would shut down some part of it or move overseas, but all to the detriment of the workers which lose their jobs, therefore a social loss. In such situations it is vital to analyze how trade-offs could be made. For this reason some still voice the opinion that the three components cannot be equally ranked. According to them, there cannot be one solution that satisfies all aspects at the same time, in the same quantity, therefore one aspect always will be favored above all. The other will have to be neglected, at least to some degree. This favored aspect is the ecological one. Why ecology? Because nature is the core of life and existence for our generation and all future ones, therefore the most important aspect to consider. Also, any bad decision has a far worse outcome on an ecological issue than on a social or economic one. For instance, the climate change is something that cannot be overcome. Whereas a hit to the reputation or a financial loss are both repairable.⁴³

Nevertheless, with all its critique points, the “triple bottom line” is the most accepted definition of sustainable development. So much so, that the three aspects are named in the wording of the 2007 Lisbon Treaty of the European Union.⁴⁴ The main reason why this model is preferred is that sustainable development has in all its definitions the interest of future generations at its core. Future generations need an economic and social aspect for survival as well, not just the natural habitat.⁴⁵ Some authors, on the other hand, expand the “triple bottom line” concept to having four or even more components. One other aspect that was included was that of ethics. The explanation was that we, as a society, shouldn’t leave all

⁴³ Hauff and Kleine, *Nachhaltige Entwicklung*, 12 and 162.

⁴⁴ Lisbon Treaty, “Treaty of Lisbon Amending the Treaty on European Union and the Treaty Establishing the European Community,” 2007, Article 10 A 2d.

⁴⁵ Hauff and Kleine, *Nachhaltige Entwicklung*, 9.

responsibilities and problems for future generations to deal with. There should always be a clean conscious in all steps we take as a race. Another added dimension was that of the institution, as the means of enforcing sustainability through laws and regulations. Therefore all social, economic, ecologic, and eventually ethical decisions we made need to be enforceable by law or not against any existing regulations. For instance, taking steps against child labor is socially and ethically consistent, it could also be implemented in an economic way, but the necessary steps need to be legal. Destroying factories built upon child labor may fulfill the other components to some degree, but would never be legal, and therefore unenforceable.⁴⁶

2.4 Indicators of sustainability in large corporations

From the Rio de Janeiro Earth Summit resulted a document called Agenda 21. This writing contains guidelines and instructions for 178 governments regarding sustainable development.⁴⁷ Paragraph 40.4 explicitly contains the instruction that indicators need to be established and that usual indicators such as the GDP are insufficient for the topic at hand. It was stated that such indicators are necessary as an aid in making pressing decisions and ensure a system that regulates itself.⁴⁸ There are many organizations and independent work groups that have publicized indicators. Some of them will be discussed in the following.

At a micro level we can find a series of indicators that measure sustainability. The “Global Reporting Initiative” creates guidelines for how to build reports about sustainable development. These contain different indicators for big companies, structured on the three dimensions described in the “triple bottom line” approach. The guidelines serve as basis for CSR and the creation of sustainability reports. For example, an indicator of the economic dimension could be the number of local suppliers with whom a large company does business. The higher the number the better it is for the sustainable development process and for the CSR execution within a company. Why? The larger the numbers of local suppliers the shorter

⁴⁶ Fulekar, Pathak, and Kale, *Environment and Sustainable Development*, 27.

⁴⁷ “Agenda 21 ∴ Sustainable Development Knowledge Platform,” accessed August 15, 2015, <https://sustainabledevelopment.un.org/milestones/unced/agenda21>.

⁴⁸ United Nations Conference on Environment & Development and Rio de Janeiro, Brazil, 3 to 14 June 1992, “Agenda 21 ∴ Sustainable Development Knowledge Platform,” n.d., 40.4, accessed August 15, 2015.

the distances the supplier companies need to make and thus the lower the CO₂ emissions. Another positive effect is that the local economy is being supported.⁴⁹

At a macro level there are several different methods in which we can measure this concept. The “United Nations on Sustainable Development” periodically releases a list of indicators that should act as guidelines for the member states. The European Commission also releases a yearly report, in which they measure the sustainable development within the European Union. A usual report of sustainability contains indicators like: education level, measurement of emissions, biodiversity, air quality, intensity of goods transportation, and productivity of natural resources.⁵⁰

2.4.1 The “Global Reporting Initiative”

This is an organization with a non-profit profile and it builds a framework used by organizations around the world in implementing their sustainable development strategies. The framework is at its fourth version to date and is developed by a working group of thousands of members from various interest groups.⁵¹

Within its manual that is 269 pages long, there are specific guidelines for businesses and enterprises. Moreover, it has a different approach about what the economical component means. The manual specifies that the economic part of sustainability has no link to the financial outcome of the corporation. Rather, it reflects how stakeholders are impacted economically by the corporation. Therefore the view shifts from the corporation’s financial interest to those of its stakeholders. Sometimes these two can overlap, but most often than not there are different scenarios.⁵²

Within the manual it is enlisted which components need to be considered for each of the three parts of sustainable development. The economic side has only four components: performance in the economic sector, market presence, the economic impact they had indirectly, and practices for procurement. The environmental side has twelve components, with energy,

⁴⁹ GRI, Sustainability Reporting Guidelines, Version 3.1, n.d., 3–4.

⁵⁰ “Sustainable Development Goals ∴ Sustainable Development Knowledge Platform,” accessed September 24, 2015, <https://sustainabledevelopment.un.org/?menu=1300>.

⁵¹ “What Is GRI?”

⁵² GRI, G4 Sustainability Reporting Guidelines - Implementation Manual, n.d., 62.

water, and transport among others. The most complex one is the social aspect. It has four main categories each with its own subcategories. The main ones are human rights, strategies related to decent work, society, and the responsibility of products. Each of these has from 5 to 10 subcategories. As an example of subcategories we have child labor for the first, employment for the second, compliance for the third, and customer privacy for the last category.⁵³

The manual defines the economic aspect as the influence the corporation has on its stakeholders, but also on the economy as a whole. It also suggests that in compiling the economic aspect an enterprise or corporation should draw on its financial statements and it is explicitly stated that on the audited ones and/or those compiled in accordance with IFRS. This detail shows that the legality of the matter is actively considered. The environmental aspect is defined in terms of how the corporation impacts its surrounding system, natural or otherwise. This impact has two dimensions: impacts as an input, such as the usage of water; or impact as an output, such as resulting emissions. Understandably, it also covers every other aspect that touches the topic of environment, such as laws and regulations. The social aspect considers how the implicated social system is transformed due to the interaction with the company. This aspect is, out of the three, mostly based on already existing international guidelines. All these indicators with their subcategories are thoroughly explained within the manual. Some are explained in linkage with other existing guidelines for sustainable development.⁵⁴

KPMG conducted a survey 2013 about topics related to CSR. Within this survey the GRI guidelines were mentioned as the favorite among companies. When asking the top 100 companies from 41 countries, 78% mentioned using these guidelines. In the top 250 global companies this number is even higher, at 82%.⁵⁵

⁵³ Ibid.

⁵⁴ Ibid.

⁵⁵ KPMG, "The KPMG Survey of Corporate Responsibility Reporting 2013," 12, accessed August 20, 2015, <https://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/corporate-responsibility/Documents/kpmg-survey-of-corporate-responsibility-reporting-2013.pdf>.

2.4.2 The United Nations “Commission on Sustainable Development”

The “Commission on Sustainable Development” (short CSD) was a commission appointed by the UN. Their general responsibility was to monitor the progress of the Rio Declaration from 1992. It started working on international indicators for sustainable development firstly in the year 1995.⁵⁶ Their last meeting took place in 2013, as they were replaced by the “High-level Political Forum on Sustainable Development” from then on.⁵⁷

The CSD published a manual about their established indicators on sustainable development and how to apply them. In 2007 the third and last edition came out. It contains a set of 50 basic indicators and for those who wish a more complex implementation of sustainable development an additional set of 46. The basic set was chosen based on common grounds for all countries regarding sustainable development, they contain important details, and data for their calculation is easily attainable. There are 14 general themes for these indicators, for instance land, fresh water or education. Each of these themes has one or more subcategories; each subcategory has one or more indicators and one or more additional indicators. For instance there is the theme of “natural hazards” with its two subthemes “vulnerability to natural hazards” and “disaster preparedness and response”. For the first subtheme the indicator is a basic one, namely “percentage of population living in hazard prone areas”. For the second one there the indicator is an additional one, namely “human and economic loss due to natural disasters”. Every theme, subcategory and indicator is thoroughly explained within the manual.⁵⁸

The United Nations have created another list containing indicators, namely the Millennium Development Goals (short MDG) indicators, which consists of 48 indicators based on 8 goals. They are similar to the CSD indicators in the respect that they are policy-driven and the result of collaboration between international agencies. Parts of these goals are to achieve a global partnership and ensure the sustainability of the environment. Even with all these similarities, there is a substantial difference between the CSD indicators and those of the MDG: their purpose. CDS are conceived as an example or reference, while the MDG are used as

⁵⁶ “About the CSD ∴ Sustainable Development Knowledge Platform,” accessed June 12, 2015, <https://sustainabledevelopment.un.org/intergovernmental/csd/about>.

⁵⁷ “High-Level Political Forum 2014 (under the Auspices of ECOSOC) ∴ Sustainable Development Knowledge Platform,” accessed June 12, 2015, <https://sustainabledevelopment.un.org/secondhlpf.html>.

⁵⁸ Indicators of Sustainable Development: Guidelines and Methodologies, 3rd Edition ∴ Sustainable Development Knowledge Platform, n.d., 9ff, accessed August 13, 2015.

measuring tools for meeting the aforementioned goals. The CDS are also specific to sustainable development issues, while MDG indicators cover a broader range of problems, such as poverty and gender inequality.⁵⁹

2.5 Sustainability as basis for CSR

The “World Business Council for Sustainable Development” (WBCSD) is an organization formed by companies with an accentuated sense of social responsibility regarding business making. Through their council (which is comprised of their member companies) and CEO, they strive to find generally applicable solutions for their member companies and help them thrive.⁶⁰ Prominent members are Deloitte, Philips, Heineken or Apple.⁶¹

This organization suggests that CSR is an important field for many companies, mainly because of the desire to achieve sustainable development both for society and company, while shielding nature from all possible negative outcomes. They also mention the complexity of the issue, as each country has its own laws and regulations. Finding a common ground among so many laws and cultural differences is therefore at least tricky. They also consider that the responsibilities of the corporations go on beyond doing the right thing now, but also into the future. They need to implement policies which will ensure an enduring system of ecologically efficient products.⁶²

Globalization is now forcing multinationals corporations to confront new challenges. The competition is internationally controlled and the production of goods is no longer bounded to one single location. These companies are often receiving the necessary resources from different countries around the world, which leads to long transport distances. This results in seriously harming the environment and in worsening the working conditions in the countries of the suppliers. Furthermore, through uncontrolled exploitation, the natural resources worldwide are being threatened and the world economy could be put in a situation where it

⁵⁹ Ibid.

⁶⁰ “WBCSD - World Business Council for Sustainable Development,” accessed August 15, 2015, <http://www.wbcsd.org/about/organization.aspx>.

⁶¹ Ibid.

⁶² Watts et al., *WBCSD World Business Council for Sustainable Development Meeting Changing Expectations*, 8.

can no longer stop this process from happening. These problems are not only affecting the environment but often also the image of the corporations. This occurs usually when a company is using scarce resources or is allowing deplorable work conditions for its workers. The image damage usually goes hand in hand with decreasing sales and that is why it is a very big hit for a large corporation. That is why many companies are now looking to be more responsible in their actions (CSR) and to promote a sustainable development. Over the long runs this translates itself in considerable benefits for the companies that adopt this kind of actions. They gain a better image and they can profit longer from natural resources. The CSR policies within companies are a very important part of a solid, global sustainable development plan.⁶³

To get to an increase in sustainability in the frame of globalization, the OECD came up with four key elements:⁶⁴

- Wider use of markets (the cost of opportunity is very important worldwide, as it is very important to use the resources in an efficient manner);⁶⁵
- Strengthen decision-making processes (meaning more transparency and efficiency in policy design and also in their implementation);⁶⁶
- Harness science and technology (the development of technology has many benefits, including better living standards and improved productivity; therefore the government should be more involved in research activities);⁶⁷
- Manage links to the global economy (meaning international trade and investment flows and the development of emerging economies; the trade needs to respect the laws, the environment and regulations of each country).⁶⁸

Howard Bowen, known also as one of the first who talked about CSR, makes the link between sustainability and social responsibility, referring to the last one verbatim as “the obligations of

⁶³ Kash Rangan et al., “Why Every Company Needs a CSR Strategy and How to Build It,” 2012, 7–8.

⁶⁴ Joke Waller-Hunter and Tom Jones, “Globalisation and Sustainable Development,” *International Review for Environmental Strategies* 3, no. 1 (June 2002): 53–54.

⁶⁵ Ibid.

⁶⁶ Ibid.

⁶⁷ Ibid.

⁶⁸ Ibid.

businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society”.⁶⁹

CSR is based on sustainable development, as it was first mentioned by the Brundtland Commission and later accepted by the Rio Earth Summit in 1992. Before CSR activities becoming mandatory for companies, sustainable development activities were based on philanthropy or compliance by law.⁷⁰

⁶⁹ Howard R. Bowen, *Social Responsibilities of the Businessman* (University of Iowa Press, 2013), 6.

⁷⁰ Dwight W. Justice, “Corporate Social Responsibility: Challenges and Opportunities for Trade Unionists,” 2002, 2.

3 Corporate Social Responsibility

(written by Madalina Voiculet)

Corporate Social Responsibility is a modern concept very common nowadays within a corporation. It has its roots in the notion of sustainable development, meaning that corporations and companies have other responsibilities besides the fiduciary ones. Taking care of employees or environmental concerns are only a few of those. There can also be moral ones or the general idea of giving something back to the society. Understandably, these rules apply to all types and sizes of organizations, but large companies tend to draw more attention as they are more in the public eye. They also have more power and influence in the world for a single entity, compared to a small firm. Reputation, monetary power, and a global presence make it easier for them to contribute to the goals of CSR.⁷¹ There is not one generally accepted definition for CSR to date. There are however various ones which differ in detail and meaning. The next chapter contains some of the most notorious definitions, critique, benefits, as well as other aspects and variables concerning CSR.

3.1 Definitions and Interpretations of CSR

Trying to explain the CSR concept through one single accepted definition is impossible, because there isn't one. To date there is not one generally accepted definition to take as a reference. Some definitions are broader and some are narrow. The benefit of this is that corporations can choose how to define CSR according to their own liking or chose the definition that suits their interests best. They could even chose to define CSR themselves within the allowed scope. The downside is that applying a term that cannot even be defined sound more like a challenge than it should be.⁷² Even in the survey conducted by KPMG in 2013 regarding CSR related topics, the term CSR was not anonymously used within the 4,000 surveyed companies: 43% used the term “sustainability”, 25% used “CSR”, 14% used “corporate responsibility”, and 6% used “sustainable development” and other terms. Small

⁷¹ Visser et al., *The A to Z of Corporate Social Responsibility*, 122–123.

⁷² Dahlsrud, “How Corporate Social Responsibility Is Defined,” 3ff.

fractions used other synonyms such as “corporate citizenship”.⁷³ Other identified terms are: “business responsibility”, “conscious capitalism”, “strategic philanthropy”, “corporate community engagement”, and “corporate social action”, among others.⁷⁴

The first attempt to define CSR was as early as 1960, when Keith Davis implied that CSR takes place when a company makes decisions that are at least in part not directly related to the company’s benefits. CSR is something that does not directly contribute to a company’s value. There are different views in literature of what CSR might mean. These could be clustered on authors and are fairly progressive in time. Friedman viewed CSR as a sham at worst or as corporations only having the responsibility to make profits at best.⁷⁵ Others saw this responsibility as going beyond making a considerable profit for them, but for society as well. Therefore, businesses should see that society grows along with them.⁷⁶ Others have the opinion that it should go beyond the economic and legal responsibility.⁷⁷ Other two authors, Eells and Walton argued that CSR has more to do with ethical aspects that link a company and a society together.⁷⁸ The definitions and perspective go on and on.⁷⁹

A study conducted on 37 definitions tried to find common ground between all these existing definitions. This study strived to find aspects that are always mentioned in order to find a general, even if in broad terms, definition. One important finding was that CSR has a synonym term: corporate citizenship. The analyzed definitions within this study originated from 1980 through 2003 and included primarily in European and American publications.⁷⁹ This study was conducted on the three dimensions CSR can take: an environmental dimension, a social dimension, and an economic dimension; additionally the stakeholder-related and voluntariness aspect. The result was that the most unlikely to be included in a definition was the environmental aspect. One explanation for this is provided by the authors, namely that the environmental aspect was not considered within the very first definitions and may have been omitted from then on. However, at a frequency value of 59%, it was still

⁷³ KPMG, “The KPMG Survey of Corporate Responsibility Reporting 2013,” 6.

⁷⁴ David Chandler and William B. Werther Jr, *Strategic Corporate Social Responsibility: Stakeholders, Globalization, and Sustainable Value Creation* (SAGE Publications, 2013), 1–2.

⁷⁵ Friedman and Friedman, *Capitalism and Freedom*, 112.

⁷⁶ Keith Davis and Robert L. Blomstrom, *Business and Society: Environment and Responsibility* (McGraw-Hill Book Company, 1975), 39.

⁷⁷ Joseph William McGuire, *Business and Society* (New York, McGraw-Hill, 1963), 144.

⁷⁸ Carroll, “The Pyramid of Corporate Social Responsibility: Towards the Moral Management of Organizational Stakeholders,” 39.

⁷⁹ Dahlsrud, “How Corporate Social Responsibility Is Defined,” 3ff.

included in more than half of the definitions. The other aspects were considered within definitions with frequencies of over 80%. Another interesting result was that from 37 only 8 included all five dimensions, while 20 included four of them, but in a different mix. Minimum three are considered within a definition in 97% of the cases, which is a better outcome than expected - meaning that the CSR definition is not as abstract as it would have appeared before. It stays more or less within the same boundaries.⁸⁰

Another interesting fact that resulted from this study was that CSR was never discussed in the business context, but as a general occurrence. The reason is that it is most often unclear as to what a responsibility of a company is and the authors did not want to confuse the interviewee even more. That is why this general uncertainty might be an advantage: because each company can define for itself what its responsibilities are.⁸¹

To give some examples of definitions, here is one according to the “World Business Council on Sustainable Development”, which stated that “Corporate social responsibility is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large.”⁸²

Another definition is given by the Commission of the European Communities and summed up perfectly by Dahlsrud in his study about CSR definitions. He sums up what this commission defines in the following manner: “Corporate social responsibility is about companies having responsibilities and taking actions beyond their legal obligations and economic/business aims. These wider responsibilities cover a range of areas, but are frequently summed up as social and environmental – where social means society broadly defined, rather than simply social policy issues. This can be summed up as the “triple bottom line” approach.” Noteworthy is that the link to sustainable development is clear and unmistakably made.⁸³

Interesting is the fact that the definition progressed from considering economic and legal perspectives, to incorporating philanthropic and ethical components. In its most basic form of

⁸⁰ Ibid.

⁸¹ Ibid.

⁸² Watts et al., WBCSD World Business Council for Sustainable Development Meeting Changing Expectations, 3.

⁸³ Dahlsrud, “How Corporate Social Responsibility Is Defined,” 3ff.

an early definition of CSR, similar to that of Friedman, a company only had to fulfil its legal and economic requirements. Then the two other perspectives came along. With this resulted the pyramid of CSR as proposed by Carroll. This is one well-know and generally accepted definition and its components can be explained as follows:^{84,85}

- *The economic component*

The economic component is the central one, as any business or corporations exists first and foremost for economic reasons. That is their primary scope: to provide for the society in forms of the goods they produce or the services they offer. Naturally, a fiduciary payback is the best incentive for every company. The economic aspect means the responsibility to be not only profitable, but consistently profitable, meaning keeping the cost as low as possible while increasing the profit to a maximum. However, another economical approach would be targeting competitive advantage and maintaining that position. Competitive advantage can be achieved through social investments, a mix between human, organizational and physical resources and also through cause related marketing.⁸⁶ Cause-related marketing is explained as an a way of linking a product or service to a certain cause, therefore generating sales by creating a relationship between product and customer. These concepts focus on creating shareholder and social value, through the collaboration of the company with a non-profit organization.⁸⁷ The advantage of being involved in this kind of activity is explained very well by Mc Williams and Siegel which say that linking a product to a cause makes a company look more trust-worthy.⁸⁸

- *The legal component*

This component represents the responsibility of the company to obey the law and other regulations. This encompasses legal obligations of the firm as well as each of its employees as an individual. The end product of a company, a good or a service, need to comply with state and national relations at least in a minimal way. This can be especially difficult for

⁸⁴ Friedman and Friedman, *Capitalism and Freedom*, 112.

⁸⁵ Carroll, "The Pyramid of Corporate Social Responsibility: Towards the Moral Management of Organizational Stakeholders," 40.

⁸⁶ Ibid.

⁸⁷ Sue Adkins, *Cause Related Marketing* (Routledge, 2007), 11.

⁸⁸ Abigail McWilliams and Donald Siegel, "Corporate Social Responsibility: A Theory of the Firm Perspective," *The Academy of Management Review* 26, no. 1 (January 1, 2001): 120.

multinational corporations, as many countries have various and sometimes conflicting regulations. This is a matter of detail. The important point of this component is that all activities are not just ethically, but also legally sound.⁸⁹

- *The ethic component*

Through this component one understands the responsibility to obey the social norms and not to harm anybody in the society. Under this pillar enters the stakeholder management, meaning respecting the interest of the suppliers, customers, employees, stockholders, and local community. Moreover, it regards those rules of fairness and good behavior that are not covered by law, but implemented by member of a society. Regarding this aspect is again the problem of multiculturalism, as different cultures have different rules of etiquette. Local businesses do not have this problem, only multinational or international companies which want to implement a uniform rule of law within the company.⁹⁰

In some respects, ethically right choices may carry more weight than codified laws. The explanation for this is that ethical aspects often precede laws and regulation or may even be the trigger for a change in legislature. An example for this is the current topic of environmentalism which started as a trend, but by now starts to creep into national codices. The downside is that ethical standards are harder to comply with than legislations. For one, they are hard to define, because of their changing nature. Another reason is that sometimes it is hard to determine what is ethical or what is not. It is important to take into account this exact changing nature and special circumstance of a society. Another problem could be that ethical rules are more strict than the existing law, especially in the very religious parts of the world. The terms moral, social mores, integrity, and ethical norms are all used in this respect interchangeably. Concluding can be said that ethics and the legal aspect are intertwined and that the ethical part of business has prospered within the last few years, a little short of being called trendy.⁹¹

⁸⁹ Carroll, "The Pyramid of Corporate Social Responsibility: Towards the Moral Management of Organizational Stakeholders," 40.

⁹⁰ Ibid. 41-42.

⁹¹ Carroll, "The Pyramid of Corporate Social Responsibility: Towards the Moral Management of Organizational Stakeholders," 41-42.

