FONDAZIONE ENI
ENRICO MATTEI

NOTA DI LAVORO
52.2009

**Does Corporate Social
Responsibility Affect
the Performance of Firms?**

By **Laura Poddi,** University of Ferrara
Sergio Vergalli, University of Brescia
and Fondazione Eni Enrico Mattei

Does Corporate Social Responsibility Affect the Performance of Firms?

By Laura Poddi, University of Ferrara
Sergio Vergalli, University of Brescia and Fondazione Eni Enrico Mattei

Summary

Over the last two decades in OECD countries increasingly more firms are certifying as Socially Responsible (CSR is the acronym for Corporate Social Responsibility). This kind of certification is assigned by private companies that guarantee that a certain firm's behaviour is environmentally and sociologically correct. Some papers (including Preston and O'Bannon, 1997; Waddock and Graves, 1997; McWilliams and Sieger, 2001; Ullman, 1985) tried to establish if there exists a link between Social Responsibility certification and the performance of firms. Their results were ambiguous and did not show any common connection. This ambiguity depends mainly on the static nature of their analyses and on the problem of whether performance is affected more by certification costs or by increasing sales due to an effect on reputation. Our work would like to discover whether certain performance indicators are affected by a firm's social responsible behaviour and their certifications by looking at panel data. The novelty of our analysis is due to its dynamic aspect and from a CSR index that intersects two of the three main international indices (Domini 400 Social Index, Dow Jones Sustainability World Index, FTSE4Good Index), to be objective and obtain a representative sample. The main results seem to support the idea that CSR firms which are more virtuous, have better long run performance. They have some initial costs but obtain higher sales and profits due to several causes reputation effect, a reduction of long run costs and increased social responsible demand.

Address for correspondence:

Sergio Vergalli
University of Brescia
Via San Faustino 74/b
25122 Brescia
Italy
Phone: +39 0302988810
Fax: +39 0302988837
E-mail: vergalli@eco.unibs.it

Does Corporate Social Responsibility Affect Firms' Performance?[1]

Abstract

Over the last two decades in OECD countries increasingly more firms are certifying as Socially Responsible (CSR is the acronym for Corporate Social Responsibility). This kind of certification is assigned by private companies that guarantee that a certain firm's behaviour is environmentally and sociologically correct. Some papers (including Preston and O'Bannon, 1997; Waddock and Graves, 1997; McWilliams and Sieger, 2001; Ullman, 1985) tried to establish if there exists a link between Social Responsibility certification and the performance of firms. Their results were ambiguous and did not show any common connection. This ambiguity depends mainly on the static nature of their analyses and on the problem of whether performance is affected more by certification costs or by increasing sales due to an effect on reputation.

Our work would like to discover whether certain performance indicators are affected by a firm's social responsible behaviour and their certifications by looking at panel data. The novelty of our analysis is due to its dynamic aspect and from a CSR index that intersects two of the three main international indices (Domini 400 Social Index, Dow Jones Sustainability World Index, FTSE4Good Index), to be objective and obtain a representative sample.

The main results seem to support the idea that CSR firms which are more virtuous, have better long run performance. They have some initial costs but obtain higher sales and profits due to several causes reputation effect, a reduction of long run costs and increased social responsible demand.

Key Words: Corporate Social Responsibility, Growth.

JEL: M14, C23, O10

---

[1] Paper accepted at the 10th bi-annual EACES Conference, August, 28-30, 2008, at *"Colloquio Scientifico sull'Impresa Sociale"*, May, 23-24, 2008, Bari and at AISSEC, XVII Scientific Conference, University of Perugia, June, 25 – 27, 2009

1

1. Introduction

Reality shows who firms have recently been able to adapt to a changing world not only by developing economically but also socially and ethically. A firm's aim remains based on a development strategy that not only favours its share holders but also responds to all stakeholders involved either directly or indirectly in the production process.

A firm is an open system and to carry out its main aim must be able to combine two large categories of interest: profitability and its stakeholders' interest. Given that a system of exchange and mutual influence is created between stakeholders and the firm, management must be able to analyse objectives, resources and the strategy of common groups of stakeholders that need to be considered as well as its own ability to mobilise other stakeholders.

Given their over-riding priority compared with other stakeholders, the consumer has assumed a focal role, which has led firms to act ethically on their behalf as part of a new 'social consciousness'. We can see that once the 'primary needs' of firms have been meet, advanced firms increasingly want to meet ethical values. A clear sign of this has been the growing number of firms that have decided to take 'socially responsible' action (see Masino and Poddi, 2008; Poddi and Vergalli, 2008).

This is where the concept of Corporate Social Responsibility (CSR) has developed and is beginning to enter into common lexical knowledge and is increasingly being used by academics and economists for the sustainability of economic development. As often happens when new terms are coined, they tend to lose their conceptual precision, leaving their evocative value which is however watered down by the multitude of different meanings and contexts in which it is used. The concept of CSR indeed, takes on different meanings depending on the organisation or group that uses it. Some tend to emphasize individual aspects that they believe to be more important than others e.g., ethics, the environment, safety, education or human rights. Definitions often vary as they represent historical and social differences between countries. Indeed, certain definitions underline a particular theme because it is more relevant in that particular state, at other times the concept of CSR reflects the level of economic and therefore social development of a country[2].

Due to the different weight given to the term by different countries, the World Business Council for Sustainable Development (WBCSD[3]) has given the following definition:

---

[2] For a more complete definition see Masino-Poddi, 2008.
[3] http://www.wbcsd.org

"CSR is the task of a business to contribute to sustainable economic development, working together with workers, their families, the local community and society in general to improve quality of life.[4]"

Corporate Social Responsibility has begun to be discussed in Italy only recently and in particular since the European Council of Lisbon (2000) included it as a fixed strategy. In 2001, the European Commission published a Green Paper that contained its guidelines. In the United states, the theme has been of interest for longer. Already in the mid 70's the American *Securities and Exchange Commission* requested by the *Natural Resources Defence Council* – introduced certain social variables in the information that a publicly quoted company should give to its investors and the general public. So, themes such as *business ethics* and *corporate responsibility* began to spread among economically developed countries. It is clear that this innovation caused a shake-up in the accepted aspect of firms as they introduced the perception that the source of success could not ignore respect for working conditions or other social implications.

Recently, we have seen a growing, 'race' for social certification as a response to the changed relation between firm and consumers as witnessed by the growing number of CSR firms in particular in OCSE countries (Figure 1).

Thanks to the response to the interrelationship between strategic corporate aims and respect for all players involved in a company, at a theoretical level the stakeholder theory seems to be useful to measure the social responsibility of a firm by means of social accountability. The novelty is in the push of firms to, *'find business and resources opportunities that they would otherwise not know about[5]'* in respect to all the players involved directly or indirectly with a company's activity. This theory underlines the fact that relations are fundamental for the existence of a firm and therefore should be looked at in more detail as they could open up new opportunities for a firm. The subjects that create this network include principally the community where the firm is situated, workers and customers.

In response to consumer satisfaction and the reaction that CSR companies have had in developed countries we can realise that CSR certification is an evolutionary phase of growth and therefore needs structural and linking elements. One of the main aims of this work is to evaluate this concept by using econometric instruments.

However, if we are to say that CSR is necessary for corporate strategy, given the recentness of the phenomena and absence of a well defined and universally accepted certification method, at present CSR has certain major limitations which we would like to rectify: i.e., 1)

---

[4] Another interesting and complete definition of CSR is *"the duty of an organisation to react to aid both its own interests and those of the general"*. S. Ranjan Mohapatra, Programme Manager, VISION FOUNDATION

[5] Frynas, J G. (2005), "Corporate Social Responsibility and Stakeholder Analysis", Chapter 4, Global Strategic Management.

certification, that is an objective benchmark rather than a mere marketing tool for the public, 2) the principal motivation and elements that push firms into ethical behaviour and suitable certification. It is actually this second point that has given rise to a proliferation of articles concerning social certification (including Preston e O'Bannon, 1997; Waddock e Graves, 1997; McWilliams e Sieger, 2001; Ullman, 1985) that have still not shed light on the motivation that entices firms to bear the cost of certification or looked at the experimental performance of CSR firms. As a result, various performance measures have been adopted both on the market and in accountability that all give rather discordant results.

Our paper is organised as follows: paragraph 2 is devoted to explain the sample choice, paragraph 3 gives some descriptive results, paragraph 4 and 5 list the main variables used in the literature and the main results, respectively. Paragraph 6 shows the data used, in paragraph 7 we explain better our aim and our main results in full. Paragraph 8 looks in depth at some particular variables and 9 is devoted to the conclusions.

2 The Sample

To define our sample, the first problem we have faced is related to the right and true (non-exploitation) use of social certification. Therefore, in order to obtain a good sample, we have crossed over various social indices. Then, we have selected the firms for our sample, following these steps:

1.   We assumed that the corporate responsibility firm group includes enterprises that belong at least at two of the three main stock option indices of the market in 2004[6] (i.e. Domini 400 Social Index, Dow Jones Sustainability World Index, FTSE4Good Index[7]). In this manner, we have tried to complete the methodology used by Barnea and Rubin (2005) and by Waddock and Graves (1997). There are 317 suitable firms obtained;

2.   In the second step, we defined the control sample of 100 units, containing non-CSR enterprises in order to be homogeneous for the sectors with the CSR sample. The choice of the firms has been done randomly for each economic sector. This part was made by using the Dow Jones Global Index;

3.   Finally, the total sample included 417 firms in 2004. In order to have the time series of our database, we started with the 2004 sample, and maintaining the total

---

[6] In this sense we took the most famous and recognizable indices at an international level. The choice of year (2004) was due to our need to include the highest number of firms in our sample, given the novelty of this peculiar economic phenomenon.

[7] For the stock market analysis, we referred to the following webpage: http://www.sustainable-investment.org/.

number of firms we worked backward until 1999, changing the non-CSR/CSR ratio. I.e. we started from the 2004 sample and we created a dummy variable for each year from 2004 to 1999, imposing the number 1 if that firm was certified as CSR company in that year and zero otherwise, by using the intersection (for a couple of sets) of the three indices[8]. We were not able to work further back than 1999 because there was not a sufficient number of CSR firms in our database. After building our database in this way (see the appendix) we downloaded the balance sheets of all 417 firms, using Perfect Analysis software[9].

3. Descriptive analysis

By using the methodology described above, figures 1 and 2 show the number of CSR firms and their growth rate, respectively, for the period between 1999 and 2003. As we can see, the number of CSR firms rose with increased growth rates. For simplicity we grouped all the firms in 5 groups as follows: USA (USA), Japan (Jap), Rest of the World[10] (Others), Europe (EU)[11] - and World (Total). From the two figures it is possible to underline that:

- The number of CSR enterprises has increased considerably, showing that "Corporate Social Responsibility" is a very interesting phenomenon and therefore must be analysed.

- As far as the geographical composition is concerned, it is possible to observe that the highest number of CSR enterprises are from the United States and European Union, i.e., two of the most developed areas. From this first rough observation, we can begin to consider that growth is a crucial variable for the development of ethical conscience, and therefore the CSR.

- Figure 2 sheds light on two further important aspects:

- The growing number of CSR enterprises does not seem to be "time-dependent", but it progresses with jumps that could depend on economic development;

Although the EU has fewer enterprises, than the USA, its growth rate is higher than the USA, which possibly depends on a catch-up phenomenon. It is also important to stress, that the growth rate of the number of CSR enterprises has decreased since 2002. Does social certification depend on economic trend? Why does this reduction not affect some

---

[8] For the FTSE index we referred to the website:
http://www.sustainability-indexes.com/htmle/assessment/review2003.html; for the Domini Social Index the data refer to the Domini 400 SocialSM Index (DS 400 Index).

[9] Perfect Analysis contains the panel data of the stock prices, the level of dividends, and also other financial information about firms' balance, exchange rates, and markets indices. Moreover, it contains the main OECD economic indicators.

[10] With the word "Others" we do not consider the sum of residuary countries of the world, rather, the number of countries that do not belong to the other three groups (i.e., the USA; Jap, and EU) but that belong to our CSR database. In detail, "Others" includes: Australia, Canada, Hong Kong, New Zealand.

