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# The Economic Analysis of Corporate Social Responsibility

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*When an optimising entity has a sufficiently encompassing interest on the society […] the same self-*interest that leads *him to maximize his extraction from the society also gives him an interest in the productivity of his society"*

McGuire and Olson (1996), p. 76

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# INTRODUCTION

CSR has been defined as all the "*situations where the firm goes beyond compliance and engages in actions that appear to further some social good, beyond the interests of the firm and that which is required by law*" (McWilliams, Siegel and Wright, 2006). From this definition three key elements of CSR can be identified: firstly, CSR comprises actions which are voluntary (i.e. go beyond compliance with existing laws and regulations); secondly, it has to provide interventions which are of some value for the society; and finally it should go "beyond the interest of the firm".

While the first two elements have to be included in any possible definition of CSR, in my opinion the third one requires some further qualification. In fact, over the last years there has been increasing attention in the literature on the distinction between CSR and more traditional forms of philanthropy and charity giving, on the basis that undertaking CSR a firm also achieves a number of benefits on the 'bottom-line'.

The concept of *Business case for CSR* was introduced in the management literature by Porter and Kramer (2002) to identify precisely the areas of overlapping between business benefits for the firm and benefits for the society as a whole. While some authors prefer to refer to this type of CSR as "strategic" CSR (Baron, 2001), there is an increasing consensus in the literature that this is in fact a key element of CSR itself.

In light of this, in my opinion the correct way to interpret the third element in the definition of CSR provided at the beginning is that going "beyond the interests of the firm" means in fact going beyond the *short-term maximization of profits*. From this perspective, CSR still would be a profit-maximising strategy, but in the long run and also taking into consideration the firms' impact on the neighbouring communities, the environment and the society as a whole. This is also in line with the interpretation of CSR suggested by Jensen (2006), according to whom CSR can be defined as "enlightened profit-maximization".

The identification of CSR with the "strategic" element of CSR has the additional advantage of avoiding the dangerous domain where the critique to CSR given by Milton Friedman in the 70ies would apply. Friedman (1970) argued that CSR is misplaced, because the only ultimate objective of a firm should be to make profits. From a neo-classical perspective this is also what maximises social welfare. In addition, it also reduces the freedom of the shareholders do undertake charitable initiatives on their own, one the firms' profits have been redistributed. Therefore, any social or environmental intervention which does not help in some way to increase the firm's profits could be potentially challenged using Friedman's argument.

For all the aforementioned reasons the focus of my thesis will be exclusively this "strategic" CSR and from now on, where not further specified, every time I refer to CSR I am actually referring to "strategic" CSR.

In particular, the focus of my thesis will be the economic analysis of CSR. My thesis moves from the consideration that over the past thirty years economist devoted increasing attention to the issue of CSR. However, despite a rapidly increasing number of publications, the economic literature on CSR still lacks a coherent theoretical framework of analysis. In light of this, my first objective is to provide a more coherent framework to this literature, while the second is introduce relevant theoretical innovations.

The thesis is divided into two main sections. The first section includes Chapters 1, 2 and 3. The Chapters 1 and 2 present a rationalisation of the contributions on CSR in the economic literature, and critical review of the main theoretical models of CSR identifying the common elements, the differences and the main limits. Chapter 3 presents a summary of the main results from an empirical research on CSR in the Caribbean which I undertook on behalf of UNDP. These results were very important for me to develop the theoretical models presented in the second section of the thesis, as they helped me identify some of issues on CSR which are relevant from an empirical perspective but still lacked theoretical explanation.

The second section (which includes Chapters 4, 5 and 6) contains my original contributions to the economic literature on CSR, which address some of the issues mentioned above. These will be presented more in detail later on in the introduction. A brief summary of the content of each chapter will now be presented

Chapter 1 presents an overall introduction to the issue of CSR, identifying the elements which make CSR also a good strategy to increase a firm's profits (*the Business Case for CSR).* The main ones are the enhanced reputation, increased willingness to pay by the costumers and invest by the investors, higher workers' motivation, improved relationship with the neighbouring communities, increased efficiency of production, reduction of wastage and overall reduction of costs (for example using more environmental-friendly production techniques).