- *The philanthropic component*

Finally, this is the responsibility to bring something good to the society through your activity. As the Canadian Centre for Philanthropy emphasises that CSR role is to ensure that the company “minimizes the negative impacts of its operations on society while maximizing its positive impacts”.⁹²

In this context the terms goodwill, charity, but also arts are used. It is expected of businesses that they support local charities, art programs, and educational institutions, beyond their legal and ethical obligation. Sometimes it may be not enough if a company acts legally and ethically in its choices, a step beyond is desired. This step is the philanthropic component, to give something back. These contributions can be made in monetary form or as time assigned to those causes. Not only acts on a large scale are expected. Also, employees should partake in voluntary activities in order to improve their communities. In this context, ethics and philanthropy could be close related. The distinguishing factor is that normally members of society will not frown upon a company or its members if a philanthropic act is not undertaken, but will certainly do so if an ethical act is not. This distinction is very important, because some executives might feel that throwing money at some charitable causes absolve them from being decent citizens. This would be an error, as the pyramid is modeled such that philanthropy is the least important link in the whole construct.⁹³

This concept of the CSR pyramid is illustrated in Figure 2.⁹⁴

Carroll has explicitly stated that these dimensions or component do not need to be mutually exclusive, which means that they can all hold at the same time without endangering or invalidating the other(s). They are neither required to be fulfilled all at the same time or in the same quantity. They can comprise the pyramid in every combination of components and quantities imaginable. The order of the pyramid is shown as in the illustration, with the economy being the pillar on which the law is build, the law is the pillar for ethics and ethics is the pillar for philanthropy. Naturally, a company is expected to be first and foremost profitable. Then it should do so in a legal way. Among all its legal alternatives, it should choose that one which is also ethically acceptable. The last building brick is the philanthropy:

⁹² Dahlsrud, “How Corporate Social Responsibility Is Defined,” 10.

⁹³ Carroll, “The Pyramid of Corporate Social Responsibility: Towards the Moral Management of Organizational Stakeholders,” 40.

⁹⁴ Ibid.

is all three components hold, the company could give something back to society. However, this does not have to be the general norm. Companies can decide for themselves on the preferred order and ranking of the components; but usually the economy is the pillar that holds them all together, as making a profit is the central scope in most enterprises.⁹⁵

Figure 2 CSR pyramid



Source: own illustration based on Archie B. Carroll, “The Pyramid of Corporate Social Responsibility: Towards the Moral Management of Organizational Stakeholders,” *Business Horizons*, no. 34:4 (August 1991): 40.

Therefore, the CSR concept is very well presented through the “triple bottom line” concept: concern for people, environment, and fiduciary gains. Companies have the obligation to understand and fulfill stakeholder’s expectations. Also, companies need to assure that through their activity the term of “sustainable durability” is respected. However, for a company to exist it needs to be profitable. CSR, as explained further through this paper, has a significant influence on a company and not just in financial matters.⁹⁶

⁹⁵ Archie B. Carroll, “A Three-Dimensional Conceptual Model of Corporate Performance,” *Academy of Management Review* 4, no. 4 (1979): 499.

⁹⁶ Wayne Norman and Chris MacDonald, “Getting to the Bottom of ‘triple Bottom Line,’” *Business Ethics Quarterly* 14, no. 02 (2004): 10.

Excursion: type of management

Seeing as ethics has been a popular topic in the last couple of years, this component will be singled out to show how it can influence the type of management a company has. First, the term stakeholder needs to be defined. A stakeholder is anyone who has any kind of stake within a company. It can be a legal, moral or based on any other type of linkage. It is a person that has a personal interest in a firm. The usual stakeholders are shareholders, the clients, employees, social community, suppliers, and unions. Of course, there can be others. Management then decides which stakeholders have priority and based on what grounds. The problematic part is that not every group can be satisfied, as they might have different requirements. Management and executives must see how to fulfill their own objectives for the firm while satisfying those of their top stakeholders. In relations to their ethical responsibilities to these stakeholders there are three types of management: moral, amoral, and immoral. Moral and ethical are, in this context, synonyms.⁹⁷

1. Immoral Management

Immoral management is that type of management that is actively against any type of ethical or moral behavior. They know their responsibilities, but actively choose to disregard them. The only thing on their list of priorities is how to make more money for the organization and nothing else. Not only that they disregard principles, but see them as a barrier in their way to profit. Shareholders are treated in this context with minimal consideration: management bonuses are important, not their revenues. Employees are regarded as merely means to an end, like factory equipment. Exploitation and disregard of personal satisfaction are often the rule. They don't invest in long term prospect. Customers are also regarded as opportunities for profit. Ethical standards and customer welfare are not important to management in this context. Deceiving a customer into buying a product or service is a desired marketing practice. The local community is also disregarded by this type of management. Pollution, exploitation of natural resources, and the destruction of fauna and flora is no issue in pursuit of profit.⁹⁸ One example for this is notorious Enron scandal. At the time the seventh largest

⁹⁷ Carroll, "The Pyramid of Corporate Social Responsibility: Towards the Moral Management of Organizational Stakeholders," 40.

⁹⁸ Ibid., 40.

American company, when faced with financial problems, the management handled that with shady practices and creative accounting. With the help of accountants and auditors, the huge debts were hidden behind shell companies and the financial statements were embellished by hundreds of millions of dollars. While thousands of employees suffered, the CEO had gained over 200 million US dollar since founding the company. Not only did that scandal take down Arthur Andersen, the formerly fifth large auditing company, but its employees lost most of their life-savings and pension funds as they were invested in Enron stock and were prevented to sell by corporate by-laws.⁹⁹

2. Moral Management¹

The second type of management is the moral one. They are driven by a moral compass and actively consider the community in their decision-making. It is not enough to respect the national laws, they conduct their daily business in accordance with concept such as fairness, equality, utility, and an active regard for others. It is almost as profitability takes a second chair next to ethics. This type of management takes their shareholders actively under consideration and this is a central aspect of decision making. Managers will go as far as creating ethics committees to ensure moral decisions and that nothing was overlooked. The company has a code of ethics which contains rules to live and learn by. Employees need respect and fairness to prosper. Various techniques are used to build trust and long lasting partnerships with employees. They are encouraged to bring ideas, speak their mind, and implicate themselves when possible. The customer is treated like a partner by the management. They acknowledge that it is a relationship based on mutual needs, a symbiosis. The emphasis is to disclose all information, treat them fair, and satisfy their needs. The local community is an active member considered in the decisions. By leading by example for others, the management engages in various programs with humanitarian or noble causes.¹⁰⁰ One example for a company and management that engages in such a behavior is provided in chapter 3.4 CSR Example: Starbucks

⁹⁹ "Enron Fast Facts - CNN.com," accessed May 19, 2015, <http://edition.cnn.com/2013/07/02/us/enron-fast-facts/>.

¹⁰⁰ Carroll, "The Pyramid of Corporate Social Responsibility: Towards the Moral Management of Organizational Stakeholders," 40.

3. Amoral Management

Amoral management is neither specifically moral, nor specifically immoral. They don't try to act ethically, but they don't try to act in a devious way either. They are immune to the effect their decisions might have on society or the environment. There can be various reasons, from obliviousness to outright carelessness. The only ethical code they respect is the law and that is enough for them. They just try to avoid fines and other reprimands. Shareholders are not actively considered in the decision-making, just to that minimal degree of not being able to complain. An ethical aspect is not something that comes to mind when facing a decision. Information is communication to the outside only as far as it is required by law. The employees are handled in conformity with the law. Productivity is the central focus here and not an employee's ability to grow and prosper within the company. Incentives and respect are provided in the minimal amount so that the employee will do his or her job as required, without complaints. The perspective of the customer is never considered, they are only the source of income and profit. Ethical aspects are not considered. The good of the whole community is not considered, in no step of the process. There is no need felt to give something back, only to use what aids them in their endeavors.¹⁰¹ A striking example for this is the executives of tobacco companies. It has long been proven that smoking leads to lung cancer, throat cancer, pancreatic cancer and other health conditions like heart disease. Upper management cannot be oblivious to these facts, so the only explanation left is that they don't apply a moral conscience within the confinements of their job. Every time public accusations are made in their directions they counteract with logical arguments: tobacco is legal, smoking is a habit not an addiction, the company already does its obligation by promoting helplines, and they raise awareness of the health hazards on their packages. The fact that it's the number one cause for preventable death in the world doesn't seem to faze them. So for them it is just another good or product they offer, they make profits with a legal activity they engage in. Maybe the managers consider their contribution to society fulfilled by the huge amount of taxes they pay. Phillip Morris paid in 1992 4.5 billion US dollars in taxes and not to mention how many in salaries. This is so much that the American economy would collapse with this

¹⁰¹ Ibid.

giant going out of business overnight. And this is just one tobacco company out of the numerous existing ones.¹⁰²

3.2 CSR Statistics

KPMG conducted in 2013 a CSR survey of the global top 250 companies (from now on abbreviated with “G250”), and the national top 100 companies from 41 countries (from now on abbreviated with “N100”). The main finding was that CSR is growing fast within companies all around the world. This growth concerns not only the number of companies that start to use CSR, but also the covered topics. Especially in emerging countries this number increased dramatically, with 71% of Asian companies engaging in CSR reporting. In America this number equals 76%, while in Europe 73%. This is an increase in only two years from 49%, 69% and 71%, respectively – which is an incredibly high achievement in only two years. In 1993, when the survey was first conducted, only 12% from the “N100” companies were engaging in CSR reporting. That number increased to 18% in 1996, 28% in 2002, 53% in 2008 and finally 71% in 2013. As for the “G250” companies, 35% engaged in CSR reporting in 1999, 64% in 2005 and finally a staggering 93% in 2013. Out of the participating countries, India showed the highest growth in CSR reporting, with an increase of 51% in only two years. The countries with the highest CSR reporting rate are France, Denmark, and South Africa, whereas the lowest were registered for Israel, the United Arab Emirates, and Kazakhstan. When looking at the industrial sectors, nowadays more than half of the overall companies engage in CSR, which makes this officially a standard business practice. The sectors where CSR is conducted most frequently are the automotive sector, the telecommunications sector, and the media sector.¹⁰³

The quality of the reporting was also questioned within this study. The main finding was that the area with most room for improvement was on the supplier side, the value chain, and governance. European companies generally scored highest on the quality indicators, especially those located in Italy and the United Kingdom and pertaining to the electronics or pharmaceutical industry. The lowest quality was registered for the construction industry and

¹⁰² “How Do Tobacco Executives Live With Themselves? - NYTimes.com,” accessed January 19, 2015, <http://www.nytimes.com/1994/03/20/magazine/how-do-tobacco-executives-live-with-themselves.html>.

¹⁰³ KPMG, “The KPMG Survey of Corporate Responsibility Reporting 2013,” 11.

for the Countries China and Hong Kong. 72% of the “G250” mentioned that innovations on the service and product side should be the next opportunity for CSR change. The most frequent named business risk was the risk of a decline in reputation. Interestingly enough, this was not the top risk named in American companies, as they see the risk of competition and government regulation as being more urgent.¹⁰⁴

Being involved in social responsibility as a company, it’s more than providing cash contribution; it’s about forming strategic alliances, outsourcing funds from business units and contribute to the well-being of society and economy. Trying to find out the reason why a company involves in CSR, Minor discovered that the main motive is only the perception of the company in people’s eyes, which will secure the brand position and the reputation of the company. Gaining recognition through reputation gives the company the freedom to set product prices and be innovative in the business.¹⁰⁵ In Rayner’s study the main drivers of a reputation are not only the financial performance (which shows the position on the market and the competitiveness), but also the corporate governance and social, ethical and environmental performance. Another important factor that contributes to reputation is the stakeholders too.¹⁰⁶

An interesting approach about CSR is the impact that this activity has on the company, meaning the way that the company is perceived by inside and outside and the footprint that has on the society. Consumers, investors, potential shareholder and stakeholder feel better supporting, working and even sustaining a company that not only looks and but does good through the social implications to the environment.¹⁰⁷

An interesting case study done by Jerry Porras and Jim Collins¹⁰⁸ showed that the maximization of the profit is not the main goal of the 18 top companies analyzed. They were more interested in the core value and the purpose of the business. This case study contradicts Milton Friedman’s idea of profit maximization as the central core of a company, by shifting to

¹⁰⁴ KPMG, “The KPMG Survey of Corporate Responsibility Reporting 2013,” 11.

¹⁰⁵ Dylan B. Minor, “Corporate Social Responsibility as Reputation Insurance: Theory and Evidence,” *Haas School of Business, UC Berkeley, Working Paper*, 2010.

¹⁰⁶ Jenny Rayner, *Risky Business: Towards Best Practice in Managing Reputation Risk* (Institute of Business Ethics, 2001).

¹⁰⁷ Alessia D’Amato, Sybil Henderson, and Sue Florence, “Corporate Social Responsibility and Sustainable Business,” *Greensboro, North Carolina: Center for Creative Leadership*, 2009, 6.

¹⁰⁸ Jerry Porras, Jim Collins, “Built to Last: Successful Habits of Visionary Companies”

value creation maximization for stakeholders. Moreover, social and environmental sustainability will also provide a continuity of the business.¹⁰⁹

However, being involved in social responsibility does result in a positive outcome for companies, as Business for Social Responsibility concluded in their research. Some of them are increased sales and market share, brand awareness and recognition, decreased operating costs and also magnetism to investors. Depending on the economic objective proposed, it could also lead to the maximization of shareholder value (taking as an indicator the share price) or to the competitive advantage (on the long run profits).¹¹⁰

A concept in close relation with CSR is that of Corporate Social Performance. CSP concentrated rather on the results as on theoretical concept and guidelines. As the name implies, “CSP” shows the performance of a corporation due to its implication in responsible business practices. Some argue even that CSR is not applies properly if no “CSP” follows. That is why most of the time the term CSR is used as containing “CSP”, because the natural course is that an action is followed by results.¹¹¹

3.3 CSR Guidelines

One of the reasons CSR has increased so much in the last couple of years is that more and more governments are making it mandatory and implement it into local law. This is true for the countries with the highest reporting rate, such as France and Denmark. This is also the reason why some countries faced a high increase in reporting, like the case of Taiwan. In 45 countries there are a total of 134 mandatory regulations regarding different aspects of CSR and 53 regulations which can be applied by choice. Also, most stock exchanges now require such a report from their listed companies. For the companies which are listed with the Stock

¹⁰⁹ Jim Collins and Jerry I. Porras, *Built to Last: Successful Habits of Visionary Companies* (HarperCollins, 2002).

¹¹⁰ Studies where it was proved through statistical analyst that the correlation between CSR an financial performance is positive for instance Jeff Frooman, “Socially Irresponsible and Illegal Behavior and Shareholder Wealth A Meta-Analysis of Event Studies,” *Business & Society* 36, no. 3 (1997): 221–49; Jennifer J. Griffin and John F. Mahon, “The Corporate Social Performance and Corporate Financial Performance Debate Twenty-Five Years of Incomparable Research,” *Business & Society* 36, no. 1 (1997): 5–31; Susan Key and Samuel J. Popkin, “Integrating Ethics into the Strategic Management Process: Doing Well by Doing Good,” *Management Decision* 36, no. 5 (1998): 331–38; Sandra A. Waddock and Samuel B. Graves, “The Corporate Social Performance-Financial Performance Link,” *Strategic Management Journal* 18, no. 4 (1997): 303–19.

¹¹¹ Visser et al., *The A to Z of Corporate Social Responsibility*, 123.

Exchange, Singapore introduced the Sustainability Reporting Guide which led to an increase of 37% in reporting companies. The same happened in India, where the Securities Exchange Board requires the listed companies to issue a report. In Denmark the mandatory guideline is called the Financial Statement Act and it states that large companies must include a CSR report in their financial statement or give an explanation as to why it is not necessary. In France, the act goes a step further and subjects companies to verification of its CSR reporting content.¹¹²

In absence of a mandatory framework, the GRI has remained the most popular used framework by companies. 78% of the “N100” and 82% of the “G250” mentioned the GRI as their guideline. In South Korea, South Africa, and Portugal these numbers even surpass 90%. But this is no coincidence, as in some countries the use of the GRI’s is explicitly referred to by the regulators. Some of these include Sweden and Spain. Even so, countries like Nigeria and Denmark use these guidelines in 30% or 40% of the cases, respectively.¹¹³

Regarding reporting, a practice that has gained in popularity over the last couple of years is Integrated Reporting (or short IR). It is a framework built in collaboration with many firms and governments. Its main aim is to give companies a guideline to explain in a comprehensive way how they create value. One way to do this is to integrate CR reporting into the financial statement.¹¹⁴ For the year 2013, half of the companies which partook in the KPMG survey had integrated their CSR report within the annual financial report. This is an impressive number, especially when considering that only four years prior that number was at about 9%. Out of those which integrated CSR, half assigned a separate chapter for this topic. A related and interesting topic is that of assurance, i.e. an external confirmation of the quality of the reports. As this practice is still voluntary, not many companies are willing to submit to it. 41% of the “N100” and 49% of the “G250” seek this external confirmation. This is an increase by 11% and 20%, respectively, from 2002. Of the 41 surveyed countries, only South Africa and France have a mandatory policy for assurance.¹¹⁵

¹¹² KPMG, “The KPMG Survey of Corporate Responsibility Reporting 2013,” 11.

¹¹³ Ibid.

¹¹⁴ “Integrated Reporting,” accessed March 22, 2015, <http://integratedreporting.org/>.

¹¹⁵ KPMG, “The KPMG Survey of Corporate Responsibility Reporting 2013,” 11.

3.4 CSR Example: Starbucks

The coffeehouse chain Starbucks topped Forbes' "the world's most value brands" list at spot 52 in 2015. With almost 200.000 employees, it has managed to become the epitome of coffee in today's culture.¹¹⁶ But what some people may not know is that the company actively engages in fair-trade and responsible business practices. Starting in 1998 tentatively with 14.5%, now Starbucks buys 96% of their coffee demand from farms where the end products is grown responsibly and where the farmers are protected. The term ethics is high up the ranks within this company. From their report it can be easily derived what the company understand under the term CSR as the following statement will show: "develop [...] social, environmental and economic guidelines for the sustainable production of high-quality coffee." The link between the CSR definition and the classical definition for sustainable development can be clearly seen.¹¹⁷

In accordance with their ethical views, Starbucks introduced the "C.A.F.E. Practices", which stand for "Coffee and Farmer Equity Practices". These are standards for sustainability, which are designed to assure not only the best quality coffee for consumers, but increase the life quality of those farmers that provide them. These standards contain regulations for four aspects: the three dimensions of the "triple bottom line" and quality of product.¹¹⁸

One of its goals is that of aiding in the problem of global warming. In collaboration with farmers, Starbucks has introduced methods to reduce emission of greenhouse gases and manage other risks. Moreover, it is an open source system, where outside organizations or farmers can bring in ideas and innovations. There is an organized support system for farmers to help them in their endeavor. From the description of their task it becomes clear that the idea of CSR or more so, of shared value has its roots deep within the company. Because not only quality of the product, but raising living standards of the people the company depends on and lowering costs is a must. Additionally, as the coffee is farmed in developing countries, Starbucks offers approachable credit opportunities to native farmers. This area was also

¹¹⁶ "Starbucks on the Forbes World's Most Valuable Brands List," Forbes, accessed August 18, 2015, <http://www.forbes.com/companies/starbucks/>.

¹¹⁷ Starbucks, "Global Responsibility Report Goals & Progress 2014," 3, accessed August 18, 2015, <http://globalassets.starbucks.com/assets/ea2441eb7cf647bb8ce8bb40f75e267e.pdf>.

¹¹⁸ "Responsibly Grown and Fair Trade Coffee," Starbucks Coffee Company, accessed August 18, 2015, <http://www.starbucks.com/responsibility/sourcing/coffee>.

expanded, as in 2000 investment of 150,000 US dollars were made, while in 2014 that sum amounted to 12 million US dollars.¹¹⁹

Environmentally, Starbucks tries to give back to its self-proclaimed “most important business partner” by building stores with energy efficiency, overall 64% to date and increasing; by conserving water during production by a total amount of 23%; by reinvesting in renewable energy in proportion of 59% of the energy needed in their stores; and by recycling in 47% of their stores, just to name a few.¹²⁰

Socially, Starbucks takes care of their employees. In 2014 a plan was introduced where employees could get a degree online from the Arizona State University. As part of another goal, by 2018 a total number of 10,000 employees will be war veterans and their spouses. This program encourages national heroes that need to reintegrate into society and their loved ones. In 14 countries Starbucks finances different youth programs which aim at developing young talent. These are in form of scholarships or other type of sponsorships. Other projects include donating part of the profits to different causes, the sum of which amounted to 13 million US dollars in 2014.¹²¹

3.5 CSR Critique

One of the most well-known critics, if not the most well-known, of CSR was Milton Friedman, who as early as 1962 argued that “there is one and only one social responsibility of business to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game.”¹²²

He goes on saying that this means operating an open market while respecting the word of law. For him, therefore, the only CSR that a company should conduct was to go about its work without considerations for much else. By doing so they create profit, through profit they

¹¹⁹ Starbucks, “Global Responsibility Report Goals & Progress 2014,” 3.

¹²⁰ Ibid.

¹²¹ Ibid.

¹²² Friedman and Friedman, *Capitalism and Freedom*, 112.

create jobs, through jobs they create demand and so on. This is the cycle of how a company does its part for the society. Being profitable in a legal way is how he defined CSR.¹²³

In a New York Times article from 1970 he argued, again, eloquently that CSR is a sham and a shield under which businesses hide in their endeavor to produce more financial gains. He implies that the concept of CSR is a hypocritical point of view and that no one, not even they themselves, takes businessmen who claim to be adepts of this concept seriously. The exact term used in the article is “hypocritical window-dressing”. He goes as far as calling them socialist and controlled by those who want to undermine a free society. He goes on to argue that only human beings are able to have responsibilities, but not corporations, as they are constructs without a consciousness. Therefore, the idea of a responsibility should be addressed at executives of said corporations and not at the legal construct per se. Companies cannot therefore have responsibilities to people, the environment or anyone else. Even so, he argues, the main responsibility of the executives is first and foremost to the owners of the corporations and not by any means to other parties – which would be embodied by a CSR concept. Owners of any business would have profitability in mind, which they aim to achieve within the constraint of laws and a basic human ethics code. This idea of profitability is naturally subjective to the scope of a business, as a hospital would weigh profitability less than an investment bank. But, nevertheless, the central idea is that all businesses or corporations are ruled by the idea of profitability. Friedman concludes his argument by saying that trying to be socially or environmentally conscious, as implied by CSR, would lead an executive to act against the interest of his employer – the owner of said company. In other words, CSR and the concept of free market are two inherently opposing concepts. Because by acting in favor of one, this would lead to the detriment of the other. An example of this would be investing in empowered countries for the sake of reducing global poverty, when hiring domestically would be profit driving for a company.¹²⁴

Another argument that CSR is just a farce is made by Friedman from a political standpoint. This is made by underlining that the legislative, executive, and judicial branches of every law enforcing government are not met when considering the tax policy of a businessman. This is under the premise that a businessman can determine a tax, its value, and its purpose. Also, the

¹²³ Friedman and Friedman, *Capitalism and Freedom*, 112.