[11] We have considered Europe in a geographical and not political sense. This means that the EU includes the following countries: Norway, Sweden, Finland, Denmark, Great Britain, France, Germany, Spain, Italy, Switzerland, Low Countries, Belgium.

countries that depend on the US economy, like the EU and Japan? Our possible conjectures were as follows:

a)   The USA are the first subjected to crisis[12], while other countries, even if they are linked to the US economy, have a delayed reaction. This could explain why the EU growth rate only slightly retracted in 2002, followed by a big decrease in 2003;

b)   the number (flow) of enterprises strongly depends on the total number of firms that are CSR (stock). This means that if there is a lot of CSR firms, the probability that new enterprises are certified as CSR is low and also the ratio between the number of new enterprises and the total is low. Nevertheless, even if this explanation is plausible and verifiable when we are near the saturation point, this is extremely unlikely to be near also because the phenomenon is very recent. Moreover, this explanation does not explain the 2003 recovery.

c)   the financial crisis in the US (i.e., the Enron case[13] and Worldcom), probably reduced the credibility of some enterprises, changing the management priority and probably increasing certification control of CSR firms, thus delaying the certification of new enterprises.
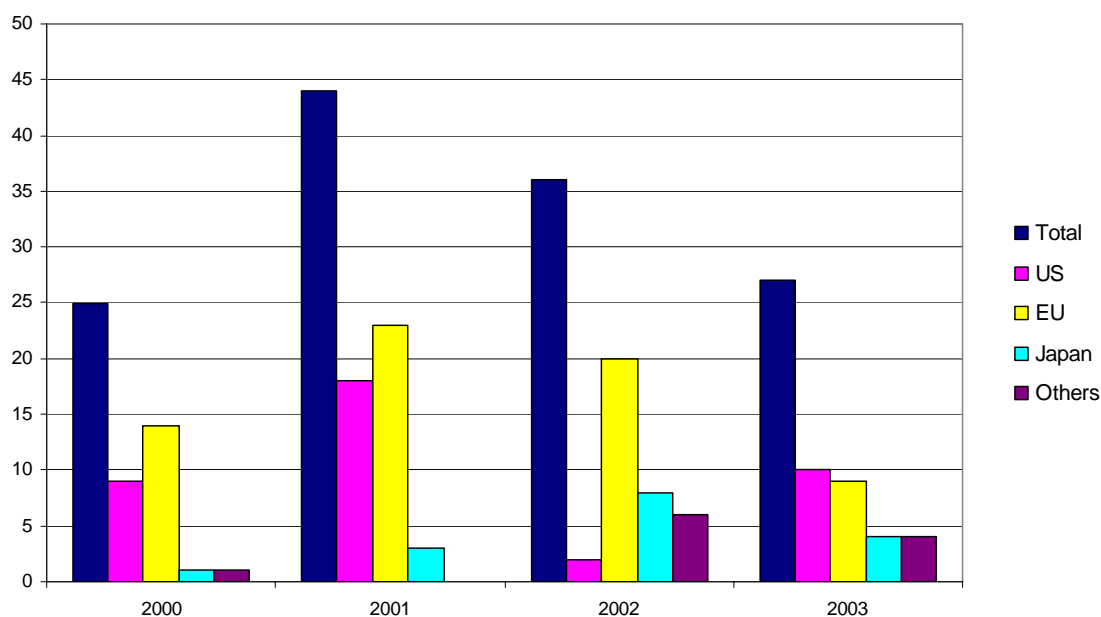
Figure 1: number of CSR firms

---
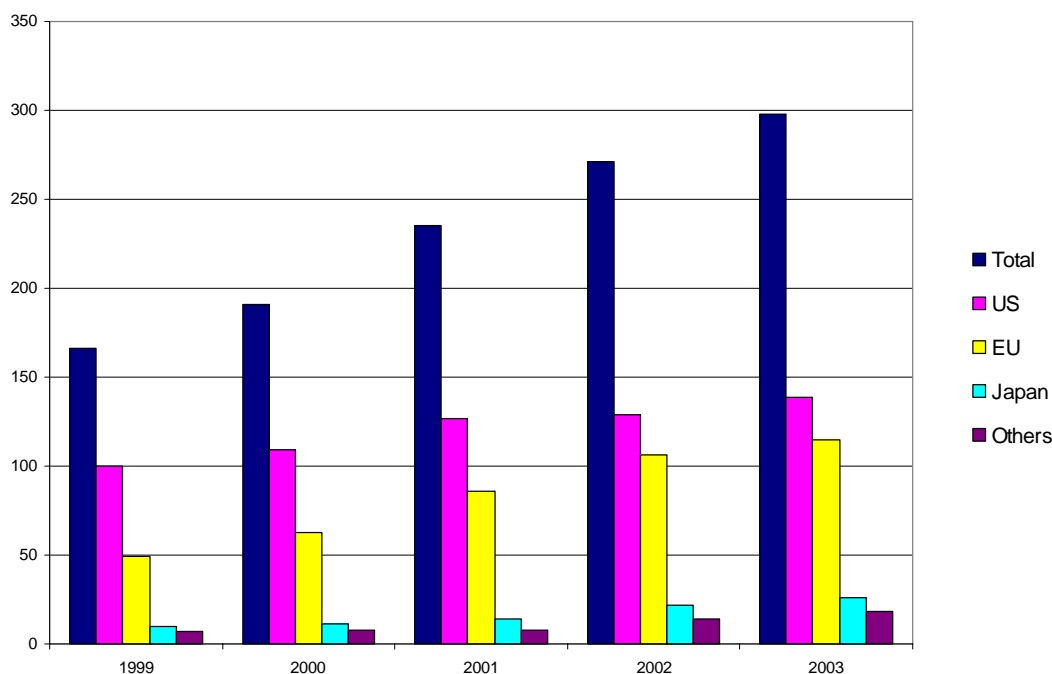
[12] It is useful to remember that 11th of September 2001, considerably affected the US economy at the end of 2001 and at the beginning of 2002.
[13] 16 January 2002.

Figure 2: Growth rate of CSR enterprises

4. Literature: Performance Measures

According to the research aim, there are many measures that are useful to verify performance. Both accounting and market variables can be considered.

4.1. Accounting measures

ROE (Return on Equity) (1999-2003) is used a great deal in economic literature (Bowman and Haire, 1975; Bregdon and Marlin, 1972; Perket and Eilbirt, 1975; Spicer, 1978; Preston, 1978; Cowen et al., 1987; Waddock and Graves , 1996, 1997; Preston and O'Bannon, 1997). ROE is equal to a fiscal year's net income (after preferred stock dividends but before common stock dividends) divided by total equity (excluding preferred shares), expressed as a percentage. It measures the rate of return on ownership interest (shareholders' equity) of common stock owners. It measures a firm's efficiency at generating profits from every dollar/euro of net assets (assets minus liabilities), and shows how well a company uses investment dollars/euros to generate earnings growth.

ROA (Return on Assets) (1999-2003)**.** ROA percentage shows how profitable a company's assets are in generating revenue. It is given by the ratio between net income and total assets. This ratio tells us "what the company can do with what it's got", i.e., how many dollars/euros of earnings they derive from each dollar/euro of assets they control. It is a useful number for comparing competing companies in the same industry. The number

will vary widely across different industries. Return on assets gives an indication of the capital intensity of a company, which will depend on the industrial sector. Companies that require large initial investments will generally have lower returns on assets. This parameter is widely used in the literature, i.e., Aupperle, Carroll and Hatfield (1985), Belkaoui and Karpik (1989), Waddock and Graves (1997), Preston O' Bannon (1997), McWilliams and Siegel (2001) Luce, Barber and Hillman (2001).

ROCE (Return on Capital Employed) (1999-2003) is used in finance as a measure of the returns that a company is making from capital employed. It is commonly used as a measure for comparing the performance between businesses and for assessing whether a business generates enough returns to pay for its cost of capital. It is given by the ratio between the pre-tax operative profit and the capital employed. As far as we know this indicator is used by Preston and O'Bannon (1997).

4.2. Market measures

MKTCAP (Market Capitalization). Also in this case, the MKTCAP is widely used in economic literature: Moskowitz (1972); Vance (1975); Alexander and Buchholz (1978); Belkaoui and Karpik (1989); Patten (1990); Wright and Ferris (1997). It is a measurement of corporate or economic size equal to the share price times the number of outstanding shares of a public company. That is, it is the value of a firm as related by the stock market value multiplied for the total number of market shares.

Beta. The **beta coefficient**, in terms of finance and investing, describes how the expected return of a stock or portfolio is correlated to the return of the financial market as a whole. That is, it shows the volatility of a stock on the stock market. A beta coefficient greater that 1 means that the security is aggressive and tends to amplify the stock market movements, and therefore it has a higher risk, a beta lower than 1 shows a defensive security. It has been used by Alexander and Buchholz (1978), Chen and Metcalf (1980) and by Spicer (1978).

4.3. Mixed Measures

MVA (Market Value Added) (1999-2003). This is the difference between the current market value of a firm and the capital contributed by investors, as it is possible to find in the account books – in this sense it is a mixed measure since it merges account and market values. If MVA is positive, the firm has added value. If it is negative, the firm has

destroyed value. This measure has been used by Simerly and Li (2000), Cochran and Wood (1984).

4.4 Other Main Characteristics

Many studies about the relationship between CSR and performance have focused their attention on a variety of other important characteristics that can be possible causes of a firm's performance. Some research has studied the effect of a firm's size, industrial sector, age, leverage level and intangible expenditure.

4.4.1 Dimension

According to Waddock and Graves (1997), it is possible to assume that the biggest firms are able to behave more responsibly than the smallest ones. The biggest ones probably pay more attention to their relationships with external stakeholders. Moreover, Orlitzky (2001) confirms that a firm's size affects the link between certification and performance: at the beginning the firm's strategies are focused on basic survival and only when the firm is increasing its dimension because it has crossed the trigger point of survival, can it begin to take care of ethical and philanthropic responsibilities. In the meantime the firm's size can be linked with financial performance through economies of scale.

In the literature, a firm size has been measured by using the number of employees, total asset value or the total sales. Belkaoui and Karpik (1989) use the natural logarithm of the sales net value, while Trotman and Bradley (1981) use both the sales value and the total asset. Cowen et al. (1987) and Patten (1991) use also the Fortune 500 index and the natural logarithm of sales. But all these measures are quite similar and strongly correlated, as stressed by Kimberly (1976).

4.4.2 Industrial Sector

The industrial sector could strongly affect the social certification. Dierkes and Preston (1997) affirm that the firms whose economic activities are able to modify environment and the firms working in natural resources (mining, forestry, oil, gas, and so on) are more controlled in their environmental performance than other sectors. Moreover some enterprises that have a strong relation with consumers need to show clean social behaviour, so that this affects the firm's reputation and so its sales (Cowen et. al., 1987). Furthermore, Patten (1991) stresses that the industrial sector (as a proxy of dimension) affects policy fame of a firm and therefore this fact forces the management to take public opinion into account (Belkououi, Karpik, 1989). Indeed the industrial sector affects the

number of enterprises belonging to the CSR group: sectors with high capital intensity have a lower number of firms than the low- labour intensity sector (i.e. banks, financial services, etc.)[14].

4.4.3 Age of Capital

Another variable that could potentially affect social certification is the 'Capital Age' of a firm. Roberts (1992) assumes that the higher the historical involvement of an enterprise in social investment, the greater the induced reputation and higher the stakeholders' expectations and therefore profits. Cochran and Wood (1984) the capital age was measured as gross and net capital: if this index tends towards 1, then the firm is relatively young. The result is that capital age is negatively correlated with the CSR variable. This means that the younger the enterprise, the higher the ethical investment. Indeed, new firms do not have transformation costs for new lines of production and it is more expensive to change a firm's structure than to create a new one.

4.4.4 Intangible Assets Expenses

The economic literature is focused strongly on R&D expense, but our comments on this variable are quite similar to total expense (also considering costs related to the CSR index). Indeed, R&D is a subset of total intangible assets and could also be used as a proxy variable of intangible assets. McWilliams and Siegler (2000) found that the R&D variable is positively correlated with the CSR index and financial performance. This can be explained because R&D expenses and innovation is one of the main variables that can affect economic growth in the medium-long run. Moreover, R&D expenses are sometimes assumed as a proxy for social certification.

4.4.5   Leverage

Leverage is given by the ratio between total debt and shares. Myers (1977), *Wallace et al.* (1994) have found a positive relation between the leverage variable and CSR index[15]. Jensen and Meckling (1976) supported this result, by explaining that a firm tends to increase its social information in order to reduce rising monitoring costs from high leverage. The same explanation is given by Ahmed and Curtis (1999), who stress that the higher the bonds percentage on the balance sheet compared to the share percentage,

---

[14] About this, see Waddock and Graves, 1999.
[15] In this approach, CSR index is defined by social disclosure, that is social information.

(interest rate is less risky than shares), then the greater the social information and social certification.

Roberts (1992) tested the following hypothesis: the higher a firm's leverage, the higher creditors' expectations. Unfortunately he found no empirical results. Negative correlations were obtained by Belkaoui e Karpik (1989).

4.4.6 Risk

Much research has studied whether there is a relation between market risk and social responsibility, defined by social disclosure.

The economic literature shows that firms with high systemic risk use social certification in order to reduce their risk, and then their beta coefficient (Trotman and Bradley, 1981; Roberts, 1992). Richardson et al. (1999) and Botosan (1997) show that increased social information can reduce asymmetric information and so the cost of capital (and therefore total costs), by reducing risk.

5. Literature: empirical analyses

Empirical research on the link between CSR and financial performance has given a lot of varied and heterogeneous results. In particular, there is a great variety in the sign of the relation studied (appendix 1, table 17).

5.1 Negative relation

Waddock and Graves, (1997): assumed that companies with responsible behaviour may have a competitive disadvantage, since they have unnecessary costs. These costs, fall directly on the bottom line and would necessarily reduce shareholder profits and wealth (Preston and O'Bannon, 1997).

Both short-term analysis based on measuring abnormal returns (Wright and Ferris, 1997) market measures (Vance, 1975) and long-term studies (Vance, 1975) have a negative relationship between performance and CSR.

5.2 Neutral relation

Waddock e Graves, (1997): their explanation of a neutral relation suggest that many variables in the relation between social and financial performance make the connection coincidental.

McWilliams e Sieger, (2001): one explanation of this could be that firms supplying CSR products to their own customers have a different demand curve compared to those with no CSR.

Ullman (1985) underlines that no clear tendency can be recorded between connections on social information, social performance and economic results. The main reasons for this is the theory's inadequacy, inappropriate keyword definitions and lack of empirical material. The author observes that important aspects are not just social performance and economic but also "information" about social performance and that only a few studies have analyzed this three-dimensional relation.

Other studies highlight the impossibility of defining the sign of the existing relation between CSR and performance, both in the short term – on the basis of Abnormal return measure (Welch e Wazzan, 1999) and market actions - and in the long term (Aupperle, Carroll e Hatfield, 1985)[16].