After having presented how different strands of economics dealt with the issue of CSR broadly defined (e.g. the neo-classical approach, the stakeholders' theory, the neo-contractualist approach and the civil economy), I address more specifically the contributions on "strategic" CSR.

On the issue of "strategic" CSR, I suggest making a distinction between a view of CSR as *differentiation strategy* and a view as *efficient resource management*.

According to the former, there is a demand for a more ethical behaviour by the firms among one or more of the stakeholders (e.g. consumers, workers, investors, lobby groups, Government), which could lead one firm to undertake CSR to differentiate itself from the other firms in the same market. In this case the choice of which CSR practices to undertake should reflect stakeholders' preferences. Among the benefits from CSR presented before, the ones that can be obtained in this case would be increased reputation, higher willingness to pay by the costumers and to invest by the investors, and so on.

On the contrary, according to the view of CSR as efficient resource management, CSR is a strategy undertaken by the firms in order to manage optimally the factors of production, with the objective of maximising long-term profits. The practices adopted in this case should be closely linked to the firms' core business activities. Some examples of the business benefits which can arise from this type of CSR would be increased efficiency, enhanced ability to obtain the factors of production of higher quality at a lower costs, lower production costs and so on.

It is important to stress that both these views only consider the relationship between CSR and firms' profits, without modifying any of first two key elements from

the definition of CSR presented at the beginning of the introduction (i.e. that CSR has to be a voluntary intervention and has to result in the provision of some social value).

The contributions on "strategic" CSR in the economic literature so far dealt exclusively with CSR as differentiation strategy, disregarding the elements of the relationship between CSR and profits which fall under the view of CSR as efficient resource management.

Chapter 2 analyses in detail some of the most significant theoretical models of CSR as differentiation strategy in the literature. In the models considered, CSR is seen as (i) a strategy to exploit the increasing sophistication of consumers' demand for 'ethical' products; (ii) the private provision of a local public good/reduction of a public bad, from which consumers gain a certain utility; (iii) a labour market screening strategy, to attract the most motivated and productive employees; and, finally, (iv) a strategy to pre-empt increasing government regulation, resulting from the lobbying of civil society groups.

After having presented the models in detail, I highlight the main theoretical challenges from modelling CSR as differentiation strategy.

The first one is whether it is more appropriate to use a framework of vertical differentiation (i.e. for the same price all stakeholders prefer more CSR) or of horizontal differentiation (i.e. each stakeholder has its preferred level of CSR, and any movement towards more or less CSR would equally reduce his/her willingness to pay, invest and/or work for a certain firm). My conclusion is that a framework of vertical differentiation seems better, particularly if we consider CSR in a holistic way (i.e. comparing socially responsible firms with the non-socially responsible) and not each single CSR intervention separately, on which different preferences by the relevant stakeholders could be more easily justified. This will be applied in the model presented in the Chapter 4, where a framework of vertical differentiation (Motta, 1993) is adopted to analyse the issue of CSR and choice of location between countries with different characteristics.

Another challenge is how to model the costs of CSR, and in particular whether these should be seen as a fixed costs or a variable cost which increases the cost of producing each unit of the firm's output. My conclusion on that is that modelling these

costs as fixed would be more appropriate. In fact what one should really be concerned is only the costs of undertaking CSR practices, regardless on the effects that then CSR might have on the variable costs of producing the firm's products and services. In fact, from the literature we know that the effect of CSR on the variable costs of production could go in both directions (for example it could increase the wages but on the other side there could there could efficiency gains leading to a reduction of the production cost) therefore the best choice is to limit our concerns to the actual costs of production. Modelling CSR as a fixed cost was adopted again in the model in Chapter 4 and also in the one in Chapter 5, where the potential effects on the variable costs are taken into consideration in the extra-profit function.

Finally, another challenge is the asymmetry of information between the firms and the stakeholders. This arise from the fact that CSR is 'credence' good (Manasakis and Petrakis, 2006), implying that once people believe that a firm is socially responsible then they have no actual mean to assess it. Therefore, the firms have an incentive to renege their initial promises and in equilibrium no firm will actually undertake CSR. In the literature some possible solutions to this problem have been identified, such as the introduction of a voluntary CSR certification or of a market for socially-responsible managers.