¹²⁴ Friedman Milton, “The Social Responsibility of Business Is to Increase Its Profits,” *New York Times*, no. 32–33 (September 13, 1970): 122–24.

idea of a tax contradicts the general meaning of the article: that a corporation is first and foremost centered on making profit. On the other hand, a tax is based on the idea of general welfare.¹²⁵

In the years 1962 another author, Joseph Maguire, argues a similar point to that of Friedman. He argued that the whole idea of CSR started from the premise that a company has obligations to its society and environment that go beyond the economic and legal ones. Even though they have similar argument, the reason they made it differ: Maguire's views were less a critique point, but appealed to the sense that CSR should stem from consciousness.¹²⁶

Some authors have had an interesting approach that regards the way CSR was applied: as something unrelated to profits or even philanthropy. Harvard alumni Michael Porter and Mark Kramer argue in their Harvard Review article that corporations need to find a way of building value for the company and for the environment simultaneously and intertwined with each other. This is the concept of "shared value". It is a very new concept which would require knowledge far greater than that for CSR. CSR would involve the idea of giving something back, while shared value inherently implies that with increasing profit some gain for the society or the environment would result. CSR is a gradual process: first make profit, and then give something back. With shared value these two actions happen simultaneously. That is why deep knowledge is necessary about what drives the society and environmental growth, what makes them strive, and what enforces them. A business strategy that implicates from the get-go processes that inforce all that would automatically lead to a gain for the society and environment. Gaining this knowledge implies high cost and energy from the beginning. The argument for shared value addressed the problem of capitalism at its core. The definition of capitalism needs to change and mold to this idea of not only creating profit, but aiding the society.¹²⁷

The authors also argue that CSR was applied in a counterproductive way for companies. A company which wanted to give something back to the society would have to give up a part of its profits in doing so. Acting environmentally conscious by reducing emissions or societally responsible by hiring repressed groups would increase the cost and lower the profit. That is

¹²⁵ Ibid.

¹²⁶ McGuire, *Business and Society*, 144.

¹²⁷ Michael E. Porter Mark R. Kramer, "Creating Shared Value," *Harvard Business Review*, accessed February 17, 2015, <https://hbr.org/2011/01/the-big-idea-creating-shared-value>.

why some companies have felt the pressure to apply CSR or haven't made it their mission to incorporate responsible strategies, because some are given by the government through their laws and regulations. Before, a company would have felt pressure to avoid greenhouse gas emissions because their prestige would sink in the eyes of the general population. Or they would sink it because some federal law told them to. Shared value states that avoiding greenhouse gas emission is in the long run cost saving and should be therefore considered one of the company's strategies from the beginning. Another example is the fair-trade movement. From a CSR approach fair-trade is profit sinking, because it implies giving something back or encouraging poor farmers by paying them more, sinking therefore the profits of a company. From a share value perspective this would mean to search for ways of making farming for those same farmers more efficient and innovative so that the company would not lose profits. Therefore both company and famers win from this situation.¹²⁸

The authors also criticize Milton Friedman's argument against CSR. His basic argument was that firms give enough to society by creating jobs and profit. This simplistic view, however, fails to see the connection between a company and its social surroundings. A company needs beneficial surroundings to thrive, meaning people's income to buy its products and infrastructure to facilitate the day to day business. A social entity needs good employers for job possibilities. They need each other. When governments step in and makes it impossible for corporations to thrive, this relationship is damaged. Modern concepts such as offshoring and outsourcing damage the community instead of helping it. In competing with each other firm also rely on price competition, cutting cost, and firing workers. None of these strategies led to innovation or economic growth. This all occurred because the focus was on the industry a firm operates in or the competitors it faces. Looking on broader opportunities, which the society offers, would create shared value. The authors give examples of doing so: rethinking their products, reinventing their market, defining productivity in a new way and building support systems. An example for this argument is what Vodafone did in Kenya: offering low cost cell phones with mobile banking to farmers. This aids farmers in their farming endeavors and saves them their investment. By providing this service Vodafone gained 10 million clients in 36 months, while handling the equivalent of 11% of Kenya's GDP in funds. They found a new product for a new market. Another example is Wal-Mart in 2009: they lowered their

¹²⁸ Michael E. Porter Mark R. Kramer, "Creating Shared Value," Harvard Business Review, accessed February 17, 2015, <https://hbr.org/2011/01/the-big-idea-creating-shared-value>.

traveling routes by 161 million kilometers, all by cutting excessive packaging and reducing emissions of greenhouse gases. This was a clear benefit for the environment, while saving the company 200 million US dollars. They saved cost by rethinking their product. A last example is that of Nespresso by Nestlé, which entered the consumer market with a luxury product by making it accessible to everyday users and is expanding 30% annually. They found a new market for an existing product.¹²⁹

Another critique point is mentioned by Carroll, who defined the CSR pyramid. The problem is that there will always be some kind of friction between the economic pillar and either one of the other three – ethics, law, and philanthropy. The main reason is that they seem to go in different direction or have a negative correlation. Doing something ethically correct for the environment – for instance, emitting a lesser amount of greenhouse gas – might be costly for the company, which means going against its profitability principle. Giving part of the profits away for charitable organizations – being philanthropic – goes also against the principle of maximizing profit – being economic. The law may be the one component that is least in competition with economy, but keeping the law must be costly still in most cases. The author recognizes this problem itself and notes that the decision of how to balance those four components is at the company's discretion. A perfect recipe does not exist, unfortunately.¹³⁰

Some authors criticize CSR because it can be a marketing strategy, therefore merely to deceive customers that the company is socially conscious and to drive the selling number up. The reason this is possible in the first place is that CSR gives customers the impression that the company is emphatic, it stirs emotions in them, and builds a relationship which is hard to shake.¹³¹ One example that speaks for this statement is a case in the court of law between Nike and an activist by the name of Kasky. The sport giant was accused of having their merchandise produced under inhumane conditions in their factories in Asia. Nike had given an official statement denying that and making sure that their auditors verify the claims, which they later denied being true. However, information leaked that this was false and that Nike's adverting, in which they claimed to assure working under fair conditions, was also false. In

¹²⁹ Michael E. Porter Mark R. Kramer, "Creating Shared Value," Harvard Business Review, accessed February 17, 2015, <https://hbr.org/2011/01/the-big-idea-creating-shared-value>.

¹³⁰ Carroll, "The Pyramid of Corporate Social Responsibility: Towards the Moral Management of Organizational Stakeholders," 40.

¹³¹ "What's Wrong with Corporate Social Responsibility : The Arguments against CSR | Corporate Watch," accessed February 24, 2015, <https://corporatewatch.org/content/whats-wrong-corporate-social-responsibility-arguments-against-csr>.

court Nike defended themselves with the argument of the right to free speech. That they could prevent themselves how they pleased and market themselves how they deem fit. This argument didn't hold in front of the Supreme Court, which ruled that it was in fact "commercial speech" and not "political speech" and therefore had to be truthful, as the law dictates in the state of California. This ruling was not overturned even though it was contested. This makes it a precedent in the American case-law system, which means that every similar case from that moment on will be ruled in the same way. The shocking part of this story is how many corporations held to Nike, expressing their support publicly with briefs. Pfizer, Bank of America, Monsanto, even the Bush administration, just to name a few, expressed their opinion that this was in fact a matter of free speech. This only shows how much corporations value their right to market their values to customers as they see fit for financial purposes. Even the media painted it in a way such that Nike came out the moral winner.¹³²

3.6 The Benefits of CSR

There are six main reasons a company should engage in CSR, which will be described in the following.

1. Customer loyalty

By engaging in CSR a company can build a steady customer basis. By supporting the communities, the public will always support the company even in difficult times and remain by their side. In this way a company can make sure to keep their clientele even if they face difficulties. There are three main kinds of risk that a company can face: corporate governance, environmental, and social risks. Investing in CSR, a company is more transparent and actions as bribery and corruption are mitigated. Moreover, being transparent, the corporates are more risk averse, so negative social events that could damage their reputation decrease as well.¹³³

¹³² Peter Dreier, "Foot Fault," *The American Prospect*, September 23, 2003, <http://prospect.org/article/foot-fault>.

¹³³ Margarita Tsoutsoura, "Corporate Social Responsibility and Financial Performance," *Center for Responsible Business*, 2004, 5ff.

2. Cost saving

Moreover, another benefit that companies involved in CSR have is on their profitability. There are many aspect of ethically and socially friendly behavior that goes hand in hand with cost-saving measures. For instance, reducing packaging material or the delivery route, they actually reduce their operating and logistic costs, resulting in a reduction in overall cost. For example, the company General Mills saved 600,000 US dollar by using equipment to monitor the energy consumption, an information the wrote in their CSR report.¹³⁴

3. Employee loyalty

Furthermore, respecting your employees will reduce the costs of recruitment and training, because you don't have such a high turn-over rate. If an employee is happy, he won't leave and if he won't leave, a replacement is not necessary. Keeping your employees is therefore a cost-saving measure. It is important for the culture in the company to be a positive one, based on trust, loyalty, and commitment to the company. Also, respecting the employee and proving better working conditions will improve the quality of the work. Increasing wages and improving work conditions may be costly on the short term, but in the long term this type of investment, in human resources, has always a positive cash flow.¹³⁵ One example for this is the Sara Lee Corporation, a big player in the food industry, which is concentrating on high quality products. For this corporation, one important factor in sustainability is supporting the local communities. One way of achieving this is creating their own "Sustainability Working Team" among their employees. Their aim is to decide on principles and regulations for sustainability that should be integrated within the company. They have ongoing projects and decision makers who make sure that the socially conscious decisions are made with every step. One such goal that they pursued was the 10% reduction in water use and 8% reduction in material disposal.¹³⁶

¹³⁴ "Six Reasons Companies Should Embrace CSR - Forbes," n.d., <http://www.forbes.com/sites/csr/2012/02/21/six-reasons-companies-should-embrace-csr/>.

¹³⁵ Milton Moskowitz, "Choosing Socially Responsible Stocks," *Business and Society Review* 1, no. 1 (1972): 71–75.

¹³⁶ "Sustainability Series: Sara Lee," accessed September 18, 2015, <http://www.foodnutritionscience.com/articles/sustainability-series-sara-lee/>.

4. Innovation

This seems an abstract term, but the fact is that innovation and sustainability are deeply intertwined. Most often than not, doing one will also achieve the other. Innovative products are always sustainable and sometimes, in order to be sustainable, a product needs to be deeply innovative.¹³⁷ One example of this is Unilever's Surf Excel Quick Wash. The company developed a detergent that need less rinsing time and water for washing clothes. This results in saving two buckets of water for every wash. This type of product brings more innovations: it is water and time saving. It is therefore both sustainable and innovative. This could be especially interesting for countries where water is scarce or in busy households.¹³⁸

5. Strategic planning

Engaging in CSR means that the company ensures long term sustainability for both itself and the environment. If a company is set on short term profitability and survival, CSR is not something to implement. However, if a company wants to ensure its survival in the long-run, implementing CSR is a must. This ensures not only the environmentally friendly behavior, but helps build a company with a respectable name and values. This concept makes sure that the financial gain is not the core of a business' endeavors, but also longevity and working consciously, which will be visible to the outside world.¹³⁹

6. Brand differentiation

Back in the day when CSR was a fairly new concept, companies used it to differentiate themselves from their competitors. Nowadays CSR is something fairly common in every corporation, using it as a tool for brand differentiation is next to impossible. Some companies still manage to do that though.¹⁴⁰ One example of that is the cosmetics company the Body Shop. The Body Shop has always been known for its environmentally friendly and nature-

¹³⁷ "Six Reasons Companies Should Embrace CSR - Forbes."

¹³⁸ "Clean Clothes, Less Water | Unilever," accessed September 18, 2015, <http://www.unilever.com.vn/innovation/productinnovations/default/index.aspx>.

¹³⁹ "Six Reasons Companies Should Embrace CSR - Forbes."

¹⁴⁰ Ibid.

based cosmetic products, even though they don't actively advertise their activities. One of the company's values is the strong relationships to its stakeholder. They also campaigned against animal testing and for human rights in Africa. They have never used animals in testing and completing their products. Their values system dictates that they should be transparent about all business activities they undertake and this behavior was praised even by the United Nations.¹⁴¹

As we have seen, there are different approaches of corporate social responsibility depending on the profile of the company. It is really important to include CSR in the daily operations and not to be treated as an ad-hoc activity. In many cases, companies decide to involve in CSR activities depending on the percentage of income made during the year or only think about it if the company has any advantage by spending resources in a social responsibility activity. Therefore there is always a fluctuation in this field and the implication is never constant. As there is no methodology to measure and deliver CSR activities, there is always the uncertainty if the activity is successful or not.¹⁴²

3.7 Drivers that influence the development of CSR

The CSR concept is built on sustainable business, which is possible in a healthy economy, market, and community. The main drivers for CSR are:¹⁴³

- The close functionality of the markets, labor, and communities by creating synergy of ethics, a sustainable economy and a society with the same principles;¹⁴⁴
- People are all in a business. Lately the intangible asset of the company have become more and more a social investment in the company;¹⁴⁵
- Having public reports and press releases make the company more accessible to people and possible shareholders. This makes a company easier to trust;¹⁴⁶

¹⁴¹ "Study of Corporate Social Responsibility," accessed September 23, 2015, https://web.stanford.edu/class/e297c/poverty_prejudice/citypoverty/hedge_poverty.htm.

¹⁴² Forest L. Reinhardt, Robert N. Stavins, and Richard H. K. Vietor, "Corporate Social Responsibility Through an Economic Lens," May 2008, 225–228.

¹⁴³ Leela Kumar, "The Impact of Corporate Social Responsibility on Sustainable Development," *Available at SSRN 2426049*, 2014, 10.

¹⁴⁴ Ibid.

¹⁴⁵ Ibid.

- Through taxes and employment, companies show their interest in a sustainable economy.¹⁴⁷

Moreover, the International Institute of Sustainable Development mentioned ten drivers which influenced the development of CSR and the importance of philanthropic responsibility:¹⁴⁸

1) Sustainable development

As mentioned several times before within this paper, the main drive for CSR is sustainable development. The great problem of our time is that resources are scarce and we use them up in a progressive way. If we continue at this pace there will be nothing left for future generations. Therefore, CSR could bring possible solutions, by implementing the social responsibility into business. This is of course a gradual process. This does not only relate to financial problem and resource-related ones. Also moral and legal problems are comprised under the CSR umbrella.¹⁴⁹

2) Globalization

Globalization sharpened the interdependence and competition between worldwide economies. Now different countries and nations engage in trading goods, services, and human capital. Sometimes this is a war of who can be more cost efficient. However, globalization is an unpredictable phenomenon that has major implications on the social, political, economic, and cultural sphere. Some examples are minimizing the role of the state, challenging “the uniqueness” of each society and threatening social structures.¹⁵⁰

¹⁴⁶ Ibid.

¹⁴⁷ Ibid.

¹⁴⁸ Paul Hohnen and Jason Potts, *Corporate Social Responsibility: An Implementation Guide for Business* (IISD, 2007), 7–8.

¹⁴⁹ Ibid.

¹⁵⁰ Ibid.

3) Communications

Aided by the new high advanced technologies like the internet, mobile phones, and tablets the disclosure of information, internally and externally, is much easier. Thanks to this advanced technology, which is a mainstream practice nowadays, the CSR context is accessible, facilitating the communication between partners.¹⁵¹

4) Governance

The government and various organizations try to develop guidelines that help companies implement rules on a proper business conduct. The guidelines and tips are not homogenous, but a common platform can be found. CSR is such a common ground as it is based on internationally accepted goals and laws.¹⁵²

5) The corporate sector impact

The corporations have a huge influencing power over all the regulatory systems, especially the magnates among them. If they have a moral obligation to use their power has been a discussion topic in recent years.¹⁵³

6) Finance

As more and more companies are interested in social responsibility, CSR might help increasing share value and guarantee a better opening to the markets. Being environmentally friendly has gotten increasingly trendy in the last couple of years. People and businesses are interested in investing in companies that show such a responsible behavior. That is why it is attractive for companies to implement and show their CSR practices.¹⁵⁴

¹⁵¹ Hohnen and Potts, *Corporate Social Responsibility: An Implementation Guide for Business*, 7–8.

¹⁵² Ibid.

¹⁵³ Ibid.

¹⁵⁴ Ibid.

7) Consistency and Community

This driver is based on reaching the same standards of social and environmental care. As this practice becomes more popular, people demand that the same level of CSR is present across regions. CSR also facilitates the access to information, smoothing the communication between companies for a better understanding of common interests. It can constitute a common base for communication.¹⁵⁵

8) Leadership

As the number of governance regulation increased, CSR helps companies to better understand and better react where regulations seem questionable. CSR can help as a guideline where local law seems hard to understand or interpret.¹⁵⁶

9) Ethics

Ethics is a controversial theme as companies disobeyed many times the ethical business rules. CSR facilitates a better relationship between the company and those interested in the company through transparency, accountability, and ethical standards. Also, being ethical is nowadays something desired from most companies. It is a selling point for clients and a business practice that become more and more mainstream.¹⁵⁷

10) Business Tools

Thanks to CSR, the risk of closing the business minimizes and new opportunities to develop the business are created. Examples could be to strengthen the brand position or improve brand reputation.¹⁵⁸

¹⁵⁵ Ibid.

¹⁵⁶ Ibid.

¹⁵⁷ Ibid.

¹⁵⁸ Ibid.

3.8 Six Key Dimensions of CSR

A CSR activity should take into consideration two elements: being a good member of the community and mitigating or anticipating adverse effects of his or her own business. Being a good citizen is the core of CSR, which translates in making customers, employees, and shareholders satisfied and proud about their own contribution to the company. The challenge that companies face is concerning the second element, meaning a proactive approach in the internal process. In the following, the six key dimensions of CSR are presented which concern the first part of being a good community member.¹⁵⁹

1. Customers

Companies that take into consideration the customer perspective into all their activities are the most profitable ones. They can take a customer's viewpoint into account within all parts of the process, starting with R&D, production, sales, finance or marketing. Although it implies a lot of resources in terms of money and time, studies show that the companies that try to be close to the customers are much more profitable than the ones that decided not to invest so much in getting to know the customer. That effort builds relationships. It is important that companies see the quality as a gateway to success. Moreover, quality is all about thinking about the needs of the customers and satisfying their wishes and desires. Knowing and understanding the customer brings a real competitive advantage today in the market.¹⁶⁰

2. Employees

Transmitting to the employees the value of the company makes the company more profitable. The impact on the company's outcome is directly proportional with the satisfaction of the employee: increased productivity as they work harder; higher quality and ratatability as they understand company's beliefs and they become one with the company; to ensure that

¹⁵⁹ Piotr Mazurkiewicz, "Corporate Environmental Responsibility: Is a Common CSR Framework Possible," *World Bank*, 2004, 7.

¹⁶⁰ Marcello Palazzi and George Starcher, *Corporate Social Responsibility and Business Success*, 1998, 9–11, http://bahai-library.com/palazzi_starcher_social_responsibility.

employees stay loyal and hardworking, they are included in the profitability of the company.¹⁶¹

Also family-friendly companies are more and more developed, as it brings to the company a competitive advantage as well. Employees with children will always prefer to work for a company that provides the support needed to integrate the family life into the work structure.¹⁶²

3. Business partners

Suppliers are no longer exclusive to one company as it used to be before through competitive bidding. Creating a relationship through alliances and joint ventures gives the supplier a personal note, as they are treated as business partners. Not only offering lower prices, but also delivering the quality and being reliable on delivery, makes the supplier become a loyal and a valuable partner for the company. However, there should be an equilibrium between reducing costs and still keeping the business profitable. If a compromise is not reached, the customer is suffering as the quality might decline.¹⁶³

4. The environment

Living in an industrial world, sustainable development should be the key when operating a business. Being eco-efficient, the art using up fewer resources, is key the aim of many companies. Moreover, through environmental taxes, companies are more responsible for their production. Nowadays companies try to imply the consumer in the new economical-environmental world.¹⁶⁴

¹⁶¹ Marcello Palazzi and George Starcher, *Corporate Social Responsibility and Business Success*, 1998, 11-15, http://bahai-library.com/palazzi_starcher_social_responsibility.

¹⁶² Ibid.

¹⁶³ Palazzi and Starcher, *Corporate Social Responsibility and Business Success*, 9–11.

¹⁶⁴ Marcello Palazzi and George Starcher, *Corporate Social Responsibility and Business Success*, 1998, 11-15, http://bahai-library.com/palazzi_starcher_social_responsibility.

5. Communities

Companies bring already a big contribution to communities, as they provide jobs, wages, benefits and tax revenues. However, there is always place for improvement. Companies give back to their communities through directly through charitable actions or indirectly by a well-functioning business.¹⁶⁵

6. Investors

A company should be profitable so that it attracts potential investors and maintains the existing ones. However, there is more than that. The interests of the shareholders are most often than not aligned with those of the communities. Data shows that companies with a moral compass have survived longer than those focused solely on profitability.¹⁶⁶

3.9 CSR – potential help for the company

Companies, depending on their nature of enterprise, may use CSR in different parts of the business. We could mention:

- Human resources (in a competitive workforce market, CSR program can help companies in recruitment and retention of potential candidates);¹⁶⁷
- Risk management (a corporation involved in CSR builds a reputation that would protect the company in case of crisis);¹⁶⁸
- Brand positioning (as the market is very competitive, CSR might help the companies to differentiate from the others and gain customer loyalty because of ethical reasons);¹⁶⁹
- License to operate (involvement in voluntary activities could help companies to avoid taxation and regulations).¹⁷⁰

¹⁶⁵ Ibid.

¹⁶⁶ Ibid.

¹⁶⁷ C. B. Bhattacharya, Sankar Sen, and Daniel Korschun, “Using Corporate Social Responsibility to Win the War for Talent,” *MIT Sloan Management Review* 49, no. 2 (2008): 37–44.

¹⁶⁸ Beth Kytte and John Gerard Ruggie, “Corporate Social Responsibility as Risk Management: A Model for Multinationals,” 2005, 9–10.

¹⁶⁹ Ying Fan, “Ethical Branding and Corporate Reputation,” *Corporate Communications: An International Journal* 10, no. 4 (2005): 9–13.

¹⁷⁰ Reuven S. Avi-Yonah, *Corporate Social Responsibility and Strategic Tax Behavior* (Springer, 2008), 2–3.

Based on this, we may say that there are different types of company in relation with the implication in CSR:¹⁷¹

- Companies that have no focus on CSR (the small companies in general);¹⁷²
- Companies with applicable laws and engages in small amounts of generic corporate philanthropy;¹⁷³
- Companies that see the involvement in CSR as a public relations matter and it is a source of gaining customers;¹⁷⁴
- Companies that are involved in CSR because they are motivated to do good and they know they have the power to help;¹⁷⁵
- Companies that integrated corporate social responsibility principles in their strategy and business process.¹⁷⁶
- Companies where corporate social responsibility is considered within every aspect of the organization.¹⁷⁷

¹⁷¹ Rangan et al., “Why Every Company Needs a CSR Strategy and How to Build It,” 6–14.

¹⁷² Ibid.

¹⁷³ Ibid.

¹⁷⁴ Ibid.

¹⁷⁵ Ibid.

¹⁷⁶ Ibid.