5.3 Positive relation

Waddock e Graves, (1997) outline three explanations for a positive relation between CSR and financial performance:

a) Valuating what would happen if an enterprise did not act in a responsible manner. If it tried to reduce its implicit costs acting in irresponsibly, the result may be an increase of explicit costs from forcing a inefficient condition. The final result would be a competitive disadvantage. An example would be the case of atmospheric pollution that leads to a lawsuit.

b) Responsible social practices are the same as "good management". They strengthen relations with stakeholders and at the same time improve overall performance.

c) The third explanation follows the "theory of scarce resources" and identifies the adoption of responsible social behaviour as a consequence and not a cause of performance improvement. The idea is that during a positive trend there will probably be fewer limited resources. Some of these resources could be liberated in secondary activity such as CSR.

Preston e O'Bannon, (1997): made use of a similar hypothesis called "available funds", as a firm's behaviour depends on accessible resources. The authors present an alternative theory to "good management" called "the hypothesis of social impact": i.e., better financial performance follows a stronger company reputation. By considering stakeholders' implicit needs, a company increases its reputation which improves financial performance. On the

---

[16] There is no positive correlation between CSR and financial economic results, also after a correction about the riskiness.

other hand, failing to answer stakeholders' needs creates market uncertainty, raises the risk reward paid to investors and increases costs and possible losses.

A less obvious explanation for a positive relation could be that CSR enterprises are more attractive to workers. In the information age, good employees are an extremely desirable resource and it is crucial to more appeal for them.

Luce, Barber e Hillman, (2001): studied the relation between CSR enterprise appeal to employees and a firm's public profile. They claim that a firm's reputation has a positive influence on the relation between CSR and appeal.

Short term studies based on abnormal return measure (Posnikoff, 1997) and on market actions (Moskowitz, 1972) showed a positive relation between performance and CSR. Moskowitz (1972) noticed that the average of "common stock" returns of 14 selected ethical enterprises for the first half of 1972 was 7,28%, an amount that was higher than the Dow Jones's industrial index.

Over the long term, Cochran e Wood (1984) showed a positive relation between social responsibility and financial-economic valuation (after controlling for the age of the company). Furthermore, Waddock e Graves (1997) found a significant positive relation between CSP index and performance measure as the ROA.

6 Data
Referring to paragraph 4 and using the Perfect Analysis database, the following performance variables were collected for 417 enterprises:

6.1   Accounting measures

ROE (Return on Equity) (1999-2003): this variable is fundamental as it defines economic performance - as highlighted in sub-4.1.

ROCE (Return on capital Employed) (1999-2003): it was decided to adopt ROCE as a variant of the more common ROA, due to the greater compatibility of data.

6.2.   Market measures

MKTCAP (market capitalization). Data derived from Perfect Analysis, in the budget reports of each company – "Fundamentals" sheet; voice "Market Cap".

Finally, it was decided to look at a mixed measure: firstly because it is more objective as it takes data relating to the market and also to complete the measure.

6.3.   Mixed measures

MVA (Market Value Added) (1999-2003). This measure identifies the "reputation" of business activity as the stakeholders' response to different company activity. This performance indicator was made using Perfect Analysis data with the following methodology: the company's market share value was estimated referring to July 2004 and multiplied by the number of shares at the closing share price on December 31st of each year (from 1999 to 2003). The Yahoo Finance website was the source for historical stock prices. The "stockholder's equity" is then subtracted from the equity market value in the social balance sheet of each company. So we can compare the economic value of stakeholders' equity (MV) and its book value, and then the market (and therefore stakeholders) can evaluate the business in place or in the future.

6.4   Other Variables

Each company is different from another in how it implements CSR. Differences depend on many factors such as for example, the enterprise's size, the particular sector in which it operates, the corporate culture, stakeholders' demand and historically how progressive the company is in achieving CSR.

Some companies specialize in a single area, which they consider the most important or where they have the greatest impact or vulnerability (human rights, for example, or the environment), while others want to integrate CSR into all aspects of their operations.

Other variables that influence CSR choice are as follows:

AGE (1999-2003) is the ratio between the net value and gross assets in property, buildings and equipment. The more this ratio tends to a value of one, the newer the company is. Data source: Perfect Analysis- "Property, Plant and Equipment - Total (Gross)" and "Property, Plant and Equipment - Total (Net)".[17]

INTA (Intangible Asset) (1999-2003) annual expenditure on intangible heritage, namely copyrights, patents, intellectual property and know-how. Intangible spending pushes performance and and can easily be used as an instrumental variable to be a CSR firm or not, is strongly correlated. Source: Perfect Analysis, -"Intangible Assets - Total."

STLT (Short Term Debt / Long Term Debt) (1999-2003) is the ratio between short-term/long term debt. Considering the important role of indebtedness, we wanted to discern its type. Data source: Perfect Analysis - "Common Size "ST Debt (% of Assets)" and "LT Debt (% of Assets)."

---

[17] The expectation against the use of this variable is defined as: "The latest companies behave more responsibly" (Cochran & Wood, 84).

Intensity (intensity of work) (1999-2003): ratio between number of employees' and total assets. In the Perfect Analysis database - "profits and losses", - data were collected on the number of employees under the heading "Employees Units". For total assets: balance sheet "total- assets ".

Size (1999-2003). Total sales has been used to define a company's size, as illustrated by Stanwick (1998), based on the work of Fonbrun and Stanley (1990) and Cowen et al. (1987), referred to in paragraph 4.4.1.

Risk. On the relation between belonging to a CSR group and risk, it was pointed out in paragraph 4.4.6. how it can be quantified through the Beta index. The beta index was obtained for each 417 companies of the sample, compared to 2004. However, it was not possible to obtain the historical series of this index to compare time to those used in the panel analysis. Therefore only cross section analysis was possible. A useful caveat regarding our future analysis is that the possible reduction of company risk is closely linked to economic management. Socially responsible behaviour aims at reducing environmental organizational and operational risk. Nothing is said about financial risk, even if it adopts the Beta index to quantify risk. This discrepancy creates different results and comments on risk assessment. For detail, see the technical part of this work.

Reputation. We use a reputation quotient published over the last six years by the Reputation Institute[18], based on a survey on the more visible American multinationals. In details, each company was assessed by over eighteen random factors selected by the company's policy. The respondents associated a score based on 20 attributes relating to six key dimensions: a) Products and services; b) Financial performance; c) Work environment; d) CSR; e) Vision and leadership; f) Emotional appeal.

The index is explained for a sample of firms from 1999 to 2004 (see appendix).

Critical Demand (1999-2003). The literature justifies a sales' increase from a differentiation on the market offer. The critical consumers satisfy their needs with peculiar goods characterized by environmental respect or improvement of labour conditions. Data on critical questions are taken from a research carried out by MORI (Market and Opinion Research International)[19].

Social Capital (1999-2003). To replace the concept that an individual's choice (and therefore total demand) has changed due to critical behaviour we looked at data on social capital indicators. In recent literature, the social capital concept has evolved from initially purely sociological definitions (Bourdieu, 1985; Coleman, 1990) to include broader

---

[18] Reputation Institute - www.reputationinstitute.com - www.harrisinteractive.com
[19] MORI (Market and Opinion Research International) – www.mori.com

meanings including civic sense (Putnam, 1993, 1995), cooperation between individuals and 'compliance with the law (Fukuyama, 1995, Guiso et al., 2004; Alesina and La Ferrara, 2000). So, social capital could be considered a proxy of individual behaviour and, therefore, could be considered a useful variable. The data on social capital were obtained from IVIE (*Instituto Valenciano de Investigaciones Económicas*) database[20].

GDP (1999 - 2003): data from the World Bank database.

7 Empirical Analysis

7.1 NPC Test: Stratigraphical Analysis

In order to obtain our first results, that can support the hypotheses we have explained in the previous part, we start with a stratigraphical analysis by using the NPC test software[21].

7.1.1 CSR vs. non CSR

The first step is to compare CSR and no-CSR enterprises. Table 1 shows if the variable in the line is statistically greater for the CSR firms than for the no-CSR firms.

Table 1: Stratigraphical Analysis

	1999	2000	2001	2002	2003
MVA	NCSR<CSR **	NCSR<CSR ***	NCSR<CSR ***	NCSR<CSR **	NCSR<CSR ***
SIZE	NCSR<CSR **	NCSR<CSR **	NCSR<CSR ***	NCSR<CSR ***	NCSR<CSR ***
INTANGIBLE	NCSR<CSR **	-	NCSR<CSR ***	-	-
ROE	-	NCSR<CSR **	-	-	-

In detail, we compare different variables such as MVA, SIZE, INTANGIBLE and ROE in pairs of two groups (CSR, non CSR, USA and EU, HIGH and LOW) and the nil hypothesis that a variable of the first group is on average greater (or lower) than the variable of the other groups is tested. The asterisks show the significance level to accept the nil hypothesis (* = 90%, ** = 95%, *** = 99%). The dash signifies that the two groups are not statistically different.

Moreover:

- CSR-MVA is greater than non-CSR-MVA in years 2000, 2001, 2003 at the significance level of 99% and in 1999 and 2002 at 95%;

- the CSR firm dimension (SIZE) is greater than non-CSR for all years (95% in 1999 and 2000 and 99% in the others);

---

[20] Instituto Valenciano de Investigaciones Economicas - www.ivie.es
[21] NPC Test is able to do non-parametric tests to verify hypotheses. In general some parametric methods are used to verify hypotheses like normality of a distribution, that are hard to check. Instead, by using non-parametric methods, we compare different data permutations, and we test the nil hypothesis that the distribution, independently by his shape, is the same in the two groups.

- intangible expenses are statistically greater in the CSR group than non-CSR in 1999 and 2001. However, the two groups are not significantly different in other years;

- in 2000 the ROE variable is significantly greater in the CSR group.

By cross section analysis, we understand that CSR-MVA is greater than non-CSR. Nevertheless, this study is unable to indicate the gap level between the two groups and it tells us nothing about gap variability (how does it change over time? Does it increase or decrease?) In order to study this variability, we use average MVA for the two groups, obtaining the following table 2.

Table 2: comparison between CSR and NCSR

Average levels	1999	2000	2001	2002	2003
MVA CSR	36968.92	25363.29	20231.74	12324.95	16655.41
MVA NCSR	19901.77	14064.49	8881.49	7147.39	9199.32
GAP	17067.15	11298.79	11350.25	5177.55	7456.09

The results are:

- MVA of the two groups decrease until 2002 and rose in 2003;

- the MVA gap reduce until 2002 and increase again in 2003 ;

Given that the MVA of both groups moves in a common path, they probably have a common variable. This may be the economic trend, defined in our work by the Dow Jones Global Index. Indeed, if there is an economic crisis, it is probable that MVA decreases, *ceteris paribus*. Therefore, it is useful to make a comparison with the Dow Jones Global Index and MVA values, in figure 3.

Figure 3: Comparison between the Dow Jones and MVA
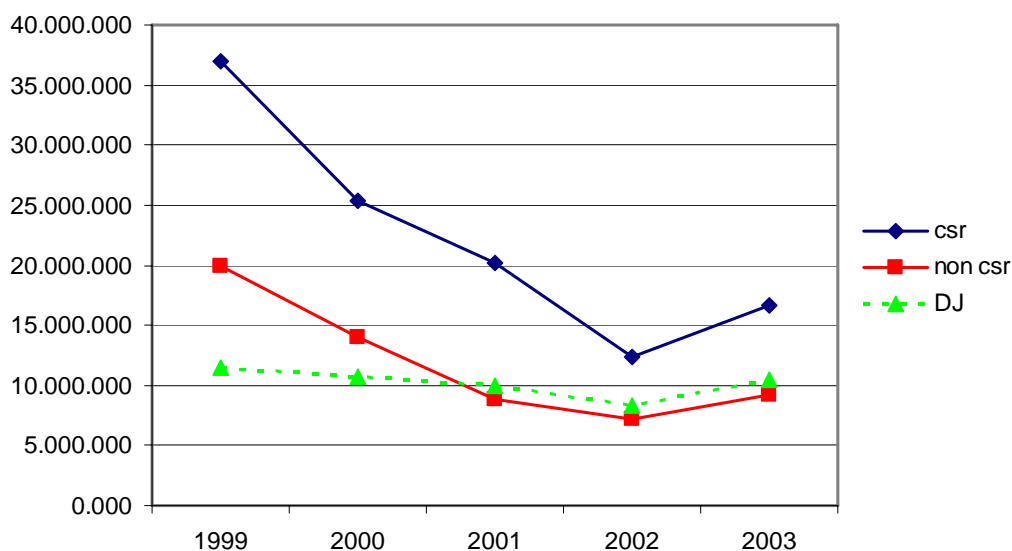
Comments about figure 3:

- MVA and DJ have a common path;

- MVA of CSR group is higher than non-CSR group, as we have seen previously. This is a consequence of a) a foresight in a uncertain context (investors bet on CSR enterprises, causing an increase in CSR shares); b) an increase in the firm's value (investors include a perfect evaluation of the firm in their investment decision);

- both groups have a higher evaluation than DJ. Since all firms belonging to our sample have a higher MVA and since the non-CSR group was built trying to maintain the same homogeneous sector structure as the CSR group, our conjecture is that the firms that want to become CSR have a high MVA. This implies a distortion in our sample. So, in conclusion, the gap between non-CSR MVA and DJ comes from the self-selection of enterprises in the CSR group. The gap between the CSR and non-CSR group is due to the CSR choice.

The CSR firms were larger than the non-CSR group over the entire period. Size levels were calculated by using sales values. Therefore, the result could depend on the greater financial resources owned by big enterprises with greater volume of sales (Waddock and Graves, 1997; Orlitzky, 2000).

The final result was that we observe higher expenses in intangible capital in CSR firms. This result is quite common in economic theory (McWilliams and Siegel, 2000): intangible capital also includes social expenses and also points to greater attention to social investment.