At the end of the Chapter 2 I also provide a summary of the main conclusions from the theoretical models of CSR as a differentiation strategy, highlighting the main common points and divergences.

For example, the models considered do not agree on the number of firms undertaking CSR in equilibrium, and in particular whether the equilibrium configuration will be a symmetric one - with either all or no one of the firms undertaking CSR - or an asymmetric one – with some firms undertaking CSR while other not. This issue will be the subject of the model developed in the Chapter 5 of my thesis.

Other issues considered are the effects of increased competition in the market on the level of CSR undertaken by the firms, the welfare implications of CSR and finally the optimal strategy by the Government to enhance the effectiveness of CSR.

The main conclusion from the Chapter 2 is that, despite the numerous theoretical insights, there are some common shortcomings from modelling CSR

exclusively as differentiation strategy. Firstly, the fact that CSR priorities will always reflect stakeholders' preferences and not necessarily be related to the firms' cores business. This leaves many CSR interventions which we observe in reality unexplained. Then, there is the fact that CSR is always seen as a cost for the firm, disregarding the possible efficiency gains which could arise from a strategic implementation of certain CSR practices.

Moreover, there is the problem of the under-provision of CSR in equilibrium with respect to the socially-optimum level – the level at which the sum of marginal utilities is equal to the marginal costs - which mirrors the traditional results of the under provision of public goods when people have to voluntarily contribute to them. In fact, despite the fact that the stakeholders truly prefer socially-responsible firms rather than non-socially responsible ones, when they actually have to chose for example between buy the socially-responsible good at a higher price, they prefer to buy the other, as they realise that his/her behaviour alone cannot affect the firm's decision, and hoping that the other stakeholders will do. However, because all consumers will have this *free-riding* behaviour, the firms will not provide CSR and in equilibrium there will be under provision of CSR in equilibrium.[1]

Finally, the view of CSR as differentiation strategy somehow fails to recognise the distinction between the individual costs and benefits from CSR for the firms, and the ones for the society.

All these limits will be addressed specifically in the Chapter 6 of my thesis, while a new framework of analysis for CSR is developed which also takes into account the view of CSR as efficient resource management.

Before moving to the original contributions of my thesis, in Chapter 3 an empirical assessment of CSR in the Caribbean region is presented. The results presented in Chapter 3 summarise the main conclusions from a research which I undertook on behalf of the UNDP in Trinidad and Tobago (published as "Mapping Corporate Social Responsibility in Trinidad and Tobago", UNDP and STCIC) and also

[1] The under-provision will be mitigated if the consumers/stakeholders have truly altruistic preferences - "warm-glow" utilities à la Andreoni (1990) – and they achieve an additional level of utility not only because the firms provide CSR, but also by the fact of having contributed to the firm's provision of CSR.

draws from the paper "New Perspectives of Corporate Social Responsibility in the Caribbean", which I co-authored with Dr. Wayne Charles Soverall and Dr. Brigette Levy of the University of West Indies (published in the first issue of the *Caribbean Development Review*, UN ECLAC).

These results are mainly of a qualitative nature and limited to three countries of the Caribbean region (Trinidad & Tobago, Barbados and Jamaica), however the main reason to present them as part of my thesis is because they were crucial in assessing the empirical relevance of some of the issues presented in the literature review and to identify some other empirical regularities which the current theories were not able to explain, hence directing my theoretical thinking towards developing the models presented in the second part of the thesis.

For example, one of the main findings from the study is that most of the CSR activities undertaken in the region are done by large multinational companies, either from the energy sector (in the case of Trinidad and Tobago) or from the tourism sector (Barbados and Jamaica). These activities seemed to be determined more by the customers, investors and other stakeholders from the country where the companies are based rather than directed to the real development needs of the Caribbean region. This element can be explained from the view of CSR as differentiation strategy, which would justify the fact that the CSR objectives of the firms are determined by the 'ethical preferences of their relevant stakeholders, in whichever area of the world they might be. In the real world, this often ends up determining a misalignment between the CSR priorities of the firms and the real development need of the regions where the companies locate their production.