¹⁷⁷ Ibid.

4 Beyond Petroleum – BP

(written by Radu Bogdan Popescu)

BP is a worldwide energy concern with their headquarters in London, England. The BP name used to stand for “British Petroleum”. In 2000 their name was changed to “Beyond Petroleum” and also their logo was changed and was replaced with the symbol of a sun.¹⁷⁸

The main activities of the companies are the exploitation of fossil fuels, crude oil and natural gas. The turnover in 2013 amounted to \$396,217 billion and the profit to \$23,451 billion. Their generated economic value amounts to \$359.8 billion, the operating cash flow represents \$32.8 billion, and they produce 3.2 million oil barrels daily. BP employs 85,900 people, it operates worldwide in over 80 countries, and BP owns 14 refineries and 20,700 gas stations. The refining throughputs amount to 2,354 barrels per day.¹⁷⁹ Castrol and Aral are also owned by BP, under the BP Group. The new area of investment for BP is the Alternative Energy sector, where the focus is mainly put on renewable energy. The company was put under a lot of pressure since the oil spill catastrophe five years ago. We will talk about this event later on.¹⁸⁰

In the next chapter we will talk about the BP history, the social engagement and the support for sustainable development of the company.

4.1 History of the company

After the discovery of the oil reserves in Persia 1908, the Anglo-Persian Oil Company was founded in 1909, in order to start the exploitation of the fossil fuels available. Despite facing financial difficulties, they prevented a possible affiliation with the Royal Dutch Shell

¹⁷⁸ “Evolution of BP,” *HISTORY*, accessed October 10, 2014, <http://www.history.co.uk/shows/britains-oil-hunters/articles/evolution-of-bp>.

¹⁷⁹ “BP at a Glance | About BP | BP Global,” accessed September 23, 2014, <http://www.bp.com/en/global/corporate/about-bp/bp-at-a-glance.html>.

¹⁸⁰ BP, “Annual Report and Form 20-F 2013,” 30, accessed October 10, 2015, <http://www.bp.com/content/dam/bp/pdf/investors/bp-annual-report-and-form-20f-2013.pdf>.

Company by approaching the British Government and asked them for financial support. Before the end of the First World War, a deal was made that allowed the Anglo-Persian Oil Company to provide the British Marine with fuel oil in exchange of a £2 million payout. The government also received the majority stake of the corporation, and the right to choose two members for the executive board. In 1935 the company was renamed the “Anglo-Iranian Oil Company”, as the exploitation was at that time mainly located on Iran’s territory. The high oil demand after World War II led to the expansion of the company.¹⁸¹

The company was nationalized in 1951. This led to intensive negotiations between the US and the UK with Iran. In 1954 a deal was reached in which an association of companies was created. The Anglo-Iranian Oil Company was transformed into “The British Petroleum Company” and held 40% of the overall association. In the 60s and 70s various other oil deposits were discovered around the globe. In the meanwhile the company expanded by acquiring different oil companies in various countries. In 1981 the corporation was restructured and their headquarters was based in London. The company started to be active worldwide by opening local subsidiaries. In 1987, the stake of the British Government in the company ended and the Britoil Company was acquired. The Britoil acquisition was a very important strategic move for BP as Britoil possessed many authorizations for the search of resources in the North Sea. In the 90s BP continued the list of acquisitions by adding Arco, Aral, and Castrol under the BP umbrella. These strategic actions turned the company into the worldwide biggest oil supplier.¹⁸²

4.2 Strategy and Values

In order to better understand BP and their day to day activities we will present in the following the company’s values and strategy.

The values of the corporation are well defined. The company states itself that they put a lot of value on good customer relationship and that their activities are used to serve the needs of the

¹⁸¹ “Our History | About BP | BP Global,” *Bp.com*, accessed February 11, 2015, <http://www.bp.com/en/global/corporate/about-bp/our-history.html>.

¹⁸² “Post War | Our History | About BP | BP Global,” *Bp.com*, accessed February 11, 2015, <http://www.bp.com/en/global/corporate/about-bp/our-history/post-war.html>.

societies. They also want to underline that they take a lot of safety measures so that any possible accidents or damages involving people are avoided.¹⁸³

The strategy of the company is based on finding, inventing, and producing new natural resources for the purpose of satisfying the worldwide demand. This means that BP is now focusing its investments in the direction of renewable energy showing a big step for the company towards sustainable development. By possible sources of renewable energy we mean biofuels, natural gases as well as waterpower energy and basically everything that helps lowering the CO₂ emissions.¹⁸⁴

4.3 BP Sustainability Report

Since 1998, BP releases a yearly sustainability report in conformance with the “Global Reporting Initiative” guidelines. BP also supports GRI in the process of creating special guidelines for the oil and gas industry.¹⁸⁵ Moreover BP is a partner of the “United Nations Global Compact” and reports and acts in line with their recommendations.¹⁸⁶

The sustainability report informs stake- and shareholders about the actions the company takes regarding sustainability. In the following section we will give some examples of such activities.¹⁸⁷

4.3.1 Safety

The exploitation of crude oil and natural gas is a very dangerous activity, due to that fact that both are combustibles. That’s why safety comes first when exploiting these resources. In order for none of the workers to be put in danger, strict standards must be put in place, which

¹⁸³ “BP at a Glance | About BP | BP Global.”

¹⁸⁴ “Biofuels | The Energy Future | Sustainability | BP Global,” *Bp.com*, accessed October 11, 2014, <http://www.bp.com/en/global/corporate/sustainability/the-energy-future/biofuels.html>.

¹⁸⁵ “About Our Reporting | Sustainability | BP Global,” *Bp.com*, accessed October 11, 2014, <http://www.bp.com/en/global/corporate/sustainability/about-our-reporting.html>.

¹⁸⁶ “UN Global Compact | Reporting Standards | About Our Reporting | Sustainability | BP Global,” *Bp.com*, accessed October 11, 2015, <http://www.bp.com/en/global/corporate/sustainability/about-our-reporting/reporting-standards/un-global-compact.html>.

¹⁸⁷ “About Our Reporting | Sustainability | BP Global.”

are mainly meant to prevent the substances to ignite or explode. In order to ensure safety at the work place, BP implemented the Operating Management System (OMS). However this wasn't implemented on all the production sites. The system formulates specific operating principles, which should guarantee the safety, health, and environment protection at the workplace.¹⁸⁸

Table 1 Indicators for safety sustainability performance

Safety	2008	2009	2010	2011	2012
Fatalities-employees	2	0	0	1	1
Fatalities-contractors	3	18	14	1	3
Recordable injuries	951	665	1,283	677	710
Hours worked-employees (million hours)	195	174	168	165	182
Hours worked – contractors (million hours)	245	216	255	209	220
Volume of oil spilled (million liters)	3.4	1.2	1.7	0.6	0.8
Safety and environmental fines (\$ million)	1.1	66.6	52.5	77.4	22.4

Source: Own illustration based on BP, “Sustainability Review 2011,” 48, accessed October 11, 2015

Table 1 shows various indicators based on which BP is measuring the sustainability performance regarding the safety within the company.¹⁸⁹

The numbers tell us that the company has done more in regards to the safety measures. The number of deadly accidents amongst contractors increased from three in 2008 to 18 in 2009, which is mainly the result of various accidents in Azerbaijan, Alaska, and North Sea. Afterwards it decreased drastically, reaching three fatalities amongst contractors in 2012. The recorded injuries fluctuated along the years, but reached a fairly low point of 710 in 2012. The volume of spilled oil also decreased from 3.4 in 2008 to 0.8 in 2012, a 76.47% decrease. This means that BP was able to tighten and enforce the security measures. BP was on a very good

¹⁸⁸ “Managing Safety | Safety | Sustainability | BP Global,” *Bp.com*, accessed February 11, 2015, <http://www.bp.com/en/global/corporate/sustainability/safety/managing-safety.html>.

¹⁸⁹ BP, “Sustainability Review 2011,” 48, accessed October 11, 2015, http://www.bp.com/content/dam/bp/pdf/sustainability/group-reports/bp_sustainability_review_2011.pdf.

track in succeeding to reduce the volume of oil spilled before the Deep-water Horizon event in 2010. This was a good indicator that the company is taking actions towards sustainability. The spills of chemical substances and the amount of natural resources being lost was reduced before 2010. BP contributed in this way to the economic dimension of sustainability. The social dimension is represented by the low number of deadly accidents, injuries, and by the number of working hours.^{190,191}

4.3.2 Environment

Since 2005 BP invested \$4 billion in the renewable energy sector. Their objective is to invest another \$8 billion until 2015. In the United States the company owns several wind farms, which produce a total of 1,237 Megawatt. An additional business sector is the solar energy. The company produces solar systems and sells them afterwards. The company is benefiting from the fact that nowadays many governments around the world give discounts or subventions when the private sector invests in renewable energy systems.¹⁹²

Table 2 shows various indicators based on which BP is measuring the sustainability performance regarding the environment without looking at the 2010 oil spill.¹⁹³

Even looking only at the period before 2010 we can see that BP was barely able to take the necessary actions to support the economic dimension of sustainability. The direct CO₂ emissions increased, as well as the methane, and greenhouse gas emissions. The direct CO₂ emissions increased from 57 million tons in 2008 to 60 million tons in 2010, the direct methane emissions increased from 0.21 Mte in 2008 to 0.22 Mte in 2010, and the direct greenhouse gas emissions from 61 GHG in 2008 to 65 GHG in 2010. On the positive side, the environment- and safety-related fines also increased, as can be seen from Table 1, from \$1.1 million in 2008 to \$52.5 million in 2010. What we can tell about the CO₂ emissions in 2012 is that they are considerable lower than their 2005 levels. The greenhouse gas emissions follow the same trend. This is attributable to new technologies implemented in refineries, which

¹⁹⁰ Ibid., 48.

¹⁹¹ “BP: Corporate Rap Sheet | Corporate Research Project,” accessed March 11, 2015, <http://www.corp-research.org/BP>.

¹⁹² BP, “Sustainability Review 2011,” 48.

¹⁹³ Ibid.

lowers the emissions of hazardous substances. BP managed to reduce the emissions of hazardous substances by 20% in the last 2006-2009 period. If the company would have succeed in continuing like this in the next 4 years, that would have been a big step for BP in supporting the economic sustainability.¹⁹⁴

Table 2 Indicators for environmental sustainability performance

Environment	2008	2009	2010	2011	2012
Carbon dioxide (direct-CO₂) (million tons)	57	60	60	58	56
Methane (direct-Mte)	0.21	0.22	0.22	0.20	0.17
Greenhouse (direct-GHG)	61	65	65	62	60
Carbon dioxide (indirect-CO₂) (Mte)	9	9.6	10	9	8.4
Environmental expenditure (\$ million)	2,520	2,483	18,400	8,520	7,219

Source: Own illustration based on BP, “Sustainability Review 2012,” 48, accessed October 11, 2015

4.3.3 Employees

Within BP, the employees have a very important role. According to the Stakeholder Model, the employees are the happiest when they feel the company is looking after them. This aspect of CSR translates itself into the company’s responsibility for its employees. The employees belong to the social dimension of sustainability and are therefore a very important component of the sustainability report.¹⁹⁵

One BP initiative is the “Open Talk” initiative. It is a hotline for employees that allow them to anonymously report violations against the company’s code of conduct or violations against human rights.¹⁹⁶

Table 3 shows various indicators based on which BP is measuring the sustainability performance regarding its own employees.¹⁹⁷

¹⁹⁴ BP, “Sustainability Review 2011,” 48.

¹⁹⁵ Dima Jamali, “A Stakeholder Approach to Corporate Social Responsibility: A Fresh Perspective into Theory and Practice,” *Journal of Business Ethics* 82, no. 1 (2008): 217.

¹⁹⁶ BP, “Sustainability Review 2011,” 21.

The number of employees decreased from 2008 to 2010 from 92 to 79.7 thousand. By 2012 it increased again to 85.7 thousand. The number of women at management level stayed constant from 2008 to 2011, and then increased to 17 in 2012. The number of “OpenTalk” cases, the initiative where employees report violations, also decreased from 2008 to 2010, from 927 to 742. By 2012, this number increased considerably to 1,295. This is a nice rate, reported to the number of overall employees. One very impressive number is that of terminations for unethical behavior. Starting with 765 and 22, respectively in 2008, the numbers lowered to 424 and 6, respectively, by the years 2012.¹⁹⁸

Table 3 Indicators for employee sustainability performance

People	2008	2009	2010	2011	2012
Number of employees – group (thousand)	92	80.3	79.7	83.4	85.7
Woman at management level	14	14	14	15	17
“OpenTalk” cases	927	874	742	796	1,295
Terminations for breach of rules and unethical behavior	765	524	552	529	424
Contract termination for breach of rules or unethical behavior	22	30	14	14	6
Number of employees – group leadership	583	492	482	516	546

Source: Own illustration based on BP, “Sustainability Review 2012,” 48, accessed October 11, 2015

¹⁹⁷ Ibid., 48.

¹⁹⁸ Ibid.

4.4 BP – Implication in CSR – just a myth?

BP was always known as a pioneer in CSR and sustainability related practices in the industry. It was among other 122 companies worldwide in 2000 one of the best companies with “the best practice leader in CSR”.¹⁹⁹

The chief executive of BP group said “we are all citizens of one world and we must take shared responsibility for its future and for its sustainable development”.²⁰⁰ Full aware that the global warming is human-made, BP tried to refocus its business also on alternative energy, investing in than \$1 billion in renewable energy like wind, solar, and biofuels.²⁰¹

One of the most challenging results that BP needed to reach in order to show its devotement for CSR was to reduce CO₂ emission with 10% below 1990 level before 2010. This promise done by BP was viewed with skepticism as it was thought that will impact also the economy. However, the target was reached only after 4 years.²⁰²

Moreover, their interest in social security doesn't stop here. Trying to restore the Alaskan tundra, each winter a team of BP specialists excavate gravel from the pads and remove drill cuttings and other waste left behind by the exploration teams. The estimated cost of this activity is \$2.5billion and they have already completed 40% of the cleaning-up.²⁰³

4.4.1 BP's CSR responsibilities

BP's corporate social responsibilities are arranged in a pyramid. Arguably, the first and foremost obligation of any company is to shareholders and the law and then it can focus on a

¹⁹⁹ “Multi-Nationals More Likely to Be Good Corporate Citizens – Press Releases on CSRwire.com,” accessed October 11, 2015, http://www.csrwire.com/press_releases/23362-Multi-Nationals-More-Likely-to-be-Good-Corporate-Citizens.

²⁰⁰ Christine Arena, *Cause for Success: 14 Companies That Put Profit Second and Came in First* (New World Library, 2011), 21f.

²⁰¹ Ibid.

²⁰² Charles O. Holliday, Stephan Schmidheiny, and Philip Watts, *Walking the Talk: The Business Case for Sustainable Development* (Berrett-Koehler Publishers, 2002), 221.

²⁰³ O. C. Ferrell and Michael Hartline, *Marketing Strategy* (Cengage Learning, 2012), 553.

higher level of responsibility, which is focused on the society. In this chapter some of these responsibilities will be analyzed thoroughly.²⁰⁴

1. Economic Responsibility

Economic Responsibility means adding value to and creating wealth for the economic system. BP had a good 2013, a year focused on good progress with the objective to transform BP into a safer, stronger, and better company. They invested a lot in a sustainable growth for their investors, involving in three projects and future implication in another two in 2014. Also, 7 from 12 exploration wells had become commercial discoveries in 2013.²⁰⁵

They strive for long-term shareholder value by increasing demand, while acting safe and responsibly. This means to create sustainable free cash flow which enables BP to invest in the future, but also distributes profit to investors. Also, CSR being part of their strategy and doctrine, BP tries to be in the same time a good employee and corporate citizen.²⁰⁶

2. Legal Responsibility

After the disaster in Gulf of Mexico, BP needed to pay around \$14billion. Moreover, BP agreed to pay \$4.5 billion for five years to solve all the criminal liabilities from the rig explosion and rig spill. Furthermore, \$6.5 billion has been paid on individual claims and business that suffered because of the spill. An amount of \$7.8billion is also saved for future claims. BP also admitted that it was guilty of “felony counts of misconduct or neglect”. Moreover, federal Clean Water Act fined the company with more than \$17billion for the barrel oil spilled.²⁰⁷

²⁰⁴ We already analyzed in the paper the theoretical concept of the companies’ CSR responsibility in chapter 2.1. Definitions

²⁰⁵ “Annual Report | Results and Reporting | Investors | BP Global,” *Bp.com*, accessed October 11, 2015, <http://www.bp.com/en/global/corporate/investors/results-and-reporting/annual-report.html>.

²⁰⁶ BP, “Annual Report and Form 20-F 2013,” 13.

²⁰⁷ “Overlay,” *The Economist*, accessed October 11, 2014, <http://www.economist.com/ec-overlay/init/emptyframe>.

Finally, safety remains the main priority. Management risk helps to protect people in the area where they operate. BP took responsibility of its actions and through internal and external investigation tried to prevent future accidents and improve safety of deep-water drilling. BP accepted responsibility and obeyed the law and try to minimize the losses that everybody had to suffer because of the oil spill.²⁰⁸

3. Ethical Responsibility

BP was the first oil company that had meaningful targets regarding the reduction of CO₂ emission by 10% between 1990 and 2010 and encourages the development of alternative source of energy (for example solar power).²⁰⁹ Based on Carroll's "Four part model of corporate social responsibility" theory,²¹⁰ we might conclude that BP has preferred a "progressive approach to environmental protection". BP always has delivered reports on their environmental development progress. BP has worked a lot to make people associate the company with a "greener" image, so that the society will choose it favor to other companies that are not that focused on alternative energy and on CO₂ emission reduction.²¹¹

Through the report "Ethical Conduct Policy", BP stated that they do not accept bribery and gifts as facilitation payments. Also they committed that all their actions are fair and legal. BP is also associated with United Nations Global Compact and they have partnership with Red Cross.²¹²

²⁰⁸ BP, "Investigations and Legal Proceedings," accessed October 11, 2015, <http://www.bp.com/content/dam/bp/pdf/sustainability/group-reports/investigations-and-legal-proceedings.pdf>.

²⁰⁹ National Research Council (US) Chemical Sciences Roundtable, "Carbon Dioxide Mitigation: A Challenge for the Twenty-First Century," 2001, <http://www.ncbi.nlm.nih.gov/books/NBK44138/>.

²¹⁰ Carroll, "The Pyramid of Corporate Social Responsibility: Towards the Moral Management of Organizational Stakeholders," 40.

²¹¹ Sam Warren, "Is BP an Ethical Company?," *Business Development Strategies*, accessed March 11, 2015, <http://wearedevelopment.net/2012/05/18/is-bp-an-ethical-company/>.

²¹² Ibid.

4.4.2 BP's CSR Practices

As we have already discussed, there is no guiding principles for carrying out CSR activities. However, I would like to emphasize some practices that BP implemented:

- 1) BP has a CSR policy. Their main focus is people and values, safety, managing environmental impacts where they operate, and society (seeking to have positive impacts on operating areas).²¹³
- 2) Investing in CSR activities irrespective of the turnover; in Table 4 there is evidence on BP's payment related to Gulf Coast recovery.²¹⁴

As can be seen the investment for a proper response and cleaning up the mess amounted to more than \$14 billion. Other claims and settlements were \$13.1 billion, while funding of the assessment of the natural resources cost over a billion dollars. Projects meant for restoration were funded with \$698 million, while marketing and tourism programs amounted to \$227.5 million together.²¹⁵

- 3) Partnership with charities or NGO's. BP involved many NGOs and trust in the restoration of BP's oil spill. Moreover the company created welfare funds for everybody affected and moreover, the restoration of the economy involved community development in the Gulf States. Moreover, BP is involved in education programs and also through the Gulf Region Health Outreach Program, which focuses on assuring healthcare services. The Gulf Region Health Outreach Program will be funded with \$105 million. When it comes to educational programs, BP provided a \$4-million grant to Fletcher Technical Community College in Houma, Louisiana which was matched by the state of Louisiana.^{216,217}

²¹³ "Sustainability | BP Global," *Bp.com*, accessed February 11, 2015, <http://www.bp.com/en/global/corporate/sustainability.html>.

²¹⁴ "Gulf of Mexico Restoration | BP Global," accessed September 24, 2015, <http://www.bp.com/en/global/corporate/gulf-of-mexico-restoration.html>.

²¹⁵ *Ibid.*

²¹⁶ "About the Gulf Region Health Outreach Program," accessed October 11, 2014, <http://www.grhop.org/Pages/About.aspx>.

²¹⁷ "College Breaks Ground for Oil Training Center | HoumaToday.com," accessed October 11, 2014, <http://www.houmatoday.com/article/20130108/HURBLOG/130109732>.

Table 4 BP payments related to Gulf Coast recovery

Activity (before December 2013)	Funding
Response and clean- up	>\$14bln
Claims, advances, and settlements	\$13.1bln
Funding for the natural resources assessment process	>\$1bln
Early restoration projects (Reflects projects that BP and the trustees have reached agreement or agreement in principle)	\$698mln
State-led tourism campaign	\$179mln
State-led seafood marketing program	\$48.5mln

Source: self-made table, based on “Gulf of Mexico Restoration | BP Global,” accessed September 24, 2015, <http://www.bp.com/en/global/corporate/gulf-of-mexico-restoration.html>.

- 4) They have organized for external investigators to check on their projects separately, to ensure a necessary objectivity. BP involved many official investigations related to the accident such as the US Coast Guard.²¹⁸
- 5) CRS activities where BP involved are long-term focused and sustainable. One example to be mentioned is the Bly report, which consists of a set of 26 recommendations aimed to reduce risk crossing across the global drilling activity. The time frame is 2016.²¹⁹
- 6) By restoring the economy, BP created a full program to support tourists in different states around Gulf of Mexico. Moreover, BP supported NGOs and government entities across Gulf Coast to promote tourism and seafood industries.²²⁰
- 7) Moreover, helping and getting help from the government makes BP good Public- private Partnership. After the disaster, BP was suspended by EPA to enter in any new contracts

²¹⁸ BP, “Investigations and Legal Proceedings.”

²¹⁹ “Completing the Bly Report Recommendations | Process Safety | Safety | Sustainability | BP Global,” *Bp.com*, accessed February 11, 2015, <http://www.bp.com/en/global/corporate/sustainability/safety/preventing-incidents-through-process-safety/completing-the-bly-report-recommendations.html>.

²²⁰ “Gulf Economic Restoration | Gulf Commitment | BP U.S.,” *Bp.com*, accessed February 11, 2015, http://www.bp.com/en_us/bp-us/commitment-to-the-gulf-of-mexico/gulf-economic-restoration.html.

with US government. In March 2014, this restriction was removed as a new 5 years agreement was settled with the US Securities and Exchange Commission.²²¹

- 8) BP has good methodologies to make their corporate social activities measurable and deliverable. There is always an internal report done which confirms the status of their activities and where they are in the process.²²²
- 9) BP proved that is both consumer-driven and citizen-driven.²²³
- 10) CSR involved in many environmental contributions, which also enable tangible business benefits. For example, by supporting long time research helps BP better understand the impact of oil spills. Moreover, hiring people helps also BP to expand their business and focus on future activities and investment in the Gulf.²²⁴
- 11) Through all the CSR activities that BP involved during the last years helped the company to gain competitive advantage.²²⁵

BP's involvement in philanthropy is not adulterated by business objects. The company has established an independent charitable foundation. The advantage of this approach is in favor of community, by creating greater value for society and not at least for them. Through the CSR approach, BP repositioned the brand by making a commitment to the society. Its contribution to society was not only internally measured, but also externally, gaining society trust in this way.²²⁶

After the tragedy in the Gulf of Mexico, BP involved in various CSR and sustainability activities as restoring the environment and economy, supporting long-term research and so on.^{227,228}

²²¹ BP, "Investigations and Legal Proceedings."