7.1.2 The USA vs. EU

We also extende our analysis to compare European (EU) firms and American (USA) ones, table 3.

Table 3: focus non EU and US firms

	1999	2000	2001	2002	2003
CSR	EU<USA ***	EU<USA ***	-	-	-
MVA	-	EU<USA **	EU<USA ***	EU<USA ***	EU<USA ***
INTANGIBLE	EU<USA **	-	-	-	-
ROE	-	-	-	EU<USA *	-
ROCE	EU<USA **	-	-	-	-
AGE	-	-	-	-	*EU>USA* ***

Comments on table 3:

- in 1999 the number of European CSR firms was significantly lower than in the United States. This has changed since 2001, as we can see from the growth rate of CSR firms in the EU and USA (see figure 3).

- Since 2000, Market Value Added was significantly lower for EU enterprises. This was also supported by ROE and ROCE values. Our explanation is that MVA value probably include the market value of a firm. In particular, the greater its value, the greater are expectations of economic growth, i.e., GDP growth rate. For this, the expectation in US firms' growth was higher than European firms, due to a more optimistic forecast for US growth. In conclusion, this could explain why US MVA is higher that the European one.

7.1.3 High vs. Low profile

The next comparison is made between industrial *High* o *Low Profiles*,:

HIGH: according to Roberts (1992), industrial sectors defined as "high profile" are these well-known by customers to have high political risk, e.g., high competition, such as oil, chemical, mining, forest, paper, cars, aeroplanes, energy, transport, tourism, agriculture, tobacco, alcohol, communication and media.

LOW: in this group we have the financial sector including food, health, hotel, construction, electrical equipments, textile, clothing, retailing, medical provision, real estate. In the literature, it is assumed that industrial sector characteristics can affect corporate social choice therefore social performance.

For example, different industrial sectors can face different risks. Fombrun and Shanley (1990) found a strong correlation between risk and stakeholder assessment. Moreover, other important sector features (such as dynamism, etc.) are considered key factors of social performance.

Table 4: HIGH-LOW profile

	1999	2000	2001	2002	2003
CSR	-	-	-	-	-
MVA	-	HIGH<LOW **	HIGH<LOW ***	HIGH<LOW ***	HIGH<LOW ***
ROCE	HIGH<LOW ***	-	-	-	-
INTANGIBLE	-	*HIGH>LOW* ***	*HIGH>LOW* ***	*HIGH>LOW* ***	*HIGH>LOW* **
AGE	HIGH<LOW ***	HIGH<LOW ***	HIGH<LOW ***	HIGH<LOW **	HIGH<LOW **
DEBT	HIGH<LOW ***	-	HIGH<LOW ***		*HIGH>LOW* ***

19

Looking at table 4, we can see:

- there is no statistical difference between HI and LOW profiles for social certification (CSR) or ROE;

- MVA is considerably higher between 2000 and 2003 for LOW profile;

- ROCE is higher in LOW profile, only for 1999;

- intangible expenses are higher in HIGH profile companies (since 2000 until 2003);

- LOW profile firms are younger than HIGH profile companies;

- the short term debt over long term debt ratio is higher in LOW profile companies in 1999 and 2001, but is lower in 2003.

- the difference between HIGH and LOW profile, according to the CSR index is not significant. This is due to the methodology we adopted to define the CSR sample and the control sample, which by definition had to be equivalent. However, by working backward the two different databases are not statistically different;

- for MVA values, the HIGH profile group is more volatile, which would imply that stakeholders believe that their shares are more risky. This could explain a relatively worse performance evaluation than for LOW profile companies. Furthermore, there are always more CSR firms in the LOW profile. Therefore, if a CRS firm has a high MVA level , this indicates that there are more CSR firms in a particular group thus increasing the MVA average for that group.

For this reason, given that there are more CSR enterprises in the LOW profile[22], a question arises, why is there this disproportionate spread between the two groups? Is there a sector that encourages firms to be CSR? From table 4.1, we can see that the financial sector in the LOW group, has the highest percentage of CSR enterprises[23]. This could be explained as due to fact the social certification entails high costs (changing corporate organization, plant, labour relations and so on). It is probable that financial firms have lower costs for certification.

Moreover, we can comment the other variables in the following manner:

- the results on ROCE variable are not sufficient to comment on.

- the high level of intangible capital expenses in the HIGH profile is an expected result, because this group includes firms with high technology that are highly motivated to spend

[22] **Table 5: Number of CSR for each group**

	CSR		Non CSR	
	HIGH	*LOW*	*HIGH*	*LOW*
1999	41	125	75	176
2000	46	145	70	156
2001	58	177	58	124
2002	70	201	46	100
2003	77	221	39	80

[23] The sector called "discretionary consumption" is equably distributed in High and Low group.

on Research and Development. The LOW profile on the other hand, is characterized by "traditional sectors" with low levels of innovation.

- as far as AGE is concerned, the results show that LOW profile enterprises are the most recent. This could be explained by underlining that the HIGH profile enterprises are generally oligopolistic companies, characterized by few new enterprises.

- finally, as far as the DEBT variable is concerned, we are unable to comment given the ambiguous results.

7.1.4. In details: USA vs. EU

Studying our results in depth and by focussing on membership, we find the following:

Table 6: US Stratigraphical Analysis

	1999	**2000**	**2001**	**2002**	**2003**
ROE	*NCSR>CSR* **				NCSR<CSR **
MVA			NCSR<CSR **		
AGE	NCSR<CSR **	NCSR<CSR **		NCSR<CSR **	

Table 7: EU Stratigraphical Analysis

	1999	**2000**	**2001**	**2002**	**2003**
ROE		NCSR<CSR **	NCSR<CSR ***	-	-
MVA	NCSR<CSR ***	NCSR<CSR ***	NCSR<CSR ***	NCSR<CSR **	NCSR<CSR ***
SIZE	NCSR<CSR ***	NCSR<CSR ***	NCSR<CSR ***	NCSR<CSR ***	NCSR<CSR ***
AGE	-	*NCSR>CSR* **	-	-	-
INTA	NCSR<CSR **	NCSR<CSR *	NCSR<CSR ***	-	-

Concerning tables 6 and 7, we makee the following comments:

1) MVA:

- there is no univocal statistical result concerning the relation between profitability and CSR variable for the US. This could depend on a high US MVA independent of qualitative features. We can see that MVA volatility is higher in CSR enterprises than in the control. We can also see that during a negative period, CSR-MVA tends to drop sharply, converging towards the non-CSR level. In 2001, the US had a short-term peak followed by reduced growth (figure 3), of CSR enterprises on the Dow Jones. Here, the MVA level of

CSR enterprises may converge smoothly towards non-CSR values. However, it was in any case higher than in the European market.

The lack of an univocal statistical result could mean weak public support of a firm's critical behaviour. Critical demand in US is not binding and investment choice to become CSR has different rationale (trying to forestall critical growth or adapting investment choice to other markets).

- For the EU, there is strong evidence that the MVA-CSR relationship is positive. About the reason for this we must bear in mind that critical demand is more developed in the EU than in the US, as underlined in MORI (Market and Opinion Research International) and this can also be supported by the political approach of the EU and US to environmental problems (e.g., the ratification of the Kyoto Protocol). Moreover, we can see that the US crisis affected the EU market only weakly. Indeed, the EU had reduced growth rates and also from specific causes. So, a weak shock implied a lower MVA reduction. CSR firms therefore maintain a higher level of MVA.

2) AGE:

For the USA, the AGE variable seems to support Cochran and Wood (1984). This index is higher for CSR firms which means they are more recent. We believe that the more recent a firm is, the lower the costs are to change labour organization or to invest in innovation. However, the EU results are less clear as the link between CSR and AGE is not statistically significant.

7.1.5. In detail: HIGH vs. LOW

The last analysis concerns the comparison between CSR and non-CSR firms in different HIGH and LOW industrial profiles:

Table 8: LOW Profile Stratigraphical Analysis

	1999	2000	2001	2002	2003
MVA	NCSR<CSR **	NCSR<CSR ***	NCSR<CSR ***	NCSR<CSR **	NCSR<CSR **
SIZE	-	NCSR<CSR ***	NCSR<CSR ***	NCSR<CSR ***	NCSR<CSR ***
INTA	NCSR<CSR *	NCSR<CSR *	NCSR<CSR *	-	-

Table 9: HIGH Profile Stratigraphical Analysis

	1999	2000	2001	2002	2003
INTA	NCSR<CSR *	NCSR<CSR *	NCSR<CSR ***	-	-

As far as the LOW profile is concerned, we obtain the following:

- on average MVA is higher in the CSR group for all five years;

- the size of non-CSR enterprises is lower for 4 (from 2001 until 2003) out of 5 years;

- CSR expenses in intangibles are higher between 1999 to 2001 and are not significant for 2002 and 2003.

Concerning the HIGH profile, the only significant variable is the expense in intangibles, which is higher for the CSR group. These results can be explained as follows:

- again it is possible to confirm that CSR_MVA is higher than for non-CSR enterprises, and statistically relevant only for less volatile LOW profile,.

- CSR are bigger, which could depend on the higher resource level of CSR firms. The difference between LOW and HIGH could depend on a minimum critical dimension of a LOW profile enterprise. For HIGH profiles, the firms are obliged to obtain independent certification , if this is part of the firm's ex-ante investment strategy.

- Finally, in both cases, expenses in intangibles is higher for CSR firms. Indeed, Research and Development are considered intangibles and e.g., could be useful to improve "green technology". R&D variable is often used as a proxy of the CSR index.

7.2 Correlations among variables

In table 10, we show the correlations between variables for 2001, the most representative year[24]. Here, we comment on our main results[25].

Table 10: Correlations[26].

Correlation 2001	CSR	MVA	ROE	SIZE	AGE	INTA	INTENSITY	STLT	GDP
CSR	1								
MVA	0.1691 ***	1							
ROE	0.0017	0.0712	1						
SIZE	0.1375 ***	0.4034 ***	-0.0580	1					
AGE	0.0327	0.0692	0.0066	0.0473	1				
INTA	0.1186 **	0.0028	-0.0707	0.2522 ***	0.1689 ***	1			
INTENSITY	- 0.0195	-0.0718	0.2343 ***	- 0.0968 *	- 0.0662	- 0.0865 *	1		
STLT	0.0325	0.0593	- 0.0059	- 0.0336	- 0.0492	- 0.0426	0.0171	1	
GDP	0.0400	0.0734	- 0.0108	0.0393	- 0.1208	- 0.0289	0.0132	- 0.0111	1

[24] For other correlations, see Poddi, L. (2005).
[25] In this respect we will comment on the main relations for the entire period.
[26] Our first consideration is that the correlation coefficient (r of Pearson) is low in all cases. Therefore, even if there is a significant correlation, it is weak. This implies that it does not totally explain our phenomenon. We need a formal model in regression. This could solve the multi-collinearity problem among variables in the model we will show look at.

Lat us observe table 10:

- MVA is positively correlated with CSR variable and dimension (SIZE);

- SIZE is positively correlated with expenses in intangibles, that is the INTA variable;

- CSR is strongly correlated to dimension and intangibles;

- And intangibles are positively correlated with AGE.

We can see that MVA seems to be linked with the CSR index, while the bigger the firm's size, the higher its value. Given that SIZE took account of total sales and given that more business meant better performance for investors, then the MVA-SIZE relation is in line with our results. The most recent firms spend more in intangibles, due to the start-up procedure of a firm that includes copyright, R&D and innovation technology costs.

7.3 The Regression Model

The dependent variable of our first model is called Π (i.e., profit or economic performance) and it can be defined either using the MVA variable (sometimes preferable because it takes into account not only accounting data but also market evaluation), or the ROE or ROCE. The independent variables are CSR and SIZE, according to the following scheme:

$$\Pi_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 SIZE_{it}$$

where the subscripts i and t follow the statistical units (firms) over time.

The next step should be a 5 years cross-section analysis to verify magnitude and sign.

Here, there might be an endogenous problem related to CSR and performance variables. This is due to the following syllogism: the best performing firms with the best performance may be interested to enter the social index for their highly available resources. Vice versa, a CSR firm with a high reputation could improve its market evaluation. So, before running our regression, we need to understand if there is endogeneity among variables and which is the direction of the $\Pi \Leftrightarrow CSR$ relation. To do this we have used Granger test and the Hausman test. While the first one shows that CSR causes MVA, the results of the second show 4 of 5 cases with no endogenous problem[27].

---

[27] The results of this test are in table 11.

Table 11: Hausman test

	Endogenous	Exogenous
1999		X
2000		X
2001	X	
2002		X
2003		X

Nevertheless, to be sure of avoiding this problem, we have used the IV method.

7.4 Panel Data

The panel analysis is more useful to study longitudinal samples in a continuous framework. We have used STATA software to estimate our model. Given that endogeneity is assumed between MVA and CSR index in the literature, we have used the instrumental variable (IVs) method. To do this, we have used the variables INTANGIBLE e AGE that are correlated with the dependent variable MVA but that are not correlated with the independent variable CSR, that we have assumed as an endogenous variable.