Even though the differentiation element was dominant, the study revealed that there was an increasing number of companies which did not undertake CSR only as a differentiation strategy, reflecting the stakeholders' preferences, but to promote a more efficient utilisation of their own factors of production. This observation lead me to think that the existing economic literature on CSR was still missing an important element to explain companies' engagement in CSR, which is what I previously referred to as *efficient resource management*. For this reason, the current theoretical models of CSR do not allow us to understand many of the empirical regularities of CSR, such as for example the fact - confirmed by the study in the Caribbean - that the level of

engagement on CSR varies a lot across different sectors, if not on the basis of different stakeholders' preferences. These considerations led me to develop the models presented in Chapter 5 - which looks at the main drivers to explain the different levels of CSR in different sectors - and Chapter 6 of my thesis - which develops a model of CSR as optimal dynamic profit-maximisation.

Finally, one element which was revealed by the study was the general reluctance of the developing countries to promote standards of CSR. This issue lead me to develop the theoretical model presented in Chapter 6 of the thesis, which studies the issue of CSR as a differentiation strategy, when firms can choose between producing in two countries with different characteristics.

Chapter 3 also presents a number of *strategic drivers of CSR in the Caribbean*, including possible policy interventions to promote the level of engagement on CSR by local forms and the effectiveness of CSR as a development tool for the Caribbean region.

Chapter 4 contains the first theoretical innovation of my thesis and draws from the paper *A Duopoly Model of Corporate Social Responsibility and Location Choice*, co-authored with Alberto Balboni, which was published as Working Paper N. 642 of the Department of Economics of the University of Bologna and presented on 9th September 2009 at the AFSE Conference in Paris.

The theoretical model developed in Chapter 3 moves from the view of CSR as differentiation strategy. More specifically, CSR is seen as a vertical differentiation strategy to cater for 'ethical' customers. The reference point in the literature is Motta's model of vertical differentiation (Motta, 1993).

The model goes as follows. In the market there are two firms and a group of global consumers, exhibiting a preference for CSR which is uniformly distributed with unitary density. The consumers are based in an 'international arena', i.e. they are not in any of the two countries. This is justified because the main objective of our model is to assess the effect on the firm's location of different costs of undertaking CSR rather than of the differences in the distribution of 'ethical' preferences across countries.

To undertake CSR, the firm has to pay a (quadratic) fixed cost, which can be interpreted as the costs of undertaking CSR while also making it 'visible' to the

consumers. In fact, if CSR is not 'visible' to them they would not be willing to pay the higher price for the firm's products, and there could be no differentiation strategy based on CSR.

Other costs for the firms are the costs of compliance with country-specific labour and environmental regulations. These cannot be considered as CSR because they are mandatory interventions, and not voluntary. All these costs are fixed with respect to the level of the outputs.

In the model the firms, regardless of their country of location, also have to sign on to an international CSR standard, which requires the companies to monitor and report their activities on the society and the environment (such as the UN Global Compact). This standard sets the minimum level of CSR which all the companies have to undertake, such as for example employing someone to monitor and report on the firm's activities. If the standard becomes more stringent, it might require setting a whole department to monitor these interventions.

It is worth highlighting that having a minimum international level of CSR which is mandatory is not necessarily ad odds with the fact the CSR remains a voluntary intervention. In fact the standard simply sets a minimum amount of effort that the companies have to put in order to make their CSR 'visible', and it might not even require companies to actually undertake any type of CSR intervention. After, companies are still free to undertake any CSR practice as a differentiation strategy.

The model is a three-stage game: in the first stage companies choose the country of location, in the second the level of CSR and finally in the last stage they compete on prices (à la Bertrand).

The first result from the model is that, when the market is covered (i.e. the consumers always buy one of the two varieties of the good) the two firms will choose different levels of CSR. One firm (the "ethical" one) undertakes a positive level of CSR to cater for the more 'ethical' consumers; the other (the "neutral") undertakes a level of CSR equal to the minimum international requirement. Also, the "ethical" firm sells at a higher price than the "neutral" and also produces more output.