²²² "About Our Reporting | Sustainability | BP Global."

²²³ BP, "Annual Report and Form 20-F 2013."

²²⁴ "Gulf Economic Restoration | Gulf Commitment | BP U.S."

²²⁵ Ibid.

²²⁶ "BP Foundation | Community | BP U.S.," *Bp.com*, accessed October 2, 2015, http://www.bp.com/en_us/bp-us/community/bp-foundation.html.

²²⁷ "Gulf Environmental Restoration | Gulf Commitment | BP U.S.," *Bp.com*, accessed October 11, 2015, http://www.bp.com/en_us/bp-us/commitment-to-the-gulf-of-mexico/gulf-environmental-restoration.html.

²²⁸ "Gulf Economic Restoration | Gulf Commitment | BP U.S."

4.4.2.1 Restoring the environment

BP tried to understand the potential injury that the spill has created by working and associating with Natural Resource Damage Assessment fund. As soon as the damage was evaluated, BP has been involved in different projects trying to restore the environment and make from Deep-water Horizon disaster history. The restoration project started with the study of the range of species and habitats, so that everybody would understand the circumstances of this tragedy and who was affected by the accident.²²⁹

4.4.2.2 Restoring the economy

The most affected parts of the industries were tourism and seafood. Therefore, BP involved in 3 areas:²³⁰

- Encouraging tourism in the former disaster site: investing more than \$170 million in different states in order to support regional and national tourism. Also, starting 2013 recreational fishing is again part of the tourism, with a growth of 30% in 2013, over the same period in 2007-2009;²³¹
- Seafood industry recovery: FDA specified in 2010 that seafood specimens in percentage of 99% do not show any detectable residue. BP funded the FDA with more than \$20 million in order to support them in testing and analyzing seafood. Major activities were taken to protect the sea life during the spill, including closing affected fishing grounds. The situation remained like until the spill was done and seafood samples passed the harmful oil residues tests. Even today still, FDA still collects and test samples in the area. Moreover, BP helped three American states develop programs to boost Gulf seafood sales by investing more than \$45 million in three years;²³²

²²⁹ “Gulf Environmental Restoration | Gulf Commitment | BP U.S.”

²³⁰ “Gulf Economic Restoration | Gulf Commitment | BP U.S.”

²³¹ Ibid.

²³² Ibid.

- Community development: in order to support economy development and also the people from the region, BP hired 2,300 people; also BP is involved in educational programs, enterprise development and community development.²³³

4.4.2.3 Gulf Claims

BP paid compensations to everybody affected by the Deep-water Horizon accident. The claims were accessible for individuals and business and it needed to fit in one of three categories. The coverage rate of the claim is in favor of individuals and businesses, as more than 40% of the claims received 60%.²³⁴

4.4.2.4 Restoring labor work and safety

BP hired more than two thousand people in the Gulf of Mexico since the tragedy and continuously supporting the region by creating additional jobs. Moreover, after the oil spill disaster, BP focused more on the safety of drilling operations in the Gulf. As already mentioned, after the accident, BP released the Bly Report, where 26 recommendations were made in order to improve the safety in the business and reduce risk across the drilling.²³⁵ The recommendations involved not only people, but also process and plant. Some of the conclusions of the Bly report were that the cement barrier had some issues or that the fire system failed to work.²³⁶

As a consequence to the Deep Water Event, BP companies were prohibited from signing deals in the US by the US government. However, BP succeeded to disable the suspension as

²³³ Ibid.

²³⁴ "Claims | Gulf of Mexico Restoration | BP Global," *Bp.com*, accessed October 2, 2015, <http://www.bp.com/en/global/corporate/error.html>.

²³⁵ "Completing the Bly Report Recommendations | Process Safety | Safety | Sustainability | BP Global."

²³⁶ BP, "Deepwater Horizon Accident Investigation Report | BP Global," August 9, 2010, http://www.bp.com/content/dam/bp/pdf/gulf-of-mexico/Deepwater_Horizon_Accident_Investigation_Report.pdf.

in march 2014 a new agreement was settled with US Environmental Protection Agency (EPA).²³⁷

4.4.2.5 Supporting long-term research

Integrating business and social needs is the core of corporate social responsibility. This is not an easy process for a company; it involves adjustments in the company, reporting relationship and most important initiatives.

BP is one of the companies that do this. A clear example is the Gulf of Mexico Research. Through this organization, BP tries to understand the impacts of oil spill on marine and coastal ecosystem, in order to mitigate and prevent the potential impact. BP invested more than \$500 million in the past 10 years, which didn't pass unobserved. The research team of Gulf of Mexico has awarded \$184 million in grants.^{238, 239}

²³⁷ BP, "Investigations and Legal Proceedings."

²³⁸ "Gulf Environmental Restoration | Gulf Commitment | BP U.S."

²³⁹ BP, "Sustainability Review 2011," 8.

5 Financial analysis of the BP Oil Spill

(written by Radu Bogdan Popescu)

The BP Oil spill was chosen as a case study to underline the importance of sustainable development and CSR within a business. We will investigate if BP is really using CSR and if the stock prices and financials of the company were affected by the oil spill. In the next chapters this will be thoroughly explained and analysed.

5.1 Introduction

The BP oil spill, which took place in the Gulf of Mexico, was the biggest unintentional offshore oil spill in history. It was even bigger than the Exxon disaster in the late 80s, which was considered to be the largest spill in US waters.²⁴⁰

The Deep-water Horizon was a deep-water drilling rig set off the mainland coast in the state of Louisiana. On April 20, 2010 it exploded, resulting in 11 deaths and 17 injured. It spewed around 4.9m barrels of oil into the sea on April 20, 2010 and the fire kept burning for 36 hours. As BP (the main operator of the Macondo Prospect) decided to shut down the Macondo well, 62,000 barrels of oil gushed daily.²⁴¹

The spill was an environmental disaster and seriously affected the local businesses, mainly consisting of fishing and tourism. All the states which were directly impacted by the spill (Mississippi, Alabama, Louisiana and Florida) filed charges against the oil concern. BP had to anticipate high fines and a vast sum of cleaning costs. The “Clean Water Act” penalizes the illegal disposal of waste. Therefore BP had to expect high fines ranging between \$1,100 and \$4,300 per barrel. This would be a penalty of \$5.4 to \$21 billion at 4.9m barrels. According The Guardian, BP offered \$32.2bn to cover the clean-up costs and the total bill for BP in

²⁴⁰ Campbell Robertson and Clifford Krauss, “Gulf Spill Is the Largest of Its Kind, Scientists Say,” *The New York Times*, August 2, 2010, <http://www.nytimes.com/2010/08/03/us/03spill.html>.

²⁴¹ William R. Freudenburg and Robert Gramling, *Blowout in the Gulf: The BP Oil Spill Disaster and the Future of Energy in America* (MIT Press, 2011), 13.

November 2010 was \$40bn. This has led the company to a record loss of \$17bn for the second quarter of 2010.²⁴²

Owing to this event, we want to analyse, if the oil spill had an impact on BP, other petroleum firms. The market capitalisation, the stock prices, and their overall financials could show a significant negative impact. This event could provide us with a very good insight about how the market reacts to a catastrophe of these proportions.

We are planning to analyse the effects of this event on BP, their partners, competitors (other petroleum companies and solar companies) and their suppliers. The next step is to identify these companies and start analysing how the cost of the disaster changes their market value.

5.2 Possible responsible companies of the Deep-water Horizon catastrophe

BP held a stake of 65% in the Macondo well. 25% percent belonged to Anadarko Petroleum Company and 10% belonged to MOEX offshore. As these three companies form the full ownership of the well, we will include them all in our research. Furthermore, we know that the Macondo well was leased to the three companies by Transocean, so that makes Transocean the true owner of the well.²⁴³

Another company that was under investigation was Halliburton. They are a cement company that led a cement job on the well and could count as one of the responsible of the catastrophe if there will be evidence that they did a bad job. The last company that we will include in our research is Cameron International Corporation. They were the ones who installed the blowout preventer on the Macondo well. This is a large valve used in operational processes involving oil and gas wells. It represents basically a safety device, activated only in case of a disaster.

²⁴² William H. Rodgers Jr, Jason DeRosa, and Sarah Reyneveld, "Stranger than Fiction: An Inside Look at Environmental Liability and Defense Strategy in the Deepwater Horizon Aftermath," *Wash. J. Envtl. L. & Pol'y* 1 (2011): 222.

²⁴³ Christina Ingersoll, Richard M. Locke, and Cate Reavis, "BP and the Deepwater Horizon Disaster of 2010 | LearningEdge at MIT Sloan," *MIT Sloan Management Review* 10–110 (March 4, 2012): 7.

The blowout preventer failed to work on the Macondo well, leading to its explosion and the Deep-water Horizon catastrophe. All these five companies will be included in our research.²⁴⁴

5.3 Research plan

The main interest of this paper is to analyse how the returns of BP, its partners, competitors and suppliers were affected by the Deep-water Horizon oil spill. I will start the paper by describing BP as a company. We will quickly go through its business, talk about what kind of services they are providing, and decide in which industries they are competing. Afterwards we will talk about its competitors and suppliers as companies indirectly affected by the disaster.

In order for us to be able to explain the changes in the financials of these companies we need to get the full picture of the size of this event. We will map the reactions of all the parties that were involved (BP, government, local communities, local industries, etc.) and we will investigate the clean-up costs, the ecological damages and stricter regulation.

All these consequences have an influence on the share prices and market value of BP. In order to have a clear structure of all the consequences we will chronologically present a series of events/announcements linked to the Deep-water Horizon catastrophe.

With the help of this timeline I can then analyse any abnormal changes in the returns of BP linked to the corresponding event. Finally, we can then analyse if these abnormal returns are really linked to the oil spill.

Next we will run the same analysis for BP's partners, competitors, and suppliers using the same events. The objective is to see if any of the events affected the returns of other companies; be it companies directly involved in the disaster or companies indirectly involved. In the next section I will discuss about BP, its competitors and suppliers.

²⁴⁴ Christina Ingersoll, Richard M. Locke, and Cate Reavis, "BP and the Deepwater Horizon Disaster of 2010 | LearningEdge at MIT Sloan," *MIT Sloan Management Review* 10–110 (March 4, 2012): 9 and 20.

5.4 BP, Competitors and Suppliers

BP or Beyond Petroleum is a UK based company and one of the largest oil and gas companies to date. The company was founded in 1908 under the name of Anglo-Persian Oil Company and is now the third largest oil and gas company worldwide. It is now activating within all sectors of the oil industries, from exploration to marketing and everything in between. Lately the company has also been investing a lot in the renewable energy sector.²⁴⁵

The company has around 80,000 employees in 70 countries worldwide. In 2013 their sales and operating revenues was \$379,136 million and their market capitalization was \$147.14B.²⁴⁶

5.4.1 Competitors

1. Oil Companies

There are basically six large corporations that dominate the gas and oil industry. Extensive research showed that this list varies according to author and year. Even the number of companies is different for some scholars. We chose for our analysis the companies Royal Dutch Shell, Exxon Mobil, Chevron Corporation Corporation, Total S.A., ConocoPhillips, and BP of course. They are usually named the “Big Oil”. They are all very powerful companies in the US, both from an economic and a political perspective.²⁴⁷

Table 5 shows the size of these companies from an economic perspective.²⁴⁸

²⁴⁵ Tyra N. Turner, *Vault Guide to the Top Energy & Oil/gas Employers* (Vault Inc., 2005), 50.

²⁴⁶ “BP at a Glance | About BP | BP Global.”

²⁴⁷ “Oil Company Histories,” accessed February 11, 2015, <http://www.virginia.edu/igpr/APAG/apagoilhistory.html>.

²⁴⁸ Statistics retrieved from finance.yahoo per year 2013 “RDS-B: Summary for Royal Dutch Shell PLC Royal Dut- Yahoo! Finance,” n.d., http://finance.yahoo.com/q?s=RDS-B&fr=uh3_finance_vert_gs&type=2button&uhb=uhb2; “BP P.l.c.,” *Yahoo! Finance*, n.d., <http://finance.yahoo.com/q?s=BP>; “Chevron Corporation,” *Yahoo! Finance*, n.d., <http://finance.yahoo.com/q?s=CVX>; “TOTAL S.A.,” *Yahoo! Finance*, n.d., <http://finance.yahoo.com/q?s=TOT>; “ConocoPhillips,” *Yahoo! Finance*, n.d., <http://finance.yahoo.com/q?s=COP>; “XOM: Summary for Exxon Mobil Corporation Common - Yahoo! Finance,” n.d., http://finance.yahoo.com/q?s=XOM&fr=uh3_finance_vert_gs&type=2button&uhb=uhb2.

The ranking is made based on their revenues in the year 2013. The value for the market capitalization was taken on April 13 of 2014. The first place is occupied by Royal Dutch Shell with a revenue of \$451 billion and a market capitalization of \$231 billion, followed by Exxon Mobil with a revenue of \$421 billion and a market capitalization of \$418 billion. On third place is BP with a revenue of \$396 billion and a market capitalization of \$147 billion, followed by Chevron Corporation with a revenue of \$220 billion and a market capitalization of \$223 billion. Occupying place 5 and 6 are Total S.A. and ConocoPhillips, with a revenue of \$171 and \$58 billion, respectively, and a market capitalization of \$150 and \$87 billion, respectively.²⁴⁹

Table 5 Top Oil companies by revenue and market capitalization

Rank	Company	Revenue	Market Cap
1	Royal Dutch Shell	\$451.24	\$230.82
2	Exxon Mobil	\$420.84	\$417.95
3	BP	\$396.22	\$147.14
4	Chevron Corporation	\$220.26	\$223.43
5	Total S.A.	\$171.71	\$150.19
6	ConocoPhillips	\$58.25	\$86.89

(in billions)

Source: Own illustration based on Statistics retrieved from finance.yahoo.com per year 2013 “RDS-B: Summary for Royal Dutch Shell PLC Royal Dut- Yahoo! Finance,” “BP P.l.c.,” *Yahoo! Finance*, “Chevron Corporation,” *Yahoo! Finance*, “TOTAL S.A.,” *Yahoo! Finance*, “ConocoPhillips,” *Yahoo! Finance*, “XOM: Summary for Exxon Mobil Corporation Common - Yahoo! Finance

The competitive environment in this field is a very tough one. As can be seen from Table 5, Exxon and Royal Dutch Shell are two of the largest companies in terms of revenue. This shows the importance of the gas and oil industry in the world.²⁵⁰

The reason why we want to look at competitors is because we could find very interesting results by analysing the impact of the aforementioned catastrophe on their returns. The returns

²⁴⁹ Ibid.

²⁵⁰ Ibid.

could increase as the investors will support other oil companies, afraid of what will happen to BP's market value after the event. On the other hand, the returns could decrease, as the image of their industry will be damaged.

2. Solar companies

We decided to also examine the renewable energy sector, more precisely the solar energy one. The companies that we are going to include in our research are Suntech Power Holding Ltd., Sunpower Corp., Trina Solar Ltd., First Solar Inc. and Ja Solar Holding. They are all big players in the solar energy sector.^{251,252}

Table 6 shows the size of these companies from an economic perspective.²⁵³

Table 6 Top solar companies by revenue and market capitalization

Rank	Company	Revenue	Market Cap
1	First Solar	\$3.31	\$6.6
2	Suntech Power Holding	\$3.15	\$0.56
3	Sunpower	\$2.51	\$3.23
4	Trina Solar	\$1.78	\$0.84
5	Ja Solar	\$1.08	\$0.41

(in billions)

Source: Own illustration based on Statistics retrieved from finance.yahoo.com per year 2013“FSLR: Summary for First Solar, Inc.- Yahoo! Finance,” “STPFQ: Summary for SUNTECH POWER HLDGS- Yahoo! Finance,” “SunPower Corporation,” *Yahoo! Finance*, “TSL: Summary for Trina Solar Limited Sponsored A- Yahoo! Finance,” “JASO: Summary for JA Solar Holdings, Co., Ltd.- Yahoo! Finance

²⁵¹ “Guess Who Are The Top 10 Solar Panel Makers In the World? - Forbes,” accessed March 11, 2015, <http://www.forbes.com/sites/uciliawang/2014/12/03/guess-who-are-the-top-10-solar-panel-makers-in-the-world/2/>.

²⁵² “Top 5 Solar Stocks by Market Cap | Commodity HQ,” accessed March 11, 2015, <http://commodityhq.com/2012/top-5-solar-stocks-by-market-cap/>.

²⁵³ Statistics retrieved from finance.yahoo with revenues per year 2013 and market capitalization accessed 13 April 2014 “FSLR: Summary for First Solar, Inc.- Yahoo! Finance,” n.d., http://finance.yahoo.com/q?s=FSLR&fr=&type=2button&uhb=uh3_finance_vert; “STPFQ: Summary for SUNTECH POWER HLDGS- Yahoo! Finance,” n.d., http://finance.yahoo.com/q?_ylt=Au6WfB8Rm_W6fIPb9hB86i0nv7gF;_ylc=X1MDMjE0MjQ3ODk0OARfcgMyBGZyA3VoM19maW5hbmNlX3dlY19ncwRmcjIDc2EtZ3AEZ3ByaWQDBG5fZ3BzAzEEb3JpZ2luA2ZpbmFuY2UueWFob28uY29tBHBvcwMxBHBxc3RyAwRxdWVyeQNTVFBGUSwEc2FjAzEEc2FvAzE-?p=http%3A%2F%2Ffinance.yahoo.com%2Fq%3Fs%3DSTPFQ%26ql%3D0&uhb=uhb2&fr=uh3_finance_vert_gs&s=STPFQ; “SunPower Corporation,” *Yahoo! Finance*, n.d., <http://finance.yahoo.com/q?s=SPWR>; “TSL: Summary for Trina Solar Limited Sponsored A- Yahoo! Finance,” n.d., http://finance.yahoo.com/q?s=TSL&fr=uh3_finance_vert_gs&type=2button&uhb=uhb2; “JASO: Summary for JA Solar Holdings, Co., Ltd.- Yahoo! Finance,” n.d., http://finance.yahoo.com/q?s=JASO&fr=uh3_finance_vert_gs&type=2button&uhb=uhb2.

The ranking is made based on their revenues in the year 2013. The value for the market capitalization was taken on April 13 of 2014. As can be seen from the table the first place is occupied by First Solar with a revenue of \$3.3 billion and a market capitalization of \$6.6 billion, followed by Suntech Power Holding with a revenue of \$3.1 billion and a market capitalization of \$0.6 billion. On third place is Sunpower with a revenue of \$2.5 billion and a market capitalization of \$3.2 billion, followed by Trina Solar with a revenue of \$1.7 billion and a market capitalization of \$0.8 billion. Occupying the fifth place 5 is Ja Solar with a revenue of \$1 and a market capitalization of \$0.4.²⁵⁴

In the case of the solar companies we are expecting to see a negative correlation between them and the oil companies. As the Deep-water Horizon disaster will most probably have a negative impact on the returns of the directly involved companies and on their industry in general, we expect the returns of the solar energy companies to increase as the investors will most probably be on the look for more secure, ecological ways of investing their money.

5.4.2 Suppliers

We are very interested in taking also BP's main suppliers into our research as these are also very large companies that could have been affected by the Deep-water Horizon disaster. Out of the 70 suppliers with which BP makes business, we are going to take the top six suppliers; that means that we are going to choose those suppliers that are highly dependent on BP as a customer (for which 10% or more of their revenues is brought by BP). These suppliers are seen in Table 7.²⁵⁵

Table 7 shows the size of these companies from an economic perspective.²⁵⁶

²⁵⁴ Ibid.

²⁵⁵ G.J.H. Goossens, "The Big Oil Spill: The Market Value Consequences of the Deepwater Horizon Disaster" (Tilburg School of Economics and Management, 2012), 7.

²⁵⁶ Statistics retrieved from finance.yahoo with revenues per year 2013 and market capitalization accessed 13 April 2014 "Superior Energy Services, Inc.," *Yahoo! Finance*, n.d., <http://finance.yahoo.com/q?s=SPN>; "Parker Drilling Co.," *Yahoo! Finance*, n.d., <http://finance.yahoo.com/q?s=PKD>; "Comstock Resources Inc.," *Yahoo! Finance*, n.d., <http://finance.yahoo.com/q?s=CRK>; "Capital Product Partners L.P.," *Yahoo! Finance*, n.d., <http://finance.yahoo.com/q?s=CPLP>; "Allis-Chalmers Energy, Incorporated Company Financial Information," n.d., <http://www.advfn.com/stock-market/NYSE/ALY/financials>; "BRN: Summary for Barnwell Industries, Inc. Commo- Yahoo! Finance," n.d., http://finance.yahoo.com/q?s=BRN&fr=uh3_finance_web&uhb=uhb2.

The ranking is made based on their revenues in the year 2013. The value for the market capitalization was taken on April 13 of 2014. The first place holds Superior Energy Services with a revenue of \$4.6 billion and a market capitalization of \$5 billion/ The second place goes to Parker Drilling Company with a revenue of \$0.9 billion and a market capitalization of \$0.8 billion. Third is Comstock Resources with a revenue of \$0.4 billion and a market capitalization of \$1.3 billion, followed by Capital Product Partners with a revenue of \$0.2 billion and a market capitalization of \$1 billion. Occupying place 5 and 6 are Allis Chalmers and Barnwell Industries, with a revenue of \$0.17 and \$0.03 billion, respectively, and a market capitalization of \$0.28 and \$0.03 billion, respectively.²⁵⁷

Table 7 Top BP suppliers

Rank	Company	Revenue	Market Cap
1	Superior Energy Services	\$4.61	\$4.98
2	Parker Drilling Company	\$0.87	\$0.78
3	Comstock Resources	\$0.42	\$1.26
4	Capital Product Partners	\$0.17	\$0.95
5	Allis Chalmers	\$0.17	\$0.28
6	Barnwell Industries	\$0.025	\$0.026

(in billions)

Source: Own illustration based on Statistics retrieved from finance.yahoo.com per year 2013“Superior Energy Services, Inc.,” “Parker Drilling Co.,” “Comstock Resources Inc.,” “Capital Product Partners L.P.,” “Allis-Chalmers Energy, Incorporated Company Financial Information,” “BRN: Summary for Barnwell Industries, Inc. Commo- Yahoo! Finance,”

We think these companies are relevant for our research for the following reason. As BP will most likely be negatively affected by the Deep-water Horizon disaster, its income will be reduced, leading to a reduction in its spending. This means that the income of the suppliers will also be reduced. As these companies are highly dependent on BP, we expect to see some kind of impact on their profits.

²⁵⁷Ibid.