7.5 MVA Analysis

Here, we show the main results:

Table 13: Regressions: MVA dependent variable

	Model 1 Coefficient (z stat)	Model 2a Coefficient (z stat)	Model 2b Coefficient (z stat)	Model 3a Coefficient (z stat)	Model 3b Coefficient (z stat)	Model 4 Coefficient (z stat)
Intercept	- 1306658 (- 2.13)**	- 1557901 (- 2.27)**	-1370819 (- 2.35)**	- 418917.8 (- 1.36)	39154.62 (1.75)*	- 914084.7 (- 1.78)*
CSR	- 325748.2 (- 2.51)**	- 345438 (- 2.59)**	- 328930.9 (- 2.70)***	- 348862.7 (- 2.55)**	- 341819.9 (-2.59)***	- 323266.9 (- 2.17)**
SIZE	32029.9 (1.58)	50274.22 (2.01)**	43326.09 (2.00)**	42977.74 (1.90)*	43637.06 (1.95)*	28508.12 (1.41)
GDPPRO	47.64 (2.20)**	54.53 (2.32)**	49.02 (2.41)**	15.83 (1.48)		
GDPPRO_1						33.68 (1.86)*
INTENSITY		327.2976 (0.44)				
STLT		0.0004 (1.76)*	0.0004 (1.79)*	0.0004 (1.70)**	0.0004 (1.68)*	0.0004 (1.65)*
DEMAND				2.44e-07 (2.01)**	3.12e-07 (2.30)**	1.53e-07 (1.74)*
$\overline{R}^2$	**0.78**	**0.7167**	**0.7197**	**0.7249**	**0.7248**	**0.8581**

(*) 90% significant; (**) 95% significant; (***) 99% significant;

Where: $\overline{R}^2$ [28]= adjusted R^2; CSR = dummy variable that assumes a value 1 if the firm belongs at least to two of the indices adopted; SIZE = variable that assumes 1 for small enterprises, 2 for medium enterprises and 3 for the biggest ones according to the amount of sales; GDPPRO = GDP per capita of the country of a firm; GDPPRO_1 = GDP *per*

---

[28] It is important to stress that panel regressions have a very low R^2. This is due to the inter-temporal interpolation of data. Indeed, the panel is a merge of cross analysis with a historical series. Its explanatory function is between the two methods. The difference compared with historical series is that there is a difference between individuals. For this we should see a R^2 that is quite similar to the cross section's one. For this, we must calculate the $\overline{R}^2$ using the methodology adopted in these cases.

capita with a year of lag; INTENSITY = labour intensity calculated as the ratio between the number of employees over the total asset; STLT = is the ratio between short-term debt and long-term debt; DEMAND = is the critical demand in UK, used as a proxy of ethical consumption in OECD.

Model 1

The first model is the following:

$$MVA_{it} = -1306658 - 325748.2 * CSR_{it} + 47.64 * GDPPRO_{it} \qquad (1)$$

The result of our first regression shows that:

<center>***"MVA decreases when CSR increases"***</center>

Our explanation follows these steps:

- We should remember that CSR is a dummy and assumes a value of 1 when a firm belongs to the CSR sample. This implies that model 1 studies how much the MVA average changes when a firm starts to belong to the CSR group. From figure 3 and tables 3 and 4 we know that a CSR firm has a higher MVA, hence we would expect a positive relationship between MVA and CSR. But we must pay attention to the comparison between figure 1 and 3. MVA is higher for CSR firms, but the interpolation analysis does not distinguish between the two groups (CSR and non-CSR), but evaluates the average level of MVA. The result is that over time, MVA reduces but the number of CSR firms increases. This explains why the sign between the two variables is negative. Further close examination stresses that the sample is a finite number so when CSR increases, non-CSR decreases. For this the coefficient shows how much MVA changes depending on the variation of CSR percentage in the sample. Therefore, more CSR enterprises means that some enterprises have changed their group in the sample. These firms come from the no-CSR group with a low MVA level and go to the CSR group with high MVA, reducing the average MVA.

The second main result from model 1, is that MVA increases with the rise of GDP per capita. This is not surprising because when GDP increases there are more resources useful for further investment.

The variable SIZE is not shown because it is not significant. This variable seems to show contradictory results. We could say that it is not so obvious that a higher amount of sales implies better market evaluation, especially during unfavourable situations.

Model 2a

The regression of the 2nd model is as follows:

$$MVA_{it} = -1557901 - 345438 * CSR_{it} + 50274.22 * SIZE_{it} + 54.53 * GDPPRO_{it} + 0.0005 * STLT_{it} \qquad (2)$$

This model varies as it introduces the STLT and INTENSITY variables. In this case, variables SIZE and STLT are significant. Concerning the signs of CSR and GDPPRO, see the explanations given for model 1. A positive STLT sign means that the short and long term debt ratio tends towards a higher percentage of short term debt. The investors prefer to buy shares because they expect an increase in profits in the long run.

Finally, variable INTENSITY is not significant and this could mean that the CSR index is not affected by variables related to the firms' structure and organization. Indeed, we cannot say that a firm with low intensity has a lower Π.

Model 2b[29]

The model is:

$$\text{MVA}_{it} = -1370819\ 328930.9 * \text{CSR}_{it} + 43326.09 * \text{SIZE}_{it} + 49.02 * \text{GDPPRO}_{it} + \\ + 0.0004 * \text{STLT}_{it} \tag{3}$$

Model 3a

The model is:

$$\text{MVA}_{it} = -348862.7 * \text{CSR}_{it} + 42977.74 * \text{SIZE}_{it} + 15.83 * \text{GDPPRO}_{it} + 0.0004 * \text{STLT}_{it} + \\ + 2.44e\text{-}07 * \text{DEMAND}_t \tag{4}$$

Our first comment stresses that MVA is not only a premium of a firms' strategies but it could also represent, if there is perfect asset evaluation, firm's profit. On the one hand, increased GDP *per capita* means higher consumption and therefore higher sales, on the other hand, higher wealth does not necessarily mean more expense on ethical products.

In order to understand how product differentiation of CSR firms affects Π, we must include another variable: critical demand. This variable is closely related to GDP *per capita* because, as we have seen in figure 1, CSR firms are concentrated in the most developed countries. This implies that critical behaviour and therefore critical demand tend to rise in OECD countries. To confirm this, we have used a causality test, showing that GDP per capita ➔ DEMAND. After our digression, model 3° clearly shows non significant GDP *per capita*, because its effect is caught by DEMAND. R^2 value and the significance of DEMAND seem to support our model, even if the constant is not significant. From this we obtain the following model 3b.

Model 3b

$$\text{MVA}_{it} = -39154\ 341819.9 * \text{CSR}_{it} + 43637.06 * \text{SIZE}_{it} + 0.0004 * \text{STLT}_{it} + \\ + 1.53e\text{-}07 * \text{DEMAND}_t \tag{5}$$

---

[29] Without the variable INTENSITY (not significant) the regression was confirmed and the $\overline{R}^2$ was greater.

R^2 value and the significance of all coefficients show that the model is our best one. Nevertheless, a high GDP pro capita implies a development of a critical demand and therefore lagged GDP *per capita* could affect MVA, as shown in model 4:

Model 4

$$MVA_{it} = -914084.7 \; 323266.9 * CSR_{it} + 33.68 * GDPPRO\_1_{it} + 0.0004 * STLT_{it} + \\ + 1.53e\text{-}07 * DEMAND_t \qquad (6)$$

SIZE is not significant.

In all cases SIZE does not show clear and univocal results.

For the last three models (3a, 3b e 4) we have developed an analysis that includes a critical demand weighted for each country's consumption level. Obviously, this must be strongly correlated with GDP *per capita* (0,9), as consumption level is one of the main components of the GDP. But constructing this variable could be an extreme synthesis of the critical behaviour of consumers, including two variables affecting MVA, i.e., a higher GDP *per capita* is generally linked with increased DJ and high critical demand pushes investors towards CSR enterprises as they wait for long-term profits. Nevertheless, there are two weak aspects which have made us use other variables: a) on the one hand, it is weighted to UK critical demand (we have no other reports about critical demand); b) on the other hand, we have distinguished these two aspects by adopting the following variables:

1. GDP *per capita* as a proxy of critical behaviour and economic trend;

2. Demand: a variable that tries to trace the linear trend of critical demand. The idea consists in assuming that critical demand trend follows the same trend in different countries. This is because a ethical behaviour starts after a trigger wealth point is reached and therefore, after a common threshold point for homogeneous countries in GDP. By adopting this variable, we have tried to distinguish between GDP *per capita* and critical behaviour.

We tested the absence of a multi-collinearity among regressors, by using the diagnostic VIF[30]. In our case, the VIF value is 1.07, and therefore there is no multi-collinearity problem.

8 Close Examinations

8.1 CSR and Beta

In order to verify the link between CSR and a firm's risk, we divided the distribution of the whole sample (417 firms) into quartiles, by using the Beta level of 2004. The first quartile contains 25% of observations belonging to the interval [-0.02; 0.68] in which less risky

---

[30] VIF means "Variance Improvement Factors". If VIF is high we have a multi-collinear problem.

firms are gathered that have a beta level lower than the benchmark case (market level equal to 1) and have low volatility. The last quartile includes the more risky firms[31].

In the following table (table 14) we have the number of CSR and non-CSR enterprises, belonging to the first and fourth quartile, i.e., the less (Nrisk) and the most risky (Risk), for the years between 1999 and 2004[32].

Table 14: number of CSR and non-CSR enterprises, belonging to the first and fourth quartile

CSR	1999	2000	2001	2002	2003	2004	TOT
Nrisk	34	37	46	59	65	71	112
Risk	42	48	62	71	78	82	102
NCSR	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**TOT**
Nrisk	78	75	66	53	47	41	112
Risk	60	54	40	31	24	20	102

The analysis is on the static relation between variables, focussing on the number of enterprises belonging to different groups[33].

Our findings are as follows:

a)   The total number of Nrisk is higher than risky firms. However, we can stress that the number of CSR firms is higher in the Risk case (and a higher percentage). This implies that there is a high share of risky CSR firms. This is an odd result. Indeed, McGuire, Sundgren and Schneeweis (1988), Trotman and Bradley, (1981); Roberts, (1992), found that "*risky firms use CSR to reduce their risk*" and therefore our expectation is that we should find a low number of CSR firms in the risky group. Concerning this:

1)   a beta higher than 1 could mean a high positive volatility of shares as a consequence of economic shock;

2)   if we assume a perfect market, this implies that the investors perfectly foresaw the asset value and the riskiness of the investment, then we need to study in depth the total distribution of enterprises with respect to the beta index (figure 4):

   i)   given that there is a positive (right) asymmetry of distribution, we have a higher number of non-risky enterprises;

   ii)   However, since the average beta is higher than 1, then, according to point a), that there are some very risky firms in our sample (whose beta level is high enough to move the

---

[31] It is useful to stress that the Beta index is a market share index that considers speculative risk. It could be assumed as an index of working risk under the assumption of perfect markets.

[32] It is worth nothing that nothing can be said about the dynamic impact of the certification on risk: indeed we have only the beta index of the year 2004.

[33] Our implicit assumption is that we maintain fixed the intervals.

distribution to the right) certified as CSR (i.e., outlier cases). In this context, the strategic choice of the management could have been to become CSR in order to reduce riskiness (as assumed by Jenkins and Newell), but the effect is a medium-long run effect and we must wait to find their results. The crucial finding is in the year taken into account and in the period in which the virtuous behaviour started. Therefore, our results do not contradict the economic literature, but stress that we need to focus analysis on investment timing and on a firms' heterogeneity to understand the link between CSR and risk. In conclusion, the high number of CSR firms in the fourth quartile stresses that the risky firms probably want to become more responsible. We must wait for the medium-long term to find the effects of social responsible behaviour.

Figure 4: total distribution of enterprises with respect to the beta index
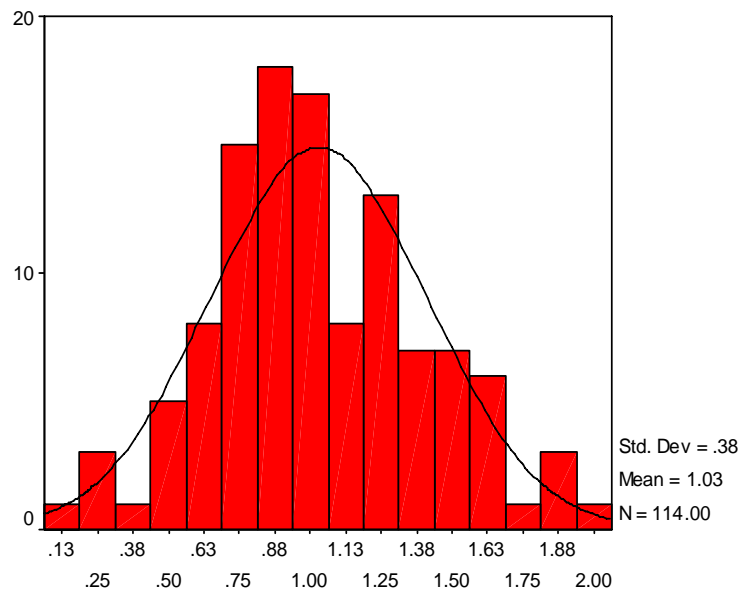
BETA04

Table. 15: Descriptive statistics

Average	1.0299
Median	0.9900
First quartine	0.7900
Second quartile	0.9900
Third quartile	1.2925
Minimum	0.09
Maximum	0.7900

8.2 A comparison between MVA, Beta e CSR

Comparing the average MVA level among risky and non-risky firms in table 16 and in figure 5, we find that a firm with high volatility in its shares has a higher profitability both in CSR and non-CSR cases.