The novelty introduced in the model is the possibility for the firms to choose between two countries of location. One country ("North") has stricter labour and

environmental regulations than the other ("South"), translating in higher fixed costs of production for the firms.

However in “North” the costs of undertaking CSR and making it ‘visible’ to consumers are lower than in “South”. This reflects the evidence – confirmed from the research in the Caribbean - that companies which are located in countries with very low social and environmental standards need to put much more effort to show credibly that they are actually ‘socially responsible’ and also the lack of a social network and of counterparts from the civil society makes it much more difficult to get certain CSR projects done.

Another result from the model is that the profits of the “neutral" firm are always higher when the “ethical” settles in country “North”. Nonetheless, the choice of location of the “neutral” firm does not depend on the location of the "ethical" one.

The choice of location of both the “ethical” and the “neutral” firm depends on the relative costs of compliance with local norms and regulations and the costs of making CSR ‘visible’ in the two countries. In addition, the choice of location of the “ethical” firm also depends on the distribution of consumers’ tastes for CSR (but not on the level of the minimum international CSR standard) while the choice of the “neutral” firm depends on the level of the minimum international standard for CSR (but not on consumers’ preferences).

In light of this the effects of a change of the minimum international CSR standard and in consumers' preferences for CSR were analysed, starting from different initial locations of the two firms. I show that a variation of the international CSR standard will affect profits of the "neutral" firm while a change of consumers' preferences for CSR (i.e. a variation of the average ‘preference’ for CSR of the global consumers and of the heterogeneity of these preferences) will affect only the profits of the "ethical" one. If the variations are large enough, an increase (decrease) of the international CSR standard could determine the relocation of the "neutral" firm from the "South" to the "North" (from "North" to "South"). Similarly, an increase (decrease) of the average preference for CSR could determine the relocation of the "ethical" firm from the "South" to the "North" (from "North" to "South").[2]

[2] This will also happen if the homogeneity of consumers’ preferences increases, while the opposite if consumers become more heterogeneous in their tastes for CSR.

This result could explain the reluctance of developing countries to introduce minimum 'ethical' standards. In fact these countries could be afraid of losing large amounts of foreign direct investments (FDIs) from the "neutral" firms which locate their production there in order to exploiting the low labour and environmental standards. However, the model suggests that there are other ways in which developing countries could attract FDIs. One would be to the costs of making CSR 'visible' to consumers, For this purpose, developing countries should facilitate the practice of CSR and increase its visibility, for example promoting Public and Private Partnerships (PPPs), and enhancing the accountability of the civil society organization which are usually the most frequent counterparts of firms in their CSR projects.

Chapter 5 present a model which combines elements from the view of CSR as differentiation strategy with elements of the view as efficient resource management. The objective of the model is to explain the empirical observation - confirmed by the study on CSR in the Caribbean - that different configurations in terms of the number of firms undertaking CSR arise in different sectors/industries. In particular, the model will try to determine under which conditions we expect a *symmetric* equilibrium to arise (i.e. either all or no one firm in the market undertakes CSR) or an *asymmetric* one (i.e. some of the firms in the market will undertake it and others will not).

The baseline model is an oligopoly model with product differentiation, where in equilibrium all firm receive a level of profits which we refer to as 'normal' profits. CSR is seen as a binary choice for the firm: companies can either undertake CSR or not. Undertaking CSR has a fixed cost for the firm equal to *F*.

The starting point of the model is the consideration that the decision by a firm to undertake CSR or not depends on the comparison between two profits functions: one is the profits when it undertakes CSR ($\Pi_S$) and the profits when it does not undertake CSR ($\Pi_N$). The crucial element is that both these profits-functions are not exogenous and given one time for all, but depend in some way on how many firms in the market are already undertaking CSR.

In the model I give different possible examples of how this relationship might actually look like. The different shapes depend on whether more weight is given on

elements coming from the view of CSR as differentiation strategy or on elements from the view as efficient resource management.