5.5 Deep-water Horizon catastrophe – economic and environmental consequences

The explosion of the Macondo well led to the leaking of 4.9 million oil barrels in the sea. Under normal conditions the environment can handle an amount of 1.300 barrels a day of crude oil resurfacing. As the amount of crude oil spilled during the catastrophe is way above what nature can take, the environment was not able to clean the waters through its natural processes. This led to a massive pollution of the water, seriously endangering the environment and the economy of the neighbouring states. ^{258,259,260}

5.5.1 Environmental consequences

We all realize that companies acting in this industry are more prone to polluting and endangering the local environment. Their operating activities are exposing these companies to this risk in their day to day business. That risk can seriously damage the image of a company. That is why this is a very important aspect, especially nowadays, when everyone tends to prefer eco-friendly products and is willing to be charged more for such products. An overall healthy environment is one of the top priorities of the consumers and consequently the producers.

There are many laws that were enforced in the United States in this sense. For the BP Deep-water Horizon disaster it is the Clean Water Act that comes into play. This act controls and establishes the quality standards of the surface waters and is in charge of the regulation of the discharged pollutants into the waters. Under this law, a company could be fined up to \$4.300 per barrel if it is proved that the spill resulted due to negligence. ²⁶¹

Furthermore, we have the “Comprehensive Environmental Response, Compensation, and Liability Act”. This law is used to force those in charge to pay for what they’ve done. We are

²⁵⁸ G.J.H. Goossens, “The Big Oil Spill: The Market Value Consequences of the Deepwater Horizon Disaster” (Tilburg School of Economics and Management, 2012), 8.

²⁵⁹ Joel Achenbach and David A. Farenthold, “Oil Spill Dumped 4.9 Million Barrels into Gulf of Mexico, Latest Measure Shows,” *The Washington Post*, August 3, 2010, <http://www.washingtonpost.com/wp-dyn/content/article/2010/08/02/AR2010080204695.html>.

²⁶⁰ “The Oil Drum | Natural Oil Seeps and the Deepwater Horizon Disaster: A Comparison of Magnitudes,” accessed February 11, 2015, <http://www.theoil drum.com/node/6552>.

²⁶¹ “Water | ENRD | Department of Justice,” accessed February 11, 2015, <http://www.justice.gov/enrd/water>.

talking here of actions to remediate the environmental damages and compensations to the directly affected parties for the damages created.²⁶²

Another law is the Oil Pollution act, under which any individual or business can sue the company for caused damage.²⁶³

In the case of the BP Deep-water Horizon disaster, BP can be held accountable for the damage done under all of these three laws.

5.5.2 Consequences on the local businesses

It is safe to say that a disaster of this proportion seriously damaged the local businesses. The fishing industry, the real estate industry and the local tourism were all temporarily shut down causing a strong downturn. In the following, we will take a closer look at each industry.²⁶⁴

5.5.2.1 Fishing industry

The Gulf Coast represents a very important point for the seafood production in the US. It accounts for 18% of the total seafood production in the US. Approximately 72% of the whole shrimp production in the US is produced in the Gulf of Mexico. The same can be said for the total oysters production, where approximately 60% of it is produced in the Gulf of Mexico.

Directly after the oil spill, a large water area was closed for fishing due to the environmental risks involved. Approximately 40% of the water area at the site was closed until April 2011. Needless to say, this had a strong negative impact on the fishing industry, as it was no longer able to ensure the supply of seafood. Another negative impact was the shrinking demand for seafood from that area as the consumer confidence decreased drastically. All these negative effects lead to a significant loss in market share of the fishing companies working in that area.²⁶⁵

²⁶² OSWER US EPA, "Superfund," Collections and Lists, accessed February 11, 2015, <http://www2.epa.gov/superfund>.

²⁶³ OA US EPA, "Summary of the Oil Pollution Act," Overviews and Factsheets, accessed February 11, 2015, <http://www2.epa.gov/laws-regulations/summary-oil-pollution-act>.

²⁶⁴ "NOAA: All Federal Waters of the Gulf Once Closed to Fishing due to Spill Now Open," accessed February 11, 2015, http://www.noaanews.noaa.gov/stories2011/20110419_gulfreopening.html.

²⁶⁵ Ibid.

5.5.2.2 Tourism

The tourism in the Gulf area is estimated to generate approximately \$65 billion in annual revenue. As you can expect this business area also experienced a negative hit from the oil spill. Shortly after the disaster, there was a huge increase in the cancellation of hotel and home rental reservations. A lot of people were afraid to spend their holidays in the area, and thus, tourism declined drastically.²⁶⁶

5.5.2.3 Real estate industry

The oil spill had a big negative impact on the real estate industry. Firstly the demand for real estate in that area decreased as people were afraid to move or invest in that area. Secondly, with decreased demand comes a decrease in the real estate prices. Usually decreases in prices scare people even more and incentives them to wait until the prices fall even more. This two copped effects lead to significant drop in the revenues of the real estate companies with assets in the Gulf of Mexico.²⁶⁷

5.5.3 Impact on oil prices

Surely, we expect the oil spill to have affected the oil price. The Deep-water Horizon catastrophe led to 4.9 million barrels of leaked oil which means that approximately 95 million gallons of gasoline wasted or unusable. That is why we expect the oil spill to have negatively impacted the oil price.²⁶⁸

The price of oil did indeed increase, but not immediately. This can be explained in two ways. Firstly, the oil spilled represents a very small fraction of the entire oil production. Secondly, the Deep-water Horizon rig was not even producing gasoline yet. It was still in the pre-production phase, meaning that the oil leakage didn't have any effect on the current gasoline output.^{269,270}

²⁶⁶ "Factbox: Gulf Oil Spill Impacts Fisheries, Wildlife, Tourism," *Reuters*, May 30, 2010, <http://www.reuters.com/article/2010/05/30/us-oil-rig-impact-factbox-idUSTRE64T23R20100530>.

²⁶⁷ "How The BP Oil Spill Impacts Gulf Coast Real Estate," accessed October 1, 2015, <http://www.nuwireinvestor.com/articles/how-the-bp-oil-spill-impacts-gulf-coast-real-estate-55147.aspx>.

²⁶⁸ Goossens, "The Big Oil Spill," 11.

²⁶⁹ "Oil Production in Federal Gulf of Mexico Expected to Continue Increasing - Today in Energy - U.S. Energy Information Administration (EIA)," accessed February 11, 2015, <http://www.eia.gov/todayinenergy/detail.cfm?id=20192>.

Contrary to our forecast, the oil price first saw a decrease in the post-event period, in May 2010. A slowdown in the Chinese economy, the European debt crisis fuelled concerns about a decreasing demand of oil. Another event in the end of May was the announcement of oil drilling restrictions. President Obama enforced new oil drilling restrictions, two of which stopping the drilling in deep water for a period of six months. A total of 30 rigs were affected by this restriction.²⁷¹ As a consequence, the oil price increased with four percent in the days after the announcement.²⁷² This however represents a temporarily effect. The restrictions affected only 30 local sites and hence the entire production was barely affected by these local measures.²⁷³

5.6 BP Actions

Immediately after the catastrophe, BP took a step in front and announced that they will restore the affected area to its previous state. Since then, the company spent billions of dollars in activities such as clean-up, compensation and restoration of the environment and economy. A total of \$37.2 billion were saved for costs regarding the Deep-water Horizon catastrophe. Out of this amount, \$17.2 was directly spent by BP in response activities and \$20 billion were set up in a trust together with the US government. BP also promised additional quarterly \$1.25 billion until 2014.²⁷⁴

5.6.1 Cleanup

After the disaster happened, BP's main task was to take hold of the well and to clean-up the spill. In order to do this, the company sent a fleet of 5,000 vessels equipped with systems capable of cleaning the water. A total of 90,000 people helped in the clean-up, approximately 830,000 barrels of oil were removed from the water and around 265,000 barrels were

²⁷⁰ "Deepwater Horizon Oil Spill," accessed October 11, 2014, <http://www.eoearth.org/view/article/161185/>.

²⁷¹ Guardian research, "BP Oil Spill Timeline," *The Guardian*, July 22, 2010, sec. Environment, <http://www.theguardian.com/environment/2010/jun/29/bp-oil-spill-timeline-deepwater-horizon>.

²⁷² "Crude Oil (petroleum) - Monthly Price - Commodity Prices - Price Charts, Data, and News - IndexMundi," accessed October 11, 2014, <http://www.indexmundi.com/commodities/?commodity=crude-oil&months=120>.

²⁷³ Goossens, "The Big Oil Spill," 12.

²⁷⁴ Jonathan M. Harris and Brian Roach, *Environmental and Natural Resource Economics: A Contemporary Approach* (M.E. Sharpe, 2013), 112.

destroyed. Approximately 650 miles of the shoreline were infected. BP's clean-up bill amounted to approximately \$14 billion. It all ended mid-July, when the well was taken on-shore and the oil leakage was stopped.²⁷⁵

5.6.2 Environment

In order to evaluate the damage that has been done to the environment and the necessary actions to try to remediate these, BP together with other federal and state agencies started a Natural Resource Damages evaluation process. Only for this evaluation process the company paid over half a million dollars. As this type of projects take a lot of time to complete, BP started so called early restoration projects so that no time is being wasted. The oil concern invested one billion dollars in the restoration of natural resources that were damaged by the oil spill. This was great news as it meant that the restoration of the environment started right away, not waiting until all the damage claims are settled or until the oil concern is legally required to pay for the restoration.²⁷⁶

BP was also active in restoring the wildlife in the Gulf of Mexico area. Health and population assessments were financed and several rehabilitation centres were set up. Furthermore, BP invested \$22 million in wildlife protection projects. The company also set up an independent research program with the goal of having a better knowledge of the ecosystem in the Gulf of Mexico and avoid or reduce the negative impact of this kind of disasters. BP promised a \$500 million investment in this project, spread over 10 years.²⁷⁷

5.6.3 Economy

As the tourism was also affected by the oil spill, BP made serious efforts in order to restore the image of the Gulf of Mexico as a holiday destination. Between 2010 and 2013, BP

²⁷⁵ "Deepwater Horizon Accident and Response | Gulf Commitment | BP U.S.," *Bp.com*, accessed October 11, 2014, http://www.bp.com/en_us/bp-us/commitment-to-the-gulf-of-mexico/deepwater-horizon-accident.html.

²⁷⁶ Jonathan L. Ramseur, "Deepwater Horizon Oil Spill: Recent Activities and Ongoing Developments | La Sélection de l'Ambassade" (Congressional Research Service, April 17, 2015), 4, <http://blogs.usembassy.gov/laselectiondelambassade/deepwater-horizon-oil-spill-recent-activities-and-ongoing-developments/>.

²⁷⁷ BP, "Sustainability Review 2010," 11–12, accessed October 11, 2015, http://www.bp.com/content/dam/bp/pdf/sustainability/group-reports/bp_sustainability_review_2010.pdf.

invested approximately \$180 million to promote the tourism in the areas directly affected by the disaster. BP itself created 2011 a series of ads in which they promote tourism in the Gulf. Another area where BP invested after the oil spill was the seafood industry. Between 2010 and 2013, BP invested approximately \$34 million into seafood testing, making sure that all the seafood is thoroughly controlled and there is no risk of contamination that could eventually put the life of the population in danger. Besides safety BP also invested in the seafood marketing area; between 2011 and 2013, BP offered around \$49 million for the promotion of seafood.²⁷⁸

5.6.4 Legal claims

In order for BP to be able to fulfil its legal obligations caused by the oil spill, a \$20 billion trust was created in June 2010. This assured all constituents that BP will be able to pay for the damage done and will be able to honour all costs and claims. All private or professional individuals or local governments and states that were affected by the catastrophe, directly or indirectly, had the possibility to go before court against BP and ask for compensations.²⁷⁹

In August 2012 all the cases were settled and BP had to pay claims amounting to \$8.5 billion. Out of this, \$7 billion went to private or professional individuals and \$1.5 billion to the local governments and states.²⁸⁰

5.7 Market Capitalization Consequences

In this section we will analyse the effects of the Deep-water Horizon disaster on the market capitalization of all the parties involved. We will start by analysing BP and afterwards we will continue with analysing the effects of the disaster on BP's competitors, partners, and suppliers.

²⁷⁸ BP, "Sustainability Review 2011," 6 and 9.

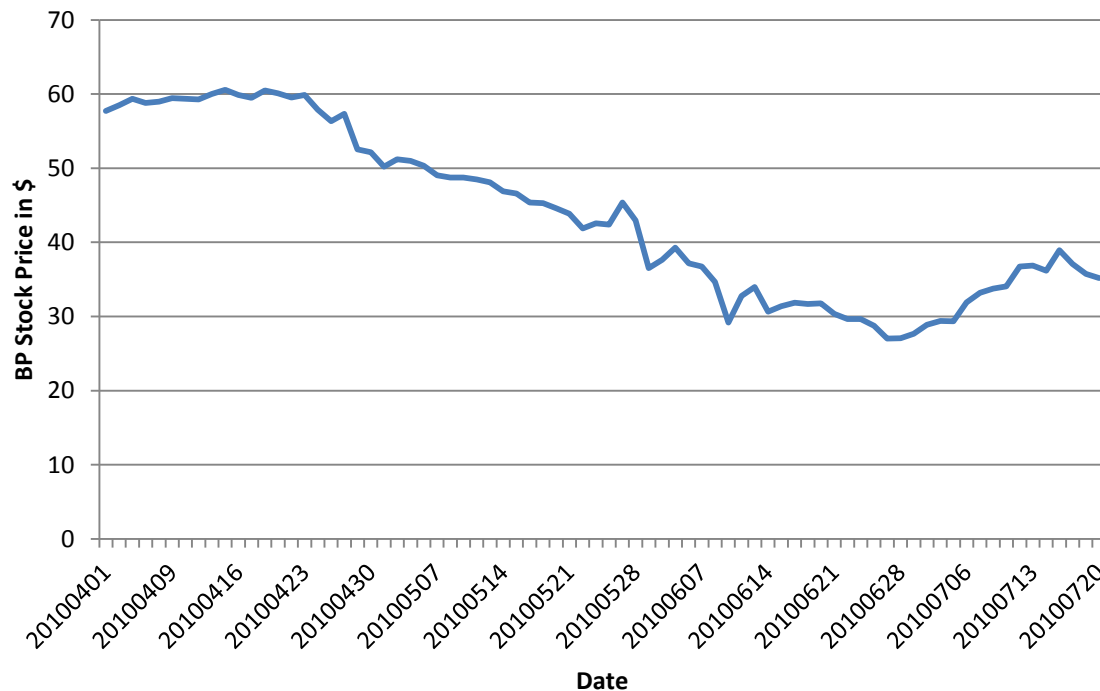
²⁷⁹ BP, "Sustainability Review 2010," 2.

²⁸⁰ BP, "Sustainability Review 2014," 13, accessed October 11, 2015, http://www.bp.com/content/dam/bp/pdf/sustainability/group-reports/Sustainability_Report_2014.pdf.

5.7.1 BP – Market Capitalization Consequences

Figure 3 depicts what happened to the stock price in the following months after the event. The price of the stock decreased dramatically, leading of course to a large decrease of the market value of the company.²⁸¹

Figure 3 BP stock price development



Source: self-made illustration in Excel based on data provided by “Wharton Research Data Services” on BP stock prices in the period 01.04.2010-02.07.2010.

On the day before the explosion, April 19, 2010, the price of one BP share was \$59.48 while the market cap was \$186.2 billion. Surprisingly, when the disaster happened the stock price increased by 1.7%, closing the day at \$60.48. Up until April 29 there were no big movements in the stock price of the company. This means that, until then, the markets didn’t really grasp the magnitude of the catastrophe. Everything changed on April 29 when the share price went down 8.3% in one day to \$52.56. Afterwards the share price continued to decline, meaning that everyone was now aware of the magnitude of the disaster. As the leakage was still not

²⁸¹ Data on BP stock prices in the period 01.04.2010-02.07.2010 retrieved from “Wharton Research Data Services,” accessed April 14, 2014, <https://wrds-web.wharton.upenn.edu/wrds/>.

under control and the bad news kept coming, the stock reached a low on June 25, closing at \$27.02. This meant a 55% decrease compared to the April 20 closing price level. This large decrease automatically led to a 55% or \$102 billion decrease in the market value of BP. The stock gave signs of recovery afterwards but was still having large swings. On July 15, when the leakage was finally stopped, the BP share price was \$38.92, still a 35% decrease compared to the April 20 closing price, but a 44% increase compared to its June 25 low.^{282,283}

5.7.2 Data sample

As we can see, BP's share price had very large fluctuations in the period after the catastrophe happened.^{284,285} One of our assumptions is that all these swings are linked to certain events or news based upon which we can perform several event studies.

An event study requires that we have the daily returns of all the companies involved (BP, its competitors, partners etc.) within the event time frame. We collected data from the "Wharton Research Data Services" database.²⁸⁶ We have used the tool CRSP, with the feature "Daily Extract with Time Window".²⁸⁷ We regard a sample from one year before the event (April 20, 2009) to eight months after the event (December 31, 2010), when most of the aftermaths of the catastrophe should have come to an end.²⁸⁸

In order for us to run an event study we need to specify the exact estimation and event window. For the estimation window we will begin with, for all event studies in this research, 230 days before and end with 30 days after the spill. In this case the estimation window will be the period from May 20 of 2009 to March 8 of 2010. The estimation window is used to compute the normal returns of a stock; that is the return before the event has happened, where there were no influences caused by the catastrophe. For the event window we will take, for all event studies in this research, 3 days; the days before, during, and after the event. This means that the event window will be the period April 19 of 2010 to April 21 of 2010. The event

²⁸² "BP P.L.C.," *Yahoo! Finance*, accessed April 13, 2014, <http://finance.yahoo.com/q?s=BP>.

²⁸³ "Wharton Research Data Services."

²⁸⁴ "BP P.L.C."

²⁸⁵ "Wharton Research Data Services."

²⁸⁶ *Ibid.*

²⁸⁷ "Financial Databases and Research - Event Studies and CRSP," accessed April 13, 2014, <http://financialresearch.blog2blog.nl/48770/Event+studies+and+CRSP.html>.

²⁸⁸ Freudenburg and Gramling, *Blowout in the Gulf*, 13.

window must of course not overlap with the estimation window as the normal returns must not be influenced by the event.²⁸⁹

As a basis for the analysis I will use the BP stock price on NYSE, ticker: BP and the numerical data provided by this approach.²⁹⁰ We have already mentioned how we gathered data from finance.yahoo on all companies for their comparison.²⁹¹ The statistical analysis was conducted using eViews®.²⁹² All table and figures that follow from this point on were generated with data provided as explained in this chapter.

The main goal of an event study is to analyse the correlation between certain events and certain fluctuations in the financials of a company (be it stock price or market capitalization). In our case, we aim at analysing the impact of the Deep-water Horizon catastrophe on BP's stock price. In order to do this we need to compute the abnormal returns linked with this event. The abnormal returns are basically the difference between the actual returns and the normal returns. In the next section we will explain these concepts.^{293,294}

In order to have a sufficient amount of data we used daily data of the stocks. As market index we took the CRSP Stock File Indexes (VWRETX). This index contains the daily returns of a value weighted market portfolio. We will calculate the normal returns using this index. Under normal returns we understand the returns that we would have had if it weren't for the event to happen. They can be calculated as presented in equation (1).^{295,296}

$$(1) \quad E(R_{it}) = \alpha_i + \beta_i R_{m,t} + \varepsilon_{it}$$

with $E(\varepsilon_{it}) = 0$ and $\text{var}(\varepsilon_{it}) = \sigma_{\varepsilon_i}^2$

²⁸⁹ Ibid.

²⁹⁰ "BP P.l.c."

²⁹¹ See chapter 4.4

²⁹² "EViews.com," accessed October 11, 2015, <http://www.eviews.com/home.html>.

²⁹³ Rudy Hirschheim, Armin Heinzl, and Jens Dibbern, *Information Systems Outsourcing: Enduring Themes, Global Challenges, and Process Opportunities* (Springer Science & Business Media, 2009), 202.

²⁹⁴ John Y. Campbell, Andrew Wen-Chuan Lo, and Archie Craig MacKinlay, *The Econometrics of Financial Markets* (Princeton University Press, 1997), 149-178.

²⁹⁵ John Y. Campbell, Andrew Wen-Chuan Lo, and Archie Craig MacKinlay, *The Econometrics of Financial Markets* (Princeton University Press, 1997), 155 derived from formula 4.3.2..

²⁹⁶ "File Specifications," accessed April 13, 2014, <http://www.crsp.com/products/documentation/file-specifications>.

$E(R_t)$ represents the expected return of a company at time t , $R_{m,t}$ is the return of the market portfolio at date t and ε_t is the residual. The important parameters of the regression are α , β and σ_{ε}^2 .²⁹⁷

Afterwards we can go on with calculating the abnormal returns. These are computed by taking the actual return and subtracting the expected normal returns from above. The assumption here is that the abnormal returns can only be caused by the event and nothing else. We calculate it as seen in equation (2).²⁹⁸

$$(2) \quad AR_{it} = R_{it} - \alpha_i - \beta_i R_{m,t} = R_{it} - E(R_{it})$$

The above formula tells us that the abnormal returns really try to isolate the event, taking out the possible swings caused by the return of the market portfolio. We are using a period of three days so all the abnormal returns have to be consolidated into an one-off effect. We can calculate this with the help of the cumulative abnormal returns as seen in (3).²⁹⁹

$$(3) \quad CAR_i = \sum AR_{it}$$

The last step is to check if the cumulative abnormal returns pass the statistical significance test. This test is called test statistic and is calculated as in (4).³⁰⁰

$$(4) \quad TS = \sqrt{N} \frac{CAR}{\sqrt{(N-1)^{-1} \sum (CAR_i - CAR)^2}} \approx N(0,1)$$

These are all the steps needed to take in order to assess the causalities. The most important event happened on 20th of April, when actual explosion took place about 41 miles off the mainland coast. The oil production was of about 336,000 gallons oil per day and the rig was designed to carry 700,000 gallons of fuel oil. There were 126 people on board, 11 people unfortunately died. The explosion lasted 36 hours and it was ranked as the second biggest

²⁹⁷ John Y. Campbell, Andrew Wen-Chuan Lo, and Archie Craig MacKinlay, *The Econometrics of Financial Markets* (Princeton University Press, 1997), 155 derived from formula 4.3.2..

²⁹⁸ John Y. Campbell, Andrew Wen-Chuan Lo, and Archie Craig MacKinlay, *The Econometrics of Financial Markets* (Princeton University Press, 1997), 149-178 and 151 derived from formula 4.1.1.

²⁹⁹ Ibid., 160-161.