Table 16: MVA comparison level among risky and non-risky firms

	MVA99	MVA00	MVA01	MVA02	MVA03
RISK_CSR	52317.99	36532.09	22342.89	10617.67	18110.22
RISK_NCSR	52459.61	33152.37	21955.76	10624.4	19247.68
NRISK_CSR	13332.24	12214.53	11418.76	9182.31	11134.10
NRISK_NCSR	10839.88	10740.26	10322.76	8972.41	10848.98

Figure 5: MVA comparison level among risky and non-risky firms
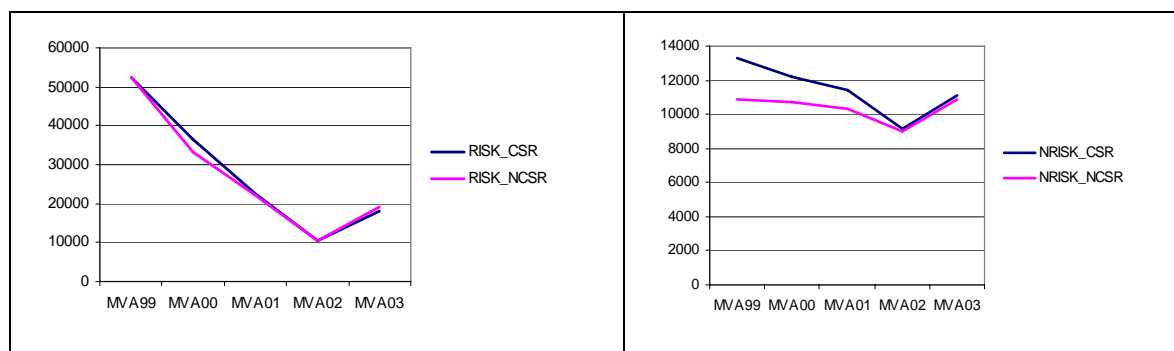
From table 2 and figure 3, we can see that MVA_CSR is higher than MVA non-CSR, but from figure 5 we can see that in the last quartile there are quite similar values. How can we explain that MVA_CSR is equal to non-CSR? Comparing this result with table 16, we find that the highest difference of MVA values is in the middle of the distribution. The only explanation maybe is the short term effect of CSR investment. If, as we have observed, the adoption of virtuous behaviour is a management choice to reduce long-run riskiness, the fourth quartile may consist of firms that have been recently certified CSR. Therefore, there is no difference between CSR and non-CSR firms. The only difference is a formal certification that needs time to act.

Moreover, we need to stress that if the fourth quartile were composed of a normal Gaussian distribution of new and old CSR firms (therefore, distribution according to the age of CSR enterprises), then we will have virtuous and non-virtuous effects that could counterbalance each other. On the one hand, short-run certification could reduce the

MVA level, because the firm must pay to become CSR. On the other hand the possibility to reduce risk and improve performance, could increase the MVA level[34].

The two effects combine, and so CSR values equal the non-CSR ones. As far as the central quartiles are concerned, we must say something different. A higher MVA level for CSR may be due to the age of the firms. In this case they could have "metabolized" the investors' premium that is a lower volatility and a higher MVA[35].

Finally, the addition of beta variable entails a change in stock perception:

a) if the firm is non-risky, it is better to be CSR;

b) for risky firms, it is indifferent .

8.3 Industrial sectors

Regarding the role-related industries, we can assume that this is an important element to analyse CSR companies. A company, to be certified as CSR, has to support costs on the adoption of "virtuous" behaviour in the organisational structure of the company, both for ethical and negative environmental externalities and also reduce detrimental action of ethical principles. Therefore we can consider that it is more difficult to certify companies as CSR that by their nature are more involved in potentially harmful activities, such as oil companies. At the same time, some companies are aided in this as they in no way reduce the company's profitability e.g., banks.

So, we can compare sectors in our sample, in order to discern the sector impact of CSR. However, it is difficult to see significant peculiarities in the two groups, as the control sample was specifically homogeneous for the industrial sector. That is to say that there is an implicit difference between the two groups, for sector composition. Therefore, results derive from our descriptive analysis (see Poddi, 2005; paragraph 4.1.2).

8.4 Reputation

In the literature, it seems that the concept of reputation is of fundamental importance for the effects of CSR. The basic concept consists in considering reputation as a consequence and synthesis of a strategic choice of business (Cowen et. Others, 1987; Roberts, 1992; Preston and O'Bannon, 1997). The decision to become CSR is perceived by consumers and by investors as a sign of possible future performance. We have also seen that investors do not reward this choice with a higher average MVA . Therefore, given the importance of this variable, we have tried to implement it into our model.

---

[34] Belonging to the fourth quartile could be due to short adoption timing or a specific risk.
[35] In order to distinguish the age of CSR firms, we need more data for more year.

The only parameter that we found in the literature is the Reputation Institute, shown in paragraph 6.4. At least theoretically, there is a strong link between CSR and the Reputation Index, because the CSR variable is one of its fundamental elements. However according to empirical evidence, the reputation index is not significant, highlighting either errors of its empirical model or a combination of internal weights.

It should be noted that another key variable in building the reputation quotient is financial performance. In order to find why it is not significant, we projected data relating to reputation and financial data. Figure 6 shows the average values of Reputation Index (also showed in table 18) and the MVA for the companies we have data, to show that the reputation index is almost completely weighed on financial variables.

Figure 6: Reputation Index and MVA
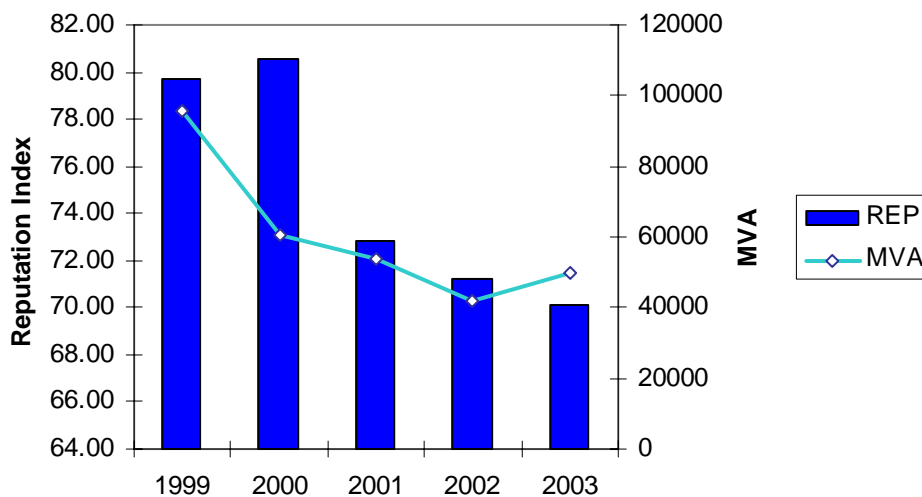
8.5 Social Capital

We have made an additional profit analysis using social capital in a country as explanatory variables. This measure reflects the number of donations and associations within the community and should provide a degree of altruism in that area. The most interesting result is that by inserting SIZE, GDPGRO, DEMAND and Social Capital (SC) as regressor delayed by one year, we get a significant and positive coefficient for capital. This seems to indicate that the company expects a development period to see how consumers react against social exclusion. Based on this trend, the company creates a product, which generates demand for critical consumption.

9 Conclusion

Our work has tried to verify, whether certain performance indicators can be affected by a firm's social responsible behaviour and their certifications. The novelty of our analysis comes from its dynamic aspect and from the building of a CSR index that intersects two of the three main international indices (Domini 400 Social Index, Dow Jones Sustainability World Index, FTSE4Good Index), for an objective and a representative sample. We have analysed some simple descriptive statistics and we have used cross section and panel data econometrical approaches, to verify whether social certification could affect a firm's profit.

The multitude of approaches are here the scope of analysis that we believe necessary given the complexity of this issue.

A first simple approach gives us some interesting results concerning aspects which to our knowledge have not been treated in the literature. Indeed, results of our first statistical study have shown the considerable growth of CSR firms over the last ten years that are not uniformly distributed in all countries of the world. Indeed, there is a certain asymmetry of this phenomena. Initially, there would seem that this asymmetry is due to the link between CSR firms and economic development. Intuition would tell us that only when there is a determined level of economic development pro capita will the so called 'critical sense' of an individual develop. This intuition is underlined by the fact that CSR firms have increased substantially almost exclusively in Europe and the United States.

The second result of our descriptive analyses shows that this relation has a delay period as long as certain independent factors influence the dependent factors. This is not surprising as it is reasonably logical that the perception of a certain 'status' can only occur with a temporal lag and that this can in turn be explained by dependent variables.

The following observations have shown that there is a difference in the development of CSR in two principal geographical areas: on one hand the US have more CSR firms while Europe has a higher growth rate of CSR firms that would point to a convergence of the two areas. The following stage is the research for a clear reply to our main question; what relation exists between performance and CSR? As performance yardstick we have used what would appear to be the most complete measure in the literature given that it is a solution to the slowness of accounting measures and the subjectivity of investors to market measures. Due to the lack in the literature of not only a single definition of the performance-CSR relation but also to its cause, we have used a specific analytical statistic to determine the sign of this relation. From the data we have gathered, it would seem that there is a clear positive relation; i.e., CSR influences performance.

During the calculation of this analysis, we used NPC software that can make layered studies by comparing certain groups to the variables we wan to look at (MVA, CSR, ROE, ROCE, INTA, AGE, etc). These groups have been defined on a geographical basis, from a low to high industrial profile and to whether the firms belong to the group of CSR firms. The principal findings are that MVA is on average higher in the CSR group than in non-CSR firms. We also found that CSR certified firms have increased (and therefore there is an increase in firms with a low average MVA in the CSR group, thus lowering the average MVA in this group). This result would seem to support what we have stated in the descriptive analysis.

Subsequently we have presented and interpreted the correlation between all these variables. In particular, we have concentrated on MVA as a performance variable, comparing it with two other typical variables ROE and ROCE. Regression was carried out on a data panel and also using the instrumental variable method to eliminate any possible objection to the link between performance and CSR.

The principle result is that MVA decreases with the increase of CSR, which seems to contradict the previous result where MVA is higher in CSR firms. In reality, the increase in the temporal series of CSR firms reduces the number of non-CSR firms: this migration shifts low MVA (non CSR firms) into the CSR group thus reducing the average value of the latter. This process explains the relative negative sign of the regression. Other results of the panel analysis underline that, using MVA as a performance variable, the focal point is the evaluation of the value of the firm by the investors, so an increase in MVA underlines that they are 'backing' a determined firm.

In this regard, we have reflected on whether the market is indeed perfect: if the market is perfect or at least from the CSR point of view, then investors should be able to perfectly evaluate the value of a firm and so an increase in MVA would generate an instantaneous improvement in the performance of a firm. If this is not the case however, then investors would invest in the future possibility of a particular firm's structure. In this case the analysis would go from being short term to medium-long term.

Subsequently, we looked in more detail into industrial sectors and certain variables linked to CSR such as the risk level of a share, corporate reputation and social capital in the reference country.

For industrial sectors, no econometric analysis can be used, given that the control sample was made up on an ad hoc basis so as to keep the sector composition of the CSR sample. However, it would seem from the descriptive analysis that the financial sector (banking,

insurance etc.) is that with the highest rate of CSR, given that costs for CSR certification are lower.

For the risk factor analysis, our results do not disprove the literature but they do underline that it is necessary to concentrate on timing and the heterogeneity of a firm to be able to understand the link between risk and CSR. Indeed, we cannot clearly say that the strategic choice of becoming a CSR firm reduces risk. Therefore, it would seem necessary to plan the medium-long term before being able to see the effect of certification on the market.

An interesting development of the analysis could be to compare MVA with a Tobin study, using a real option approach that would seem to be in line with out own results.

Appendix

Table 17: The sign of the relationship between CSR and Performance in economic literature

Paper	Variables	Sample and Method	RESULTS
Moskowitz , 1972	Shares	14 firms	Positive
Brangdon and Marlin, 1972	ROE ROC EPS	17 paper firms	
Bowman and Haire, 1975	ROE 1969-73	14 firms with equal dimension and sector	
Parker and Eilbert, 1975	ROE EPS	80 firms by Fortune	
Spicer, 1978	ROE P/E ratio Beta	18 paper firms	
Chen and Metcalf, 1980	ROE P/E ratio Beta	16 paper firms	
Cowen, Ferreri and Parker, 1987	ROE	Firms by Fortune	
Waddock and Graves, 1997	ROA ROE	Firms by S&P 500	
Preston and O' Bannon, 1997	ROA	67 firms 1982-92	
Luce, Babe, Hillman, 2001	ROA	100 firms by S&P 500	
Alexander and Buchholz, 1978	Capital gain 1970-74, Beta	40 firms	Neutral
Aupperle, Carroll and Hatfield, 1985	ROA Beta	241 firms	
McWilliams and Siegel, 2001	ROA R&D expenses	524 firms by Compustat	

Vance, 1975	Shares 1972-75	14 firms by Moskowitz	
Cochran and Wood, 1984	Redditi operativi/vendite Redditi operativi/capitale Valutazioni di mercato in eccesso	36 firms in 29 settori industriali	Negative
Wright and Ferris, 1997	Eccesso di rendimenti	31 firms	