³⁰⁰ Ibid., 162-163 based on formula 4.4.22.

explosion. The rig was worth \$600million and it was leased from Transocean for \$500K a day. However, in the day of the event the stock price has increased from \$59.48 to \$60.48.³⁰¹

5.8 Results

5.8.1 Petroleum Firms – Interpreting regression

We ran for each petroleum firms a regression for the pre-event window. The dependent variable was the return of the petroleum firms and independent variable was the CRSP Stock File Indexes (VWRETX). As market index we used CRSP Stock File Indexes (VWRETX) instead of S&P500, because not all our companies have their common stock included in the S&P500.³⁰²

Firstly, we ran the regression for the BP Firm. We have noticed that the residuum parameter is 0, because the probability of the parameter is higher than 5% (0.6445), meaning that the null hypothesis of non-significance cannot be rejected. The VWRETX parameter is significant, having a probability of 0%, lower than 5%. So, we can say that if the VWRETX increases with one unit, the return of the BP firm will increase with 1.0269, the relation between the two variables being positive. The value of R-squared is relatively high, 50.32%, meaning that the BP return can be explained 50.32% by the model. The F-Test is 109.41 and it is significant. The probability of the F-test is 0.000 lower than 0.005, so we reject the null hypothesis of non-significance.³⁰³

Moreover, analyzing the autocorrelation, we noticed that the value of Durbin-Watson is close to 2, which means that there is no autocorrelation. To be sure that there is no autocorrelation, we can run the LM Test and we can see that the probabilities of the F-test and Chi-Square are higher than 5% so we do not reject the probability of no autocorrelation (Figure 4). Being no pattern in the residuals, we can say that there are no signs of autocorrelation.^{304,305}

³⁰¹ “100 Days of the BP Spill: A Timeline - TIME,” accessed October 12, 2015, <http://content.time.com/time/interactive/0,31813,2006455,00.html>.

³⁰² “File Specifications.”

³⁰³ Gerald Keller, *Statistics for Management and Economics, Abbreviated Edition* (Cengage Learning, 2008).

³⁰⁴ Ibid.

Furthermore, it is important to see if the series is normal distributed or not. Taking a look at the histogram (Figure 5), we can see that the probability of Jarque Bera is lower than the stipulated 5%, therefore the null hypothesis of normality is rejected. Also, the skewness is at a value of 0.12 higher than 0 and the kurtosis is 11.23, higher than 3. We can correct the normality, using Dummy Variables.^{306,307}

Figure 4 Autocorrelation Company BP running the LM Test

Heteroskedasticity Test: White

F-statistic	0.216247	Prob. F(2,107)	0.8059
Obs*R-squared	0.442830	Prob. Chi-Square(2)	0.8014
Scaled explained SS	2.185410	Prob. Chi-Square(2)	0.3353

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 02/04/12 Time: 17:02

Sample: 10/27/2009 4/06/2010

Included observations: 110

Source: Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”

Finally, the last step that has to be done is the heteroskedasticity test, using the White test (Figure 6). The p-value of the F-statistic is higher than the stipulated 5% so the null hypothesis of homoscedasticity is not rejected, meaning that the variation of error terms is constant through time and equals σ^2 .^{308,309}

³⁰⁵ Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”. For more details on the approach see the description in Chapter 5.7.2

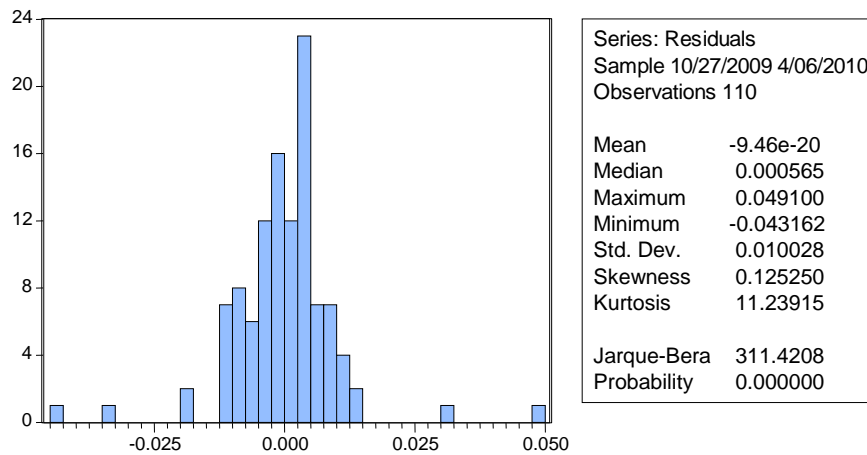
³⁰⁶ Keller, *Statistics for Management and Economics, Abbreviated Edition*.

³⁰⁷ Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”. For more details on the approach see the description in Chapter 5.7.2

³⁰⁸ Keller, *Statistics for Management and Economics, Abbreviated Edition*.

³⁰⁹ Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”. For more details on the approach see the description in Chapter 5.7.2

Figure 5 Testing the normality for the company BP



Source: Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”

Figure 6 Testing the heteroskedasticity for the Company BP

Heteroskedasticity Test: White

F-statistic	0.216247	Prob. F(2,107)	0.8059
Obs*R-squared	0.442830	Prob. Chi-Square(2)	0.8014
Scaled explained SS	2.185410	Prob. Chi-Square(2)	0.3353

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 02/04/12 Time: 17:31

Sample: 10/27/2009 4/06/2010

Included observations: 110

Source: Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”

Repeating the procedure for all the petroleum firms, we can notice that for all the companies the residuum parameter is equal to 0, the probability of the alfa being always higher than 5%. The hypothesis of non-significance is not rejected. On the other hand, the probability of the market return is always lower than 5%, meaning that the null hypothesis of non-significance is rejected.³¹⁰

The value of R-squared is higher for petroleum firms than for solarium firms, meaning that the returns of the petroleum companies are better explained by the model. The smallest R-squared value is registered by the Sinopec (37.65), which is higher than the highest R-squared value of the solarium companies (0.2713, registered by the company Suntech) and the highest R-squared value is registered by Conoco (67.51%). The probability of the F-Test is 0% for all petroleum companies, so the null hypothesis of non-significance is rejected.³¹¹

Taking a look at the autocorrelation, we noticed that the value of Durbin-Watson is close to 2 for all petroleum firms, meaning that there is no sign of autocorrelation. To be sure that there is no autocorrelation, we run the LM Test and we can see that the probabilities of the F-test and Chi-Square are higher than 5% so we do not reject the probability of no autocorrelation (Figures 5, 7, 8, 9, and 10). Being no pattern in the residuals, we can say that there are no signs of autocorrelation.^{312,313}

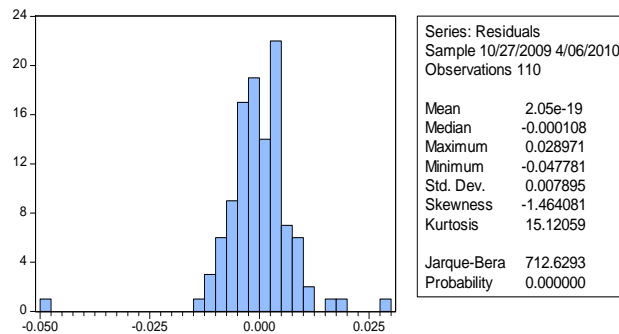
³¹⁰ Keller, *Statistics for Management and Economics, Abbreviated Edition*.

³¹¹ Ibid.

³¹² Ibid.

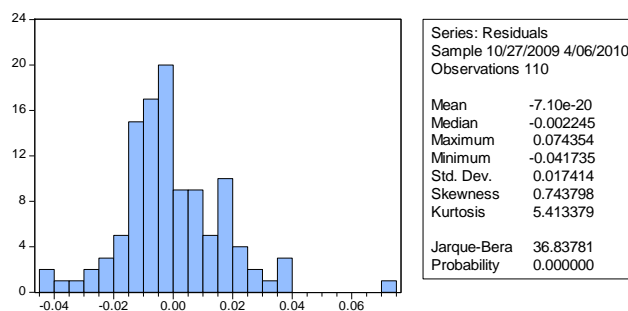
³¹³ Figures generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”. For more details on the approach see the description in Chapter 5.7.2

Figure 7 Testing the normality for the company Exxon



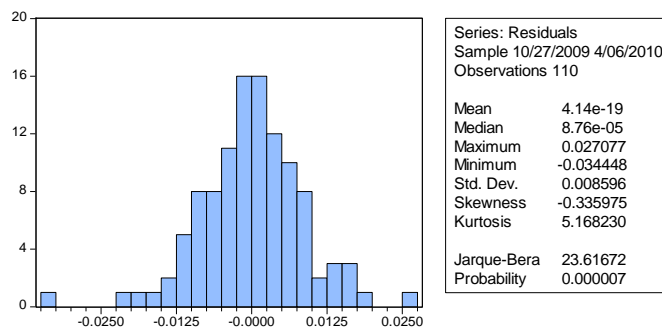
Source: Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”

Figure 8 Testing the normality for the company Sinopec



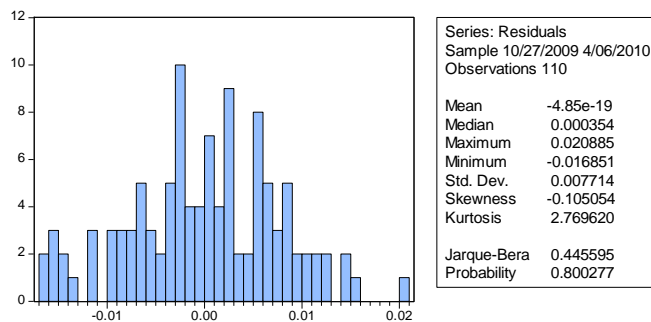
Source: Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”

Figure 9 Testing the normality for the company Shell



Source: Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”

Figure 10 Testing the normality for the company Conoco



Source: Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Moreover, we tested if the series is normal distributed. Using the Histogram-Normality Test for each petroleum company (Figures 5, 7, 8, 9, and 10). we can see that the probability of Jarque Bera is lower than the stipulated 5%, therefore the null hypothesis of normality is rejected for almost all the companies. The Conoco companies are the only one which is normally distributed, having the Jarque Bera probability higher than 5% (0.80027). Also, the skewness is almost 0 (-.10) and the kurtosis 2.76, close to 3.^{314,315}

The last step is to test the heteroskedasticity test, using the White test. The p-value of the F-statistic is higher than 5% for all the petroleum companies, except for Shell therefore the null hypothesis of homoscedasticity is not rejected for these companies, meaning that the variation of error terms is constant through time and equals σ^2 . For the company Shell, we reject the null hypothesis of homoscedasticity, meaning that there are variations of error terms through time. We can correct heteroskedasticity by using the Heteroskedasticity consistent coefficient covariance White. By using this option we notice that the estimates of the parameters remain the same (they are unbiased) and the only thing that changes is the standard error, meaning that the t-statistic and the probability of the parameters also changed (Figure 11).^{316,317}

³¹⁴ Keller, *Statistics for Management and Economics, Abbreviated Edition*.

³¹⁵ Figures generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”. For more details on the approach see the description in Chapter 5.7.2

³¹⁶ Keller, *Statistics for Management and Economics, Abbreviated Edition*.

³¹⁷ Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”. For more details on the approach see the description in Chapter 5.7.2

Table 8 The values obtained after running the regression for each petroleum companies

	Coefficient		F-statistic	R ²	DW
	Alpha	Beta			
BP	-0.000447 P: 0.6445	1.026965 P: 0.0000	109.4129 P: 0.0000	0.503249	1.782657
Exxon	-0.001452 P: 0.0591	0.725930 P: 0.0000	88.18658 P: 0.0000	0.449504	1.787574
Sinopec	-0.001321 P: 0.4330	1.377048 P: 0.0000	65.23062 P: 0.0000	0.376554	1.857487
Shell	-0.001798 P: 0.0322	1.226751 P: 0.0000	212.4676 P: 0.0000	0.662992	2.247276
Conoco	-0.000742 P: 0.3204	1.131599 P: 0.0000	224.5038 P: 0.0000	0.675192	2.050581

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 11 The regression’s estimates after the corrected heteroskedasticity for Shell

Dependent Variable: RET

Method: Least Squares

Date: 02/04/12 Time: 17:33

Sample: 10/27/2009 4/06/2010

Included observations: 110

White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001798	0.000798	-2.252182	0.0263
VWRETX	1.226751	0.102591	11.95764	0.0000
R-squared	0.662992	Mean dependent var		-0.000410
Adjusted R-squared	0.659872	S.D. dependent var		0.014807
S.E. of regression	0.008636	Akaike info criterion		-6.647852
Sum squared resid	0.008054	Schwarz criterion		-6.598752
Log likelihood	367.6319	Hannan-Quinn criter.		-6.627937
F-statistic	212.4676	Durbin-Watson stat		2.247276
Prob(F-statistic)	0.000000			

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

5.8.2 Solar Firms – Interpreting regression

For each solar firm we ran a regression for the pre-event window. Later in our paper, we interpret the result of the regression for each solar company and analyze the parameters. The dependent variable was the return of the solar firms and independent variable was the CRSP Stock File Indexes (VWRETX). As market index we used CRSP Stock File Indexes (VWRETX) instead of S&P500, because not all our companies have their common stock included in the S&P500.³¹⁸

The first regression that we ran was for the company Suntech. Analyzing the parameters, we noticed that the intercept is not significant (probability of the parameter is 0.7911, higher than the p-value=0.05) while the market return is significant (probability is 0, lower than 5%). This means that if VWRETX increases with one unit, the return of the Suntech will increase with 1.787369. The value of R-squared is 27.13%, meaning that the Suntech return can be explained 27.13% by the market. The R-squared value is not big, meaning that the model does not explain too much. The F-test is a joint test of significance. The probability of the F-Test is 0%, therefore the null hypothesis of non-significance is rejected.³¹⁹

Taking a look at the autocorrelation, we noticed that the value of Durbin-Watson is close to 2, which means that there is no autocorrelation. The Durbin-Watson is a test for the first order autocorrelation: it measures the relationship between an error and the previous one. To be sure that there is no autocorrelation, we can run the LM Test and we can see that the probabilities of the F-test and Chi-Square are higher than 5% so we do not reject the probability of no autocorrelation (Figure 12). Being no pattern in the residuals, we can say that there are no signs of autocorrelation.^{320,321}

³¹⁸ “File Specifications.”

³¹⁹ Keller, *Statistics for Management and Economics, Abbreviated Edition*.

³²⁰ Ibid.

³²¹ Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”. For more details on the approach see the description in Chapter 5.7.2

Figure 12 Autocorrelation Company Suntech running the LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.116305	Prob. F(2,106)	0.8903
Obs*R-squared	0.240858	Prob. Chi-Square(2)	0.8865

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 02/04/12 Time: 16:12

Sample: 10/27/2009 4/06/2010

Included observations: 110

Presample missing value lagged residuals set to zero.

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Table 9 The values obtained after running the regression for each solar companies

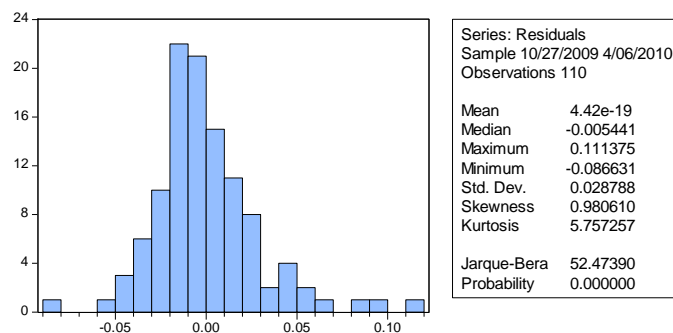
	Coefficient		F-statistic	R ²	DW
	Alpha	Beta			
Suntech	-0.00073 (p:0.791)	1.7873 (p:0.000)	40.21 (p:0.000)	0.2713	1.94
Sunpower	-0.0043 (p:0.156)	1.4401 (p:0.000)	21.96 (p:0.000)	0.1689	2.16
Trina	0.002 (p:0.5628)	2.0332 (p:0.000)	33.51 (p:0.000)	0.2368	1.97
FirstSolar	-0.0026 (p:0.333)	0.6954 (p:0.0128)	6.40 (p:0.012)	0.0559	1.96
Jasolar	0.0026 (p:0.5252)	2.0412 (p:0.000)	23.54 (p:0.000)	0.1789	1.90

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Moreover, we tested if the series is normal distributed. Plotting the histogram (Figure 13), we can see that the probability of Jarque Bera is lower than the stipulated 5%, therefore the null hypothesis of normality is rejected. Also, the skewness is at a value of 0.98 higher than 0 and the kurtosis is 5.75, higher than 3. We can correct the normality, using Dummy Variables.^{322,323}

The last step that we have to do is to test the heteroskedasticity test, using the White test (Figure 14). The p-value of the F-statistic is higher than 5% so we do not reject the null hypothesis of homoscedasticity, meaning that the variation of error terms is constant through time and equals σ^2 .^{324,325}

Figure 13 Testing the normality for the company Suntech



Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

³²² Keller, *Statistics for Management and Economics, Abbreviated Edition*.

³²³ Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”. For more details on the approach see the description in Chapter 5.7.2

³²⁴ Keller, *Statistics for Management and Economics, Abbreviated Edition*.

³²⁵ Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”. For more details on the approach see the description in Chapter 5.7.2

Figure 14 Testing the heteroskedasticity for the Company Suntech

Heteroskedasticity Test: White

F-statistic	0.105151	Prob. F(2,107)	0.9003
Obs*R-squared	0.215774	Prob. Chi-Square(2)	0.8977
Scaled explained SS	0.494753	Prob. Chi-Square(2)	0.7808

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 02/04/12 Time: 15:57

Sample: 10/27/2009 4/06/2010

Included observations: 110

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Doing the same for all the solar firms, we can notice that for all the companies the parameter alfa is equal to 0, because the probability of the residues higher than 5%(we do not reject the null hypothesis of non-significance) while the market return is significant (the probability of VWRETX is lower than 5%, so we reject the null hypothesis of non-significance). The value of R-squared is relatively small (as we can see in Table 9), meaning that the returns of the solar companies does not explain too much the model. The smallest R-squared value is registered by the FirstSolar (only 5.59%) and the highest R-squared value is registered by Suntech (27.13%). The probability of the F-Test is 0% for all solar companies, so we reject the null hypothesis of non-significance.³²⁶

Analyzing the autocorrelation, we noticed that the value of Durbin-Watson is in most of the cases close to 2, which means that there is no autocorrelation. To be sure that there is no autocorrelation, we can run the LM Test for each company and we can see that the probabilities of the F-test and Chi-Square for each solar company are higher than 5% so we

³²⁶ Keller, *Statistics for Management and Economics, Abbreviated Edition*.

do not reject the probability of no autocorrelation (Figures 12, 15, 16, 17, and 18). Being no pattern in the residuals, we can say that there are no signs of autocorrelation.^{327,328}

Figure 15 Autocorrelation Company Sunpower running the LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.478802	Prob. F(2,106)	0.6209
Obs*R-squared	0.984842	Prob. Chi-Square(2)	0.6111

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 02/04/12 Time: 16:13

Sample: 10/27/2009 4/06/2010

Included observations: 110

Presample missing value lagged residuals set to zero.

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 16 Autocorrelation Company Trina running the LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.678247	Prob. F(2,106)	0.5097
Obs*R-squared	1.389895	Prob. Chi-Square(2)	0.4991

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 02/04/12 Time: 16:13

Sample: 10/27/2009 4/06/2010

Included observations: 110

Presample missing value lagged residuals set to zero.

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

³²⁷ Ibid.

³²⁸ Figures generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”. For more details on the approach see the description in Chapter 5.7.2

Figure 17 Autocorrelation Company FirstSolar running the LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.509262	Prob. F(2,106)	0.0861
Obs*R-squared	4.972482	Prob. Chi-Square(2)	0.0832

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 02/04/12 Time: 16:11

Sample: 10/27/2009 4/06/2010

Included observations: 110

Presample missing value lagged residuals set to zero.

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 18 Autocorrelation Company Jasolar running the LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.307652	Prob. F(2,106)	0.7358
Obs*R-squared	0.634839	Prob. Chi-Square(2)	0.7280

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 02/04/12 Time: 16:14

Sample: 10/27/2009 4/06/2010

Included observations: 110

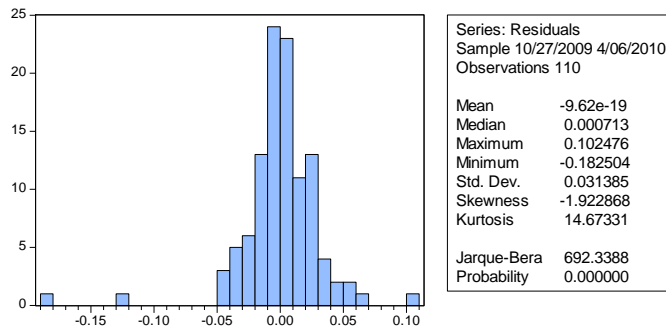
Presample missing value lagged residuals set to zero.

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Moreover, we tested if the series is normal distributed. Plotting the histogram for each solar company (Figures 13, 19, 20, 21, and 22), we can see that the probability of Jarque Bera is

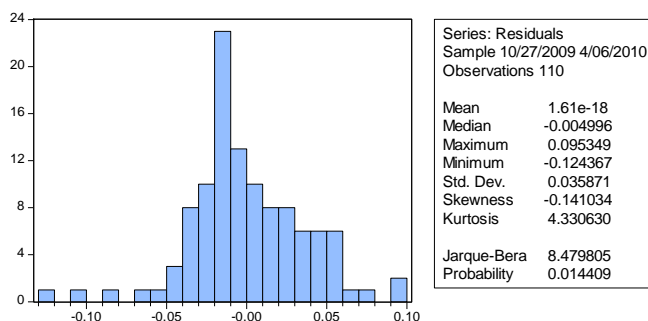
lower than 5%, so we reject the null hypothesis of normality. Also, the skewness is higher or lower than 0 and the kurtosis is higher than 3.^{329,330}

Figure 19 Testing the normality for the company Sunpower



Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 20 Testing the normality for the company Trina

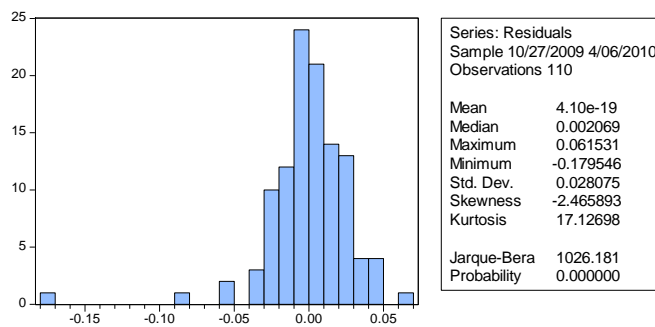


Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

³²⁹ Keller, *Statistics for Management and Economics, Abbreviated Edition*.