Table 18: Reputation Indices

Company	Country	REP99	REP00	REP01	REP02	REP03	REP04
Johnson & Johnson	USA	83.4	81.6	82.5	82.1	79.47	79.81
3M	USA			80.2	78.2	76.67	79.07
Coca Cola	USA	81.6	80.9	80.8	79	77.95	78.90
Procter&Gamble	USA			76.6	76.7	76.48	78.26
United Parcel Service (UPS)	USA			76.6	78.7	78.49	78.24
Microsoft	USA	77.9		81.8	76.8	77.86	78.00
Sony	USA	77.4	80.5	79.4	77.5	75.81	77.95
Intel Co.	USA	81	79.9	80.8	74.6	74.86	76.10
Dell Computer Co.	USA			77.1	78.2	76.04	76.00
Eastman Kodak Co.	USA				78.5	75.84	
Toyota Motor Co.	USA			75.6	72.9	74.01	75.59
Home Depot	USA		80	75.6	78.2	75.78	74.77
Walt Disney	USA			78	76.2	77.95	74.03
Target	USA			75.1	73	72.09	73.25
Hewlett-Packard/Compaq	USA	81.2	80.6	79.2	73.2	72.95	73.16
Unilever	USA			68.8	68.9	65.9	72.55
Pfizer	USA			73		71.34	70.97
Nike	USA			71.6	69.6	69.81	70.57
Wal-Mart Stores	USA			76.3	75.2	72.87	70.56
E.I. DuPont de Nemours & Co.	USA			72.1	71	71.58	
Sears, Roebuck and Co.	USA			68.5	70.9	68.5	70.06
General Motors	USA			73.6	69.4	66.97	68.18
Verizon Communications	USA				65.8	65.55	67.71
Penney J. C.	USA				69.3	68.41	67.56
Ford motor Co.	USA			63.9	63.9	66.03	65.64
SBC Communications	USA				62.4	65.24	65.05
Citigroup	USA			69.3	63.3		64.10
AOL Time Warner	USA			64.5	59.4	57.25	63.89
Bank of America	USA			60.2		63.43	63.56
At&T	USA	75.7		65.2	65.2	61.83	60.23
Altria Group, Inc.	USA					53.49	60.58
Sprint	USA			65.3	57.7	59.58	59.63
Bridgestone Corp.	USA			46.7	50.3	53.95	58.08

References

- Abbott W. E, Monsen R. J., 1979, "On the Measurement of Corporate Social Responsibility: Self-Reported Disclosures and a Method of Measuring Corporate Social Involvement", *Academy of Management Journal* 22 (3): 501-15.
- Ahmed K., Courtis J. K., 1999, "Associations between corporate characteristics and disclosure levels in annual reports: A meta-analysis", *British Accounting Review.*, 31, pp. 35-61.
- Alesina A., La Ferrara E., 2000, "Participation in Heterogeneous Communities", *Quarterly Journal of Economics*, 847-904.
- Alexander G. J., Buchholz R. A., 1978, "Corporate Social Responsibility and Stock Market Performance", *Academy of Management Journa,l* 21 (3): 479-86.
- Arlow P., Gannon M., 1982, "Social Responsiveness, Corporate Structure, and Economic Performance", *Academy of Management Review*, 7 (2): 235-41.
- Aupperle K. E, Carroll A. B., Hatfield J. D, 1985, "An Empirical Examination of the Relationship between Corporate Social Responsibility and Profitability." *Academy of Management Journal* 28 (2): 446-63.
- Barnea A., Rubin A., 2005, "Corporate Social Responsibility as a Conflict between Owners", Center for Responsible Business, Working Paper Series, No. 20, University of California, Berkeley
- Beda A., Bodo R., 2004, "La responsabilità sociale di impresa – strumenti e strategie per uno sviluppo sostenibile dell'economia", *Il Sole 24 ore*, Milano.
- Belkaoui A. R., 1976, "The Impact of the Disclosure of the Environmental Effects of Organizational Behavior on the Market", *Financial Management*, 5 (4): 26-31.
- Belkaoui A., Karpik P.G., 1989, "Determinants of the Corporate Decision to Disclose Social Information", *Accounting, Auditing & Accountability Journal*, Vol. 2, No. 1, pp.36-51.
- Birindelli G., Tarabella A., 2001, "La Responsabilità Sociale delle imprese e nuovi strumenti di comunicazione nell'esperienza bancaria italiana", Franco Angeli, Roma.
- Blowfield M.E., Frynas J.F., 2005, "Setting New Agendas: Critical Perspectives on Corporate Social Responsibility in the Developing World", *International Affairs*, vol. 81, no. 3.
- Botosan C. A., 1997, "Disclosure Level and the Cost of Equity Capital", *The Accounting Review,* 72 (3, July), pp. 323-349
- Bourdieu P., 1985, "The forms of capital", in Handbook of Theory and Research for the Sociology of Education, ed. JG Richardson, pp. 241-58. New York: Greenwood.
- Bowman E. H., Haire M., 1975, "A Strategic Posture Toward Corporate Social Responsibility", *California Management Review* , 18 (2): 49-58.
- Bragdon J. H., Marlin J. T., 1972, "Is Pollution Profitable?", *Risk Management* , 19 (2): 9-18.
- Brilloff A. J., 1972, *Unaccountable Accounting.* New York, NY: Harper & Row.
- Carroll A. B., 1979, "A Three-Dimensional Model of Corporate Performance", *Academy of Management Review*, 4 (4): 497-505.
- Carroll A. B., 1991, "Corporate Social Performance Measurement: A Commentary on Methods for Evaluating an Elusive Construct", p. 385-401 in J. E. Post (ed.), Research in Corporate Social Performance and Policy, vol. 12, Greenwich, CT: JAI.
- Carroll A. B., 1999, " A Corporate Social Responsibility: Evolution of a Definitional Construct", Business and Society, 38(3), pg. 268-295.
- Chen K. H., Metcalf R. W., 1980, "The Relationship Between Pollution Control Record and Financial Indicators Revisited", *The Accounting Review*, 55 (1): 168-77.
- Coase R. H., 1995, *Impresa, mercato e diritto*, Bologna, Il Mulino.
- Cochran P. L., Wood R. A., 1984, "Corporate Social Responsibility and Financial Performance", *Academy of Management Journal*, 27 (1): 42-56.
- Coleman J.S., 1990, *Foundations of Social Theory*, Harvard University Press, Cambridge, MA.
- Commissione delle Comunità europee, 2001, *Libro Verde: '*Promuovere un quadro europeo per la responsabilità sociale delle imprese*"*, Bruxelles.
- Commissione delle Comunità europee, 2002, *Comunicazione della Commissione*: "Responsabilità sociale delle imprese: un contributo delle imprese allo sviluppo sostenibile", Bruxelles.
- Cowe R., Williams S., 2000, *Who are the Ethical Consumers?*, London, Cooperative Bank.
- Cowen S. S., Ferreri L. B., Parker D. B., 1987, "The Impact of Corporate Characteristics on Social Responsibility Disclosure: A Typology and Frequency-Based Analysis", *Accounting Organizations and Society*, 12 (2): 111-22.
- Davidson W. N., Chandy P. R., Cross M., 1987, "Large Losses, Risk Management and Stock Returns in the Airline Industry", *Journal of Risk and Insurance*, 55: 162-72.
- Davidson W. N., Worrell D. L., 1988, "The Impact of Announcements of Corporate Illegalities on Shareholder Returns", *Academy of Management Journal*, 31 (1): 195-200.

- Davidson W. N., Worrell D. L., 1990, "A Comparison and Test of the Use of Accounting and Stock Market Data in Relating Corporate Social Responsibility and Financial Performance", *Akron Business and Economic Review*, 21 (3): 7-19.
- Davis K., 2001, "The Case for and Against Business Assumption of Social Responsibilities", *Academy of Management Journal*, Vol. 16, No. 2: 312-322.
- Dierkes, M., and L. Preston. 1977. "Corporate Social Accounting Reporting for the Physical Environment: A Critical Review and Implementation Proposal." *Accounting, Organization and Society* 2 (1): 3-22.
- Donaldson T., (1989), *The Ethics of International Business*, The Ruffin Series in Business Ethics, Oxford University Press.
- Donaldson T., Preston L.E., 1995, "The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications", *Academy of management Review*, Vol. 20, No.1, pg. 65.
- Donaldson T., Dunfee T.W., 1996, "Values in Tension, Ethics Away from Home", *Harvard Business Review*, pg. 121-129.
- Epstein E. M., 1987, "The Corporate Social Policy Process: Beyond Business Ethics, Corporate Social Responsibility, and Corporate Social Responsiveness", *California Management Review*, Vol. 29, No. 3.
- Ferro N., 2004, "Cross-Country Ethical Dilemmas, a Descriptive Framework", *Feem Working Paper*, 28.
- Fogler H. R., Nutt E., 1975, "A Note on Social Responsibility and Stock Valuation", *Academy of Management Journal*, 18 (1): 155-66.
- Fombrun C.J., 1996, *Reputation: Realizing Value from the Corporate Image*, Harvard Business School Press, Boston.
- Fombrun C., Shanley M., 1990, "What's in a Name? Reputation Building and Corporate Strategy", *Academy of management Journal*, Vol. 33, N. 2: 233-258.
- Fombrun C.J., Van Riel C.B.M., 2003, *Fame and Fortune: How Successful Companies Build Winning Reputations*, Prentice Hall Financial Times, Upper Suddle River.
- Freedman M., Jaggi B., 1982, "Pollution Disclosures, Pollution Performance and Economic Performance", *Omega*, 10 (2): 167-76.
- Freeman R. E., 1984, *Strategic Management: A Stakeholder Approach*, Pitman, Boston.
- Friedman M., 1962, *Capitalism and Freedom*, The University of Chicago Press, Chicago
- Friedman M., 1970, (reprint from 1962), "The Social Responsibility of Business Is to Increase its Profits", *New York Times Magazine*, September 13, pp. 122-6.
- Frooman J. S., 1994, "Does the Market Penalize Finns for Socially Irresponsible Behavior?", pg. 329-34 in D. Collins (ed.), Proceedings from the Fourth Annual International Association for Business and Society.
- Frooman J., 1997, "Socially Irresponsible and Illegal Behavior and Shareholder Wealth", *Business & Society*, 3:221-249.
- Frooman J., 1999, "Stakeholder Influence Strategies", *Academy of Management Review*, Vol.24, No.2, pg.191.
- Fry E. L., Hock R. J., 1976, "Who Claims Corporate Responsibility? The Biggest and the Worst", *Business and Society Review*, 18:62-5.
- Frynas J.G., 2005, "Corporate Social Responsibility and Stakeholder Analysis", in *Global Strategic Management*, Mellahi K., Frynas J. G., Finlay P., Chapter 4.
- Fryxell G. E., Wang J., 1994, "The Fortune Corporate 'Reputation' Index: Reputation for What?", *Journal of Management*, 20 (1): 1-14.
- Fukuyama F., 1995, *Trust: The Social Virtues and the Creation of Prosperity*, Free Press.
- Gesualdi F., 2003, *Manuale per un consumo responsabile. Dal boicottaggio al commercio equo e solidale*, Ed. Feltrinelli, Milano.
- Graves S. B., Waddock S. A., 1994, "Institutional Owners and Corporate Social Performance", *Academy of Management Journal*, 37 (4): 1034-46.
- Griffin J. J., 1996, "The Toxics Release Inventory: Limitations and Implications", pg. 324-9 in K. Rehbein (ed.), Proceedings from the Sixth International Association for Business and Society.
- Guiso L. et al., 2004, "The Role of Social Capital in Financial Development", *American Economic Review*, June 2004, vol.94 (3), pg. 526-556.
- Heinze D. C., 1976, "Financial correlates of a social involvement measure." *Akron Business and Economic Review,* 7 (1): 48-51.
- Henderson D., 2001, Misguided Virtue: False Notions of Corporate Social Responsibility, London: Institute of Economic Affairs.
- Herremans I. M., Akathaporn P., McInnes M., 1993, "An investigation of Corporate Social Responsibility Reputation and Economic Performance", *Accounting,Organizations and Society*, 18, (7/8): 587-604.
- Hillman A.J., Keim G., 2001, "Shareholder Value, Stakeholder Management, and Social Issues: What's the Bottom Line?" *Strategic Management Journal* 22 (2): 125-139.
- ILO (1989), "The ILO Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy: Ten Years After", ILO, Geneva.
- Ingram R. W., 1978, "An Investigation of the Information Content of (Certain) Social Responsibility Disclosures", *Journal of Accounting Research*, 16 (2): 270-85.

- Ingram R. W., Frazier K. B., 1980, "Environmental Performance and Corporate Disclosure", *Journal of Accounting Research*, 18 (2): 614-21
- Jarrell G., Peltzman S., 1985, "The Impact of Product Recalls on the Wealth of Sellers", *Journal of Political Economy*, 93 (3): 512-36.
- Jenkins R., 2001, "Corporate Codes of Conduct: Self Regulation in a Global Economy", *Technology, Business and Society* – Programme Paper n. 2.
- Jensen M.C., Meckling W.H., 1976, "Theory of the firm: Managerial behavior, agency costs and ownership structure", *Journal of Financial Economics,* 3, pp. 305-360.
- Jones T.M., 1995, "Instrumental Stakeholder Theory: A Synthesis of Ethics and Economics", *Academy of Management*, 20, 2, pg.404.
- Kedia B., Kuntz E. C., 1981, "The Context of Social Performance: An Empirical Study of Texas Banks", pg. 133-54 in L. E. Preston (ed.), Research in Corporate Social Performance and Policy, vol. 3. Greenwich, CT: JAI.
- Kok P., Weile T.V.D., McKenna R., Brown A., 2001, "A Corporate Social Responsibility Audit within a Quality Management Framework", *Journal of Business Ethics*, 31(4), pg. 285-297.
- Luce R. A., Barber A. E., Hillman A. J., 2001, "Good Deeds and Misdeeds: A Mediated Model of the Effect of Corporate Social Performance on Organizational Attractiveness", *Business and Society*, 40 (4), pg. 397.
- Lund-Thomsen P., 2003, "Towards a Theoretical Framework of CSR in the South", in Copenhagen : Copenhagen Business School, paper presented at a closed workshop on CSR and Development: Critical Perspectives.
- Masino, G, and L. Poddi, (2008), "La diffusione della Responsabilità Sociale di Impresa: uno studio empirico", Feem, Rapporto Sullo Sviluppo Sostenibile, 5.2008
- Maresca J., 2000, "A New Concept of Business", *The Washington Quarterly*, 23(2): 155-63.
- Margolis J. D., Walsh J. P., 2001, "People and Profits? The Search For A Link Between A Company's Social and Financial Performance", Mahwah, N.J.: Lawrence Erlbaum Associates.
- Matacena A., 1984, *Impresa e ambiente: il bilancio sociale*, Clueb, Bologna.
- McGuire J., Schneeweis T., Branch B., 1990, "Perceptions of firm quality", *Journal of Management*, 16: 167-180.
- McGuire J.B., Schneeweis T., Hill J., 1996, "An analysis of alternative measures of strategic performance", in Lamb R. and Stravastava (Eds.), *Advances in Strategic Management*, Vol. 4, 107-153, Greenwich, Conn.: JAI Press.
- McGuire J. B., Sundgren A., Schneeweis T., 1988, "Corporate Social Responsibility and Firm Financial Performance", *Academy of Management Journal*, 31 (4): 854-72.
- McWilliams A., Siegel D., 2001, "Corporate Social Responsibility: A Theory of the Firm Perspective", *Academy of Management Review*, Vol. 26, No. 1, January 2001, pg. 117-127.
- Migliaro L. R., 2003, *Le Dieci Strade dell'Economia di Solidarietà*, EMI, Bologna
- Molteni M., 2004, *Responsabilità sociale e performance d'impresa*, V&P, Milano.
- Molteni M., 2004, *L'impresa tra competitività e responsabilità*, consultabile sul sito web: www.mi.camcom.it.
- Moskowitz M., 1972, "Choosing Socially Responsible Stocks", *Business and Society Review*, 10:71-5, 1975.
- Moskowitz M.,1972, "Profiles in Corporate Responsibility: The Ten Worst and the Ten Best", *Business and Society Review*, 13:28-42.
- Muzzarini D., 2004, "Diffusione della CSR attraverso i meccanismi di mercato", mimeo.
- Myers S., 1977, "Determinants of Corporate Borrowing", *Journal of Financial Economics*, 5, 147-75.
- Newell P., 2002, "From Responsibility to Citizenship: Corporate Accountability for Development", *IDS Bulletin*, Vol.33 No.2, Making Rights Real: Exploring Citizenship, Participation and Accountability', Brighton: IDS, 2002.
- Orlitzky M., 2000, "Corporate Social Performance: Developing Effective Strategies", Working Paper.
- Orlitzky M., Benjamin J. D., 2001, "Corporate Social Performance and Firm Risk: A Meta-Analytic Review", *Business & Society,* Vol. 40 No.4: 369-396.
- Parket R., Eilbirt H., 1975, "Social Responsibility: The Underlying Factors", *Business Horizons,* 18 (4): 5-11.
- Parket R., Eilbirt H., 1996, "Profit Whatever the Cost? The Debate Intensifies on Making Money against Making Employees Happy", Boston Globe, Aprile 21.
- Patten D. M., 1990, "The market reaction to social responsibility disclosures: The case of the Sullivan principles signings", *Accounting, Organizations and Society* 15(6): 575-587.
- Patten D. M., 1991, "Exposure, Legitimacy, and Social Disclosure", *Journal of Accounting and Public Policy*, Vol. 10, pp. 297-308.
- Pava M. L., Krausz J., 1996, "The association between corporate social responsibility and financial performance: The paradox of social cost". *Journal of Business Ethics*, 15 (3): 337-347.
- Posnikoff J.F., 1997, "Disinvesment from South Africa: They did well by doing good", *Contemporary Economic Policy*, 15, 76-86.
- Poddi, L., (2005), "Responsabilità Sociale e Performance d'Impresa: un'analisi empirica", PhD thesis, Università di Ferrara.
- Poddi, L. and S. Vergalli, (2008), "Responsabilità Sociale di Impresa e Performance d'Impresa", Feem Rapporti sullo Sviluppo Sostenibile, 6.08
- Preston L.E., 1978, "Analyzing corporate social performance: methods and results", in *Journal of Contemporary Business*, 7, 135-150.

- Preston L. E., O'Bannon D.P., 1997, "The Corporate Social - Financial Performance Relationship: A Typology and Analysis", *Business and Society*, 36 (4), pg. 419.
- Putnam R., 1993, *Making Democracy Work Civic Traditions in Modern Italy*, Princeton, Princeton University Press.
- Putnam R., 1995, "The Case of Missing Social Capital", Harvard University working paper.
- Richardson A.J., Welker M., Hutchinson I., 1999, "Managing Capital Market Reactions to Corporate Social Responsibility", in *International Journal of Management Review*, 1, pp.17-43.
- Roberts C., 1992, "Determinants of Corporate Social Responsibility Disclosure: An Application of Stakeholder Theory", *Accounting, Organizations and Society*, 17, 6, 595 - 612.
- Rusconi G., 1988, *Il bilancio sociale d'impresa problemi e prospettive*, Giuffrè, Milano.
- Rusconi G., 1997, *Etica e impresa. Un'analisi economico aziendale*, Heuresis, Bologna.
- Sacconi L., 1997. *Economia etica e organizzazione*, Roma - Bari, Laterza.
- Sacconi L., de Colle S., Baldin E., 2001, "Progetto Q-RES: la qualità della responsabilità etico-sociale d'impresa", *Liuc Papers*, n.95, Serie Etica, Diritto ed Economia 5.
- Sen A., 2002, *Etica ed economia*, Ed. Laterza, Roma - Bari.
- Simerly R. L., Li M., 2001, "Corporate Social Performance and Multinationality, A Longitudinal Study", Working Paper.
- Spicer B. H., 1978, "Investors, Corporate Social Performance and Information Disclosure: An Empirical Study", *The Accounting Review*, 53 (1): 94-111.
- Spicer B. H., 1978, "Market Risk, Accounting Data and Companies' Pollution Control Records", *Journal of Business Finance & Accounting*, 5, 1.
- Stanwick P. A., Stanwick S. D., 1998, "The Relation Between Corporate Social Performance, and Organizational Size, Financial Performance, and Environmental Performance: An Empirical Examination", *Journal of Business Ethics*, 17: 195-204.
- Sturdivant F D., Ginter J. L., 1977, "Corporate Social Responsiveness: Management Attitudes and Economic Performance", *California Management Review*, 19 (3): 30-9.
- Teoh S. H., Welch I., Wazzan C. P., 1999, "The Effect of Socially Activist Investment Policies on the Financial Markets: Evidence from the South African Boycott," *Journal of Business*, University of Chicago Press, vol. 72(1), 35-89.
- Tsoutsoura M., 2004, "Corporate Social Responsibility and financial Performance", Center for Responsible Business, Working Paper Series, N. 7, University of California, Berkeley.
- Trotman K., Bradley G.W., 1981, "Associations Between Social Responsibility Disclosure and Characteristics of Companies", *Accounting, Organizations and Society*, Vol. 6, No 4, pp. 355-362.
- Turban D.B.,Greening D.W., 2000, "Corporate social performance as a competitive advantage in attracting a quality workforce", *Business and Society, 39*, pp. 254-280.
- Ullmann A., 1985, "Data in Search of a Theory: A Critical Examination of the Relationship Among Social Performance, Social Disclosure, & Economic Performance", *Academy of Management Review*, 10:450-77.
- Vance S. C., 1975, "Are Socially Responsible Corporations Good Investment Risks?", *Management Review*, 18-24.
- Waddock S. A., Graves S. B., 1997, "The Corporate Social Performance-Financial Performance Link", Paper presented at the national meetings of the *Academy of Management*, Dallas, TX.
- Waddock S. A., Mahon J. F., 1991, "Corporate Social Performance Revisited: Dimensions of Efficacy, Effectiveness, and Efficiency", pg. 231-64 in J. E. Post (ed.), *Research in Corporate Social Performance and Policy*, vol. 12, Greenwich, CT: JAI.
- Wallace R.S.O., Naser K., Mora A., 1994, "The Relationship Between the Comprehensiveness of Corporate Annual Reports and Firm Characteristics in Spain." *Accounting and Business Research*, 25, 97, 41 - 53.
- Wartick S. L., Cochran P. L., 1985, "The Evolution of the Corporate Social Performance Model", *Academy of Management Review*, 10 (4): 758-69.
- Wokutch R. E., McKinney E. W., 1991, "Behavioural and Perceptual Measures of Corporate Social Performance", in *Research in corporate social performance and policy*, James E. Post (ed.), 12, 309–330, Greenwich, CT: JAI Press.
- Wood D. J., 1991, "Corporate Social Performance Revisited", *Academy of Management Review*, 6 (4):691-718.
- Wood D. J., 1991, "Social issues in Management: Theory and Research in Corporate Social Performance", *Journal of Management*, Vol. 17, No. 2: 383-406.
- Wood D. J., Jones R. E., 1995, "Stakeholder Mismatching: A Theoretical Problem in Empirical Research on Corporate Social Performance", *International Journal of Organizational Analysis*, 3:229-67.
- World Business Council for Sustainable Development (WBCSD) (Jan. 2000), "Corporate Social Responsibility: Making Good Business Sense", Geneva.
- Wright P., Ferris S. P., 1997, "Agency Conflict and Corporate Strategy: The Effect of Divestment on Corporate Value", *Strategic Management Journal*, Vol. 18 (1), 77-83.
- Zamagni S., 2003, "La responsabilità sociale dell'impresa: presupposti etici e ragioni economiche", in www.bilanciosociale.it, Bologna.

Web Links

- Business for Social Responsibility - http://www.bsr.org
- Cooperative Bank, Ethical Purchasing Index 2002 - http://www.greenconsumerguide.com/epi.php
- Corporate Register - http://www.corporateregister.it
- Dow Jones Sustainability Group Index – www.sustainability-index.com -http://www.sustainability-indexes.com/htmle/assessment/review2003.html
- E.Capital Partners – www.e-cpartners.com
- Employment and Social Affairs – http://europa.eu.int/comm/employment_social/soc-dial/csr/csr_index.htm
- Ente Nazionale di Unificazione - www.uni.com/speciali/sa8000/imprese.shtml
- Ethical Investment Research and Information Service (EIRIS) – www.ei-ris.org
- Fondazione Bassetti - www.fondazionebassetti.org
- Forum per la finanza sostenibile – www.finanzasostenibile.it
- FTSE Index - http://www.ftse.com/ftse4good/index.jsp
- http://europa.eu.int/comm/enterprise/enterprise_policy/analysis/observatory.htm
- Il Bilancio Sociale - www.bilanciosociale.it
- Institute of Social and Ethical Accountability – www.accountability.org.uk
- Instituto Valenciano de Investigaciones Economicas - www.ivie.es
- Linee guida Q-RES - www.liuc.it/biblio
- Mallen Baker - http://www.mallenbaker.net/csr/CSRfiles/definition.html
- Ministero del Welfare - www.welfare.gov.it
- MORI (Market and Opinion Research International) – www.mori.com
- Reputation Institute - www.reputationinstitute.com - www.harrisinteractive.com
- SAI Social Accountability International (SA8000) - www.sa-intl.org
- Social Accountability International - www.cepaa.org
- Sustainable Investment - http://www.sustainable-investment.org/
- The Corporate Impact Reporting Initiative – www.iosreporting.org
- The London Benchmarking Group - www.lbg-online.net
- UE, Commissione delle Comunità Europee - http://www.europa.eu.int
- World Business Council for Sustainable Development (WBCSD) - www.wbcsd.ch

SD	36.2009	Markus Kinateder (lxxxv): Team Formation in a Network
SD	37.2009	Constanza Fosco and Friederike Mengel (lxxxv): Cooperation through Imitation and Exclusion in Networks
SD	38.2009	Berno Buechel and Tim Hellmann (lxxxv): Under-connected and Over-connected Networks
SD	39.2009	Alexey Kushnir (lxxxv): Matching Markets with Signals
SD	40.2009	Alessandro Tavoni (lxxxv): Incorporating Fairness Motives into the Impulse Balance Equilibrium and Quantal Response Equilibrium Concepts: An Application to 2x2 Games
SD	41.2009	Steven J. Brams and D. Marc Kilgour (lxxxv): Kingmakers and Leaders in Coalition Formation
SD	42.2009	Dotan Persitz (lxxxv): Power in the Heterogeneous Connections Model: The Emergence of Core-Periphery Networks
SD	43.2009	Fabio Eboli, Ramiro Parrado, Roberto Roson: Climate Change Feedback on Economic Growth: Explorations with a Dynamic General Equilibrium Mode
GC	44.2009	Fabio Sabatini: Does Social Capital Create Trust? Evidence from a Community of Entrepreneurs
SD	45.2009	ZhongXiang Zhang: Is it Fair to Treat China as a Christmas Tree to Hang Everybody's Complaints? Putting its Own Energy Saving into Perspective
SD	46.2009	Eftichios S. Sartzetakis, Anastasios Xepapadeas and Emmanuel Petrakis: The Role of Information Provision as a Policy Instrument to Supplement Environmental Taxes: Empowering Consumers to Choose Optimally
SD	47.2009	Jean-François Caulier, Ana Mauleon and Vincent Vannetelbosch: Contractually Stable Networks
GC	48.2009	Massimiliano Mazzanti, Susanna Mancinelli, Giovanni Ponti and Nora Piva: Education, Reputation or Network? Evidence from Italy on Migrant Workers Employability
SD	49.2009	William Brock and Anastasios Xepapadeas: General Pattern Formation in Recursive Dynamical Systems Models in Economics
SD	50.2009	Giovanni Marin and Massimiliano Mazzanti: Emissions Trends and Labour Productivity Dynamics Sector Analyses of De-coupling/Recoupling on a 1990-2005 Namea
SD	51.2009	Yoshio Kamijo and Ryo Kawasaki (lxxxv): Dynamics, Stability, and Foresight in the Shapley-Scarf Housing Market
IM	52.2009	Laura Poddi and Sergio Vergalli: Does Corporate Social Responsibility Affect the Performance of Firms?