³³⁰ Figures generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”. For more details on the approach see the description in Chapter 5.7.2

Figure 21 Testing the normality for the company FirstSolar



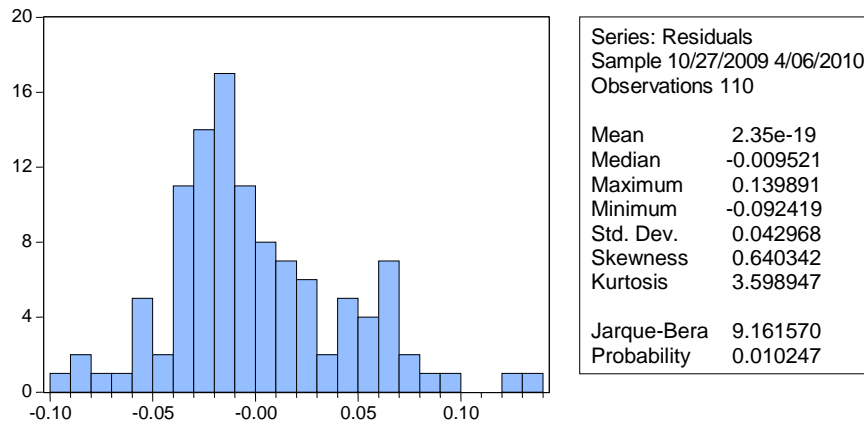
Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

The last step that we have to do is to test the heteroskedasticity test, using the White test. The p-value of the F-statistic is higher than 5% for all the solar companies, except for Firstsolar so we do not reject the null hypothesis of homoscedasticity for these companies, meaning that the variation of error terms is constant through time and equals σ^2 . For the company Firstsolar, we reject the null hypothesis of homoscedasticity, meaning that there are variations of error terms through time. We can correct heteroskedasticity by using the Heteroskedasticity consistent coefficient covariance White. By using this option we notice that the estimates of the parameters remain the same (they are unbiased) and only thing that changes is the standard error, meaning that the t-statistic and the probability of the parameters also changed (Figure 23).^{331,332}

³³¹ Keller, *Statistics for Management and Economics, Abbreviated Edition*.

³³² Figure generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”. For more details on the approach see the description in Chapter 5.7.2

Figure 22 Testing the normality for the company Jasolar



Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 23 The regression's estimates after the corrected heteroskedasticity for firstSolar

Dependent Variable: RET

Method: Least Squares

Date: 02/04/12 Time: 16:04

Sample: 10/27/2009 4/06/2010

Included observations: 110

White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.002633	0.002486	-1.058828	0.2920
VWRETX	0.695471	0.447280	1.554889	0.1229
R-squared	0.055957	Mean dependent var	-0.001845	
Adjusted R-squared	0.047216	S.D. dependent var	0.028895	
S.E. of regression	0.028204	Akaike info criterion	-4.280677	
Sum squared resid	0.085912	Schwarz criterion	-4.231577	
Log likelihood	237.4372	Hannan-Quinn criter.	-4.260761	
F-statistic	6.401573	Durbin-Watson stat	1.960854	
Prob(F-statistic)	0.012844			

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

5.8.3 Petroleum Firms – Event Study Interpretation results

Going through all the steps of the study event, we have noticed that on the short term, the petroleum firms do not react to the oil spill (because all the t-stat values are lower than the critical value, so we do not reject the hypothesis of non-significance). On the long run, following Table 10, we can notice that only BP and Sinopec have under-reacted after the oil spill the other firms remaining unaffected.^{333,334}

³³³ Keller, *Statistics for Management and Economics, Abbreviated Edition*.

³³⁴ Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”. For more details on the approach see the description in Chapter 5.7.2

Table 10 The absolute values of the test statistic and critical values for the petroleum firms for the event window and post-event window.

	Event		Post-event	
	T-stat	C-value	T-stat	C-value
BP	1.258	6.313	15.714	1.699
Exxon	2.680	6.313	0.294	1.699
Sinopec	3.317	6.313	4.987	1.699
Shell	0.203	6.313	1.371	1.699
Conoco	1.623	6.313	1.213	1.699

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

5.8.4 Solar Firms – Event Study Interpretation results

After we ran all noticed that for the company Suntech, if we take as estimation the steps of the event study we have window only the event, the scar_3 ($|-5.579|$) is lower than the critical value for the event window ($cvalue_3 = |-6.313|$), meaning that we do not reject the null hypothesis of non-significance. Doing the same for the post event window, we noticed that our statistic ($|-6.787|$) is higher than the critical value ($|-1.699|$) in absolute terms, therefore we reject the hypothesis of non-significance. There is obviously an under reacting after the oil spill. Analyzing the other solar firms we have noticed that the Sunpower and JaSolar have the same behavioral as the Suntech. One reason why the market does not react immediately is that they are cautious at the occurrence of the event.³³⁵

On the other hand, evaluating the company Trina we observed that we reject the hypothesis of non-significance for both the event and post-event window (the data can be seen in the Tables 9 and 11). The company underreacts after the oil spill immediately and post-event.^{336,337}

³³⁵ Keller, *Statistics for Management and Economics, Abbreviated Edition*.

³³⁶ Ibid.

³³⁷ Tables generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Services”. For more details on the approach see the description in Chapter 5.7.2

A curious case is the company FirstSolar, which reacts only on the short run (test statistic > critical value), being an under reacting immediately after the oil spill. On the long run, we do not reject the hypothesis of no-significance (CAR for 30 days is 0), meaning that on the long run, the oil spill doesn't have any effect on the stocks.³³⁸

Table 11 The absolute values of the test statistic and critical values for the solar firms for the event window and post-event window

	Event		Post-event	
	T-stat	C-value	T-stat	C-value
Suntech	5.579	6.313	6.787	1.699
Sunpower	2.655	6.313	2.174	1.699
Trina	8.646	6.313	6.271	1.699
FirstSolar	7.675	6.313	0.172	1.699
JaSolar	1.095	6.313	2.663	1.699

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

The remaining Tables and Figures provided by eViews can be visualised in the Appendices.

³³⁸ Keller, *Statistics for Management and Economics, Abbreviated Edition*.

6 Conclusion

6.1 Conclusions - regarding BP Deep-Water Horizon oil spill

The main question of our study can be summarized as follows: Was BP stock prices and financials affected by the oil spill? As we have seen in our empirical findings, the huge oil spill from the Gulf of Mexico did have a big impact on BP's share prices/value; this event halved the price of the petroleum firm, erasing £50 billion (\$79.2 billion) from the company's market capitalization.³³⁹

We can say that there were *three factors* that lead to the fall in BP's stock price.

Firstly, we have the actual cost of the spill which is even until now unclear (according to the last estimates \$40 billions). The amount depended on the actual size and duration of the clean-up operation. Another hard thing to quantify is the possible compensations that BP had paid and also is paying to the people, workers or businesses directly or indirectly affected by the oil spill. BP promised to set up a compensation fund of \$20 billion (\$5 billion per year over a four-year period).³⁴⁰

Secondly, the company announced that it will not pay out any dividends in 2010. This action was not anticipated by investors and was a disappointment for many of them, who perhaps integrated BP in their portfolio especially because it was considered to be a regular dividend payer. Due to this news, the stock price was further driven down. The dividend payouts (first quarter dividend) were due on the 21 June 2010 would have totaled \$2.6 billion, an amount that would have been too much for BP, which promised to pay \$5 billion per year over four years to the compensation fund.³⁴¹ There were also no second or third quarter dividend

³³⁹ "BP to Get Its Life Back After Record U.S. Settlement for Spill - Bloomberg Business," accessed October 12, 2015, <http://www.bloomberg.com/news/articles/2015-07-02/bp-to-get-its-life-back-after-record-u-s-settlement-for-spill>.

³⁴⁰ "Gulf of Mexico Oil Spill: BP Finally Gets Disaster Closure with \$18.7bn Payout | Business News | News | The Independent," accessed October 12, 2014, <http://www.independent.co.uk/news/business/news/gulf-of-mexico-oil-spill-bp-finally-gets-disaster-closure-with-187bn-payout-10362877.html>.

³⁴¹ "BP Crisis: The Impact on Your Savings and Investments," *BBC News*, accessed October 12, 2014, <http://www.bbc.com/news/10293829>.

payouts in 2010. The payments resumed in February 2011 which represented the fourth quarter dividend payout for 2010.³⁴² We would like now to make a parenthesis and say that the effect of not paying out dividends could have also helped BP's stock price not to fall so much; as we have learned in the class this effect is called Momentum (winners vs. losers) and is the difference between the returns of a firm that continues to pay dividends (winner) and those of a firm which stops paying dividends (loser) because of difficult financial conditions. The fact of not paying out dividends can improve the performance of the "loser" and one must take this into account when making an analysis between the two firms. The third and last factor is that the company was subject to negative publicity during this event that led to uncertain future prospects of the company. These two effects combined scare investors and make them more anxious/nervous and this also contributed to the downside pressure on BP's share price. All this factors, added up, brought an immense selling pressure on BP's stocks. This led five (Legal & General, M&G, Scottish Widows, Threadneedle and Axa) of the top 10 shareholders to sell their shares in the weeks following the event. Because the size relative value decreased in the FTSE 100, a number of funds that had FTSE tracker products (products that replicate an underlying on a one-to-one basis) were forced to sell BP stocks, as the price continued to fall. Many pension funds that had participations in the company continued to hold their stakes in the firm in spite of the huge drop in the stock price. The main BP buyers in the market during this period were top hedge funds (which typically invest in distressed securities) who used the falling prices to buy stakes in the group, hoping for a recovery in the future that would translate into big profits for them. GLG and Blackrock are an example of hedge funds that bought more than 1% of the company (more than \$950 millions) betting on a recovery of the company.³⁴³

All this agitation around this stock also had an impact on the volume of trading of the stock. The volume of shares traded around the event was seven times higher as the one during the same period one year before.

³⁴² BP, "Sustainability Review 2010," 2 and 10.

³⁴³ "BP Oil Spill: Largest Shareholders Cut Stake as Price Falls - Telegraph," accessed October 12, 2014, <http://www.telegraph.co.uk/finance/newsbysector/energy/oilandgas/7825131/BP-oil-spill-Largest-shareholders-cut-stake-as-price-falls.html>.

6.2 General Conclusion

As a general conclusion we wanted to answer the question: Is BP really using CSR?

As we discussed before, Corporate Social Responsibility leads to the concept of Corporate Sustainability which in turn leads to sustainable development.³⁴⁴

BP follows carefully the present guidelines regarding the sustainability reporting. This can also be confirmed by the detailed information available on their website regarding this topic. There they are linking all dimensions of their reports with the corresponding GRI indicator. The objective is to create a standard, known language for this reporting, that everyone in the field could understand. We can conclude that these actions are creating a very structured and well organized reporting process, offering a very good overview over the sustainable development actions taken by the company. In the case of BP we can state that the company is investing in CSR activities. Therefore we can say that the sustainable development topic is not only known, but also supported within BP.^{345,346}

Another element that we can observe in the BP example is that sustainability is a very important basis for CSR. The social engagement of the company touches all dimensions of sustainability. The human rights actions, the investments in education, and the micro-credits program are all related to the social dimension of sustainability. Also within the social dimension we can say that, within BP, 14% of the employees are women. Although this is a very good ratio, a higher one would be even better for assuring the equality between sexes within CSR. The same applies to the employees from different minorities. The unethical behavior has also dropped, indicating a fair equal treatment within the company. This is probably linked to the new code of conduct, which stimulates a fair, equal approach between employees.³⁴⁷

³⁴⁴ Visser et al., *The A to Z of Corporate Social Responsibility*, 122–123.

³⁴⁵ “About Our Reporting | Sustainability | BP Global.”

³⁴⁶ Ibid.

³⁴⁷ BP, “Sustainability Review 2014,” 13.

The ecologic dimension of CSR is clearly represented by the new planting of trees in Brazil. In addition, BP supports renewable resources by investing in solar and wind energy as well as in bio fuels. Another move that BP tried to make was when it tried to change its image and put more focus on ecology. This resulted in a lot of people wanting to invest in their shares and that was the moment when the so-called sustainability funds were created. These were funds that were only investing in green or ecological companies. The image campaign was considered to be a success as a lot of investors were lured to invest into a sustainable company. Nevertheless, describing an oil company as a sustainable company is far from true. The Deepwater Horizon catastrophe, the various environment indicators and the huge environmental fines the company had to pay in the last years are clearly showing the opposite.^{348,349}

We can clearly say that the security standards are a very big problem in the oil industry. Although everything seems to be fine on paper, the past proves that this is wrong. The Deepwater Horizon platform had the so-called OMS already implemented and held all the necessary ISO 14000 certificates. The platform exploded because of safety problems so the system failed to do what it was designed to do.³⁵⁰ From a CSR perspective, both the social and the ecological dimension were seriously affected.³⁵¹ Firstly, the company should ensure the safety of all their workers. Secondly, the oil spill had a huge negative impact for the environment. As we see it, the whole safety concept within BP should be questioned. There is no trace of CSR in this case. Although it's the company's responsibility to protect the environment and to ensure the safety of all its stakeholders, they clearly neglected this aspect. Also in retrospect the company didn't take responsibility for its actions; neither for the environment nor for the affected communities. The conclusion we draw is that oil companies as BP are first implementing CSR within the company's walls. Only after a successful implementation will they consider expanding their CSR activities to other domains.

³⁴⁸ Rodgers Jr, DeRosa, and Reyneveld, "Stranger than Fiction," 222.

³⁴⁹ BP, "Sustainability Review 2014," 13.

³⁵⁰ Alison Matthew, *The Relationship Between Environmental Performance and Socially Responsible Investing in the Oil and Gas Industry : Does Environmental Performance Have an Effect on Investors' Investment Decisions?* (Anchor Academic Publishing (aap_verlag), 2014), 37ff.

³⁵¹ Carroll, "The Pyramid of Corporate Social Responsibility: Towards the Moral Management of Organizational Stakeholders," 40.

As we already said, the BP concern usually succeeds in implementing the concept of Corporate Social Responsibility. Especially the topics as ethic values, human rights, and corporative engagement and worker rights are present in the company's CSR actions.³⁵² Nevertheless, the recognition of GRI guidelines offers no guarantee that the actual guidelines and principles will be followed.³⁵³ CSR doesn't mean to act in a sustainable way in every area or domain. From what we have read, often there are only a few areas in which sustainable decisions are taken or in which we can find social engagement. Also the amount of social engagement is not necessarily telling us anything about its quality. It is possible that a company undertakes such actions only to improve its image and at a closer look we can see that the projects don't really bring any sort of positive changes. Here we could maybe ask the question if it wouldn't be better to have a small number of large CSR projects than a large number of small CSR projects. Large CSR projects would be more costly and would attract more attention and that is why they could be successful. Another possibility would be to focus the CSR activities in the places where you operate. In the case of an oil concern as BP it would be advisable to focus its CSR activities on pollution control because this is one of the most important responsibilities of a company that is dependent on natural resources.

The economic dimension of sustainability demands a change in the production method. This can't be implemented in the case of BP. Although the company supports sustainability by investing in renewable energy, their main business remains fossil fuels.³⁵⁴ It is a positive sign that they are caring about the environment and are trying to achieve growth by investing in renewable energies. This will turn into a sustainable way of operating when their main business will no longer depend on the production of oil and gas.³⁵⁵

Therefore, we can state that BP was trying to make an effort to become a sustainable corporation. The reporting, guidelines, and all the theoretical parts are excellent, but we need to say that putting these actions in practice failed miserably.³⁵⁶ When we started the thesis we wanted to know if an oil company can ever be regarded as a sustainable one. Well, in the BP case, we can say that the answer to this questions is No. It is clear that in this case the

³⁵² "BP at a Glance | About BP | BP Global."

³⁵³ "About Our Reporting | Sustainability | BP Global."

³⁵⁴ "BP at a Glance | About BP | BP Global."

³⁵⁵ "Biofuels | The Energy Future | Sustainability | BP Global."

³⁵⁶ "About Our Reporting | Sustainability | BP Global."

necessary measures regarding sustainability were neglected. Although the CSR activities and the CSR investments are exemplary, the situation in the Gulf of Mexico showed us differently. The company didn't want to assume any responsibility for the stakeholders in the case of the Deepwater Horizon catastrophe. Hence, we can state the company doesn't stand up to its name "Beyond Petroleum".³⁵⁷

Finally, it is clear that the oil industry needs to work on their trustworthiness and cut the ties from the influence of the government. Only then will it be possible for companies like BP to take responsibilities for their actions. But first of all, the oil industry must work on avoiding accidents and improving their security standards. This will really enforce their social engagement and it will be a clear contribution towards becoming a sustainable company.

³⁵⁷ Ingersoll, M. Locke, and Reavis, "BP and the Deepwater Horizon Disaster of 2010 | LearningEdge at MIT Sloan," 7.

Zusammenfassung

Die Themen nachhaltige Entwicklung und sozialen Verantwortung der Unternehmen sind heutzutage sehr aktuell und werden häufig besprochen. Es ist fast ein Trend für Unternehmen sich mit diesem Thema auseinanderzusetzen und in ihrer Strategie umweltfreundliche Ziele einzubeziehen. Ökologie und Umweltfreundlichkeit haben in den letzten Jahren an Bedeutung gewonnen, vor allem seitdem die Gewissenhaftigkeit gegenüber unseren Planeten mehr und mehr zum Vorschein kommt. Unternehmen haben zudem die Macht und den Einfluss etwas in der Welt zu ändern, indem sie verantwortungsvoll handeln. Soziale Verantwortung oder der englische Begriff CSR und nachhaltige Entwicklung setzen einige Richtlinien und Parameter, um ihnen bei diesem Streben zu helfen. Wegen dieser Wichtigkeit war es unser Anliegen dieses Thema in unserer Masterarbeit zu behandeln.

List of abbreviations

CEO	Chief Executive Office
CSR	Corporate Social Responsibility
CSP	Corporate Social Performance
IFRS	International Financial Reporting Standards
UN	United Nations
IR	Integrated Reporting
GDP	Gross Domestic Product
GRI	Global Reporting Initiative
CSD	Commission on Sustainable Development
MDG	Millennium Development Goals
WBCSD	World Business Council for Sustainable Development
G250	global top 250 companies
N100	national top 100 companies

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Appendices

Figure 24 Testing the heteroskedasticity for the Company Sunpower

Heteroskedasticity Test: White

F-statistic	0.494461	Prob. F(2,107)	0.6113
Obs*R-squared	1.007339	Prob. Chi-Square(2)	0.6043
Scaled explained SS	6.638673	Prob. Chi-Square(2)	0.0362

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 02/04/12 Time: 15:58

Sample: 10/27/2009 4/06/2010

Included observations: 110

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 25 Testing the heteroskedasticity for the Company Trina

Heteroskedasticity Test: White

F-statistic	0.961796	Prob. F(2,107)	0.3855
Obs*R-squared	1.942601	Prob. Chi-Square(2)	0.3786
Scaled explained SS	3.118475	Prob. Chi-Square(2)	0.2103

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 02/04/12 Time: 15:58

Sample: 10/27/2009 4/06/2010

Included observations: 110

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 26 Testing the heteroskedasticity for the Company FirstSolar

Heteroskedasticity Test: White

F-statistic	8.916315	Prob. F(2,107)	0.0003
Obs*R-squared	15.71375	Prob. Chi-Square(2)	0.0004
Scaled explained SS	122.1420	Prob. Chi-Square(2)	0.0000

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 02/04/12 Time: 15:59

Sample: 10/27/2009 4/06/2010

Included observations: 110

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 27 Testing the heteroskedasticity for the Company Jasolar

Heteroskedasticity Test: White

F-statistic	1.209921	Prob. F(2,107)	0.3023
Obs*R-squared	2.432673	Prob. Chi-Square(2)	0.2963
Scaled explained SS	3.047286	Prob. Chi-Square(2)	0.2179

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 02/04/12 Time: 15:59

Sample: 10/27/2009 4/06/2010

Included observations: 110

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 28 Autocorrelation Company Exxon running the LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.200764	Prob. F(2,106)	0.8184
Obs*R-squared	0.415107	Prob. Chi-Square(2)	0.8126

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 02/04/12 Time: 17:18

Sample: 10/27/2009 4/06/2010

Included observations: 110

Presample missing value lagged residuals set to zero.

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 29 Autocorrelation Company Sinopec running the LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.090869	Prob. F(2,106)	0.1286
Obs*R-squared	4.174840	Prob. Chi-Square(2)	0.1240

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 02/04/12 Time: 17:18

Sample: 10/27/2009 4/06/2010

Included observations: 110

Presample missing value lagged residuals set to zero.

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 30 Autocorrelation Company Shell running the LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.928479	Prob. F(2,106)	0.1504
Obs*R-squared	3.861981	Prob. Chi-Square(2)	0.1450

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 02/04/12 Time: 17:19

Sample: 10/27/2009 4/06/2010

Included observations: 110

Presample missing value lagged residuals set to zero.

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 31 Autocorrelation Company Conoco running the LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.234709	Prob. F(2,106)	0.7912
Obs*R-squared	0.484985	Prob. Chi-Square(2)	0.7847

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 02/04/12 Time: 17:19

Sample: 10/27/2009 4/06/2010

Included observations: 110

Presample missing value lagged residuals set to zero.

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 32 Testing the heteroskedasticity for the Company Exxon

Heteroskedasticity Test: White

F-statistic	0.928705	Prob. F(2,107)	0.3982
Obs*R-squared	1.876906	Prob. Chi-Square(2)	0.3912
Scaled explained SS	12.77402	Prob. Chi-Square(2)	0.0017

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 02/04/12 Time: 17:31

Sample: 10/27/2009 4/06/2010

Included observations: 110

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 33 Testing the heteroskedasticity for the Company Sinopec

Heteroskedasticity Test: White

F-statistic	0.689708	Prob. F(2,107)	0.5039
Obs*R-squared	1.400042	Prob. Chi-Square(2)	0.4966
Scaled explained SS	2.978135	Prob. Chi-Square(2)	0.2256

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 02/04/12 Time: 17:32

Sample: 10/27/2009 4/06/2010

Included observations: 110

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 34 Testing the heteroskedasticity for the Company Shell

Heteroskedasticity Test: White

F-statistic	4.185133	Prob. F(2,107)	0.0178
Obs*R-squared	7.980647	Prob. Chi-Square(2)	0.0185
Scaled explained SS	16.03326	Prob. Chi-Square(2)	0.0003

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 02/04/12 Time: 17:33

Sample: 10/27/2009 4/06/2010

Included observations: 110

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

Figure 35 Testing the heteroskedasticity for the Company Conoco

Heteroskedasticity Test: White

F-statistic	0.189007	Prob. F(2,107)	0.8281
Obs*R-squared	0.387245	Prob. Chi-Square(2)	0.8240
Scaled explained SS	0.330292	Prob. Chi-Square(2)	0.8478

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 02/04/12 Time: 17:35

Sample: 10/27/2009 4/06/2010

Included observations: 110

Source: Table generated by eViews based on the data provided by finance.yahoo.com per year 2013 and “Wharton Research Data Service”

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Junior Financial Analyst

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Trainee program in the department of Risk Management

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August 2008 – September 2011 | Bucharest, Romania

Trainee program in the department of Auditing

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August 2011 – September 2011 | Bucharest, Romania

Back Office Retail Officer

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December 2008 – August 2009 | Bucharest, Romania

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Education

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Courses and certifications

Finance program: Money and Macroeconomics, Financial Markets, Behavioral finance, financing an entity - from term sheet to documentation

Hessen International Summer University Frankfurt Germany

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Horvath & Partners Management Consulting, Bucharest

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French course in Nice, France(level B2)

August 2009 | Nice, France

Awards

The first prize in the Business Academy of Sciences Olympiad for students with the project „Optimality, Rational Expectations and Time Inconsistency Applied to Inflation Targeting Strategy“

The first prize obtained for a proposal for promoting a company (Coca Cola Hellenic Romania), as part of the Workshop Think Strategy

Skills

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