From the view of CSR as differentiation strategy, we would expect the following cases, depending on whether the relevant stakeholders are able to identify correctly the firms which are undertaking CSR and distinguish from the ones that are not. If they are able to identify correctly the firms, we expect that the extra-profits in the $\Pi_S$ function will be very high when only a limited number of firms is already undertaking it (*differentiation* effect) and then decrease as the number of firms increasing, until moving back to a level close to the 'normal' level (minus the fixed costs). On the $\Pi_N$ function instead, we expect the profits to be lower than the 'normal' level, and decrease at a decreasing rate as the number of firms undertaking CSR increases (*punishment*). Conversely, if the stakeholders are not able to identify correctly the firms which undertake CSR, then we expect the that on the $\Pi_N$ function we will have *free-riding* possibilities, where the firms which are not undertaking CSR will still have some of the benefits of those which are undertaking CSR. Finally, in the literature we have seen that there is also a case where the stakeholders' awareness is of CSR is initially very limited but then increase as the number of firms undertaking CSR increase (i.e. there is habit formation, see Becchetti and Rosati, 2004). In this case we would see that the extra-profits from undertaking CSR in the $\Pi_S$ function are initially low, but then increase as more firms undertake it.

Conversely, when we consider the view of CSR as efficient resource management, the main point of interest is whether the efficiency gains from CSR can be achieved no matter what the other firms do, or if there is a "common pool" problem (Dasgupta and Heal, 1979, Lehvari and Mirmam, 1980).

This issue, which will be analysed more in detail in the Chapter 6, arises when more than one firm has access to a common factor of production (e.g. a natural resource, a local community, a pool of workers). In this case, because it is not possible to exclude any of the other firms from accessing a particular factor of production, then also the firms which do not undertake CSR will benefit from the CSR practices undertaken by the firms on these factors of production. As a consequence, the firms which undertake CSR which not gain the full benefits from it, until the majority of the

firms in the market which have access to the same factor of production undertakes CSR.

This will be reflected in the following shapes of the $\Pi_S$ function and $\Pi_N$ function. If all the benefits from CSR can be obtained in full by the single firms which undertakes CSR, then we will have that both functions will be *independent* of the number of firms which is already undertaking CSR.[3] On the contrary, when it is not possible to exclude the firms which do not undertake CSR form the benefits of it, we will have a *common-pool* element on the $\Pi_S$ function, with the extra-profits from CSR increasing as the number of firms in the market undertaking CSR increases. The same factor will then be reflected in the presence of *spillovers* effects in the $\Pi_N$ function, with the extra-profits from not undertaking CSR which increase as the number of firms undertaking it increases.

As previously mentioned, the objective of the model is to find - given the particular characteristics of the $\Pi_N$ and the $\Pi_N$ function - the equilibrium configurations in terms of the share $\theta$ of firms in a certain market that will undertake CSR. The configurations that we were particularly interested in are three: none of the firms undertake CSR ($\Theta=0$), all firms undertake it ($\Theta=1$) and finally some of the firms, but not all, undertake it ($\Theta=\Theta^*$).

The first result from the model was to exclude, from the range of all possible configurations, the ones which cannot arise in equilibrium. In particular, if we assume that CSR is a 'viable' differentiation strategy and the fixed costs are too large, then I expect that there will be either some or all the firms undertaking CSR in equilibrium.[4] However, unless the fixed costs of are negligible or there is a strong element of *punishment* in the $\Pi_N$ function (i.e. the stakeholders can identify and 'punish' the firms which do not undertake CSR), in general also the configuration in which all firms

[3] This is a simplification of reality, because in a strategic interaction if one firms undertakes practices which, for example, reduce its costs of production, than there will be a competition effect on the profits of the other firms. However, because this strategic effect is symmetric on the $\Pi_S$ function and $\Pi_N$ function (i.e. both would be slightly downward sloping instead of being a straight line), we can assume this out for the purpose of analysing the equilibrium configuration in each market.

[4] With *differentiation-strategy* effects, also $\Theta=0$ could be an equilibrium, if the extra-profits obtainable by the first firm in the market which undertakes CSR are larger than the fixed costs. However we excluded this possibility from the possible ranges of results when CSR is a differentiation strategy. In fact, this would clearly indicate a market in which – given the current 'ethical' preferences of the relevant stakeholders – CSR is not a good differentiation strategy.

undertake can be excluded as a possible equilibrium. In light of this, the most likely equilibrium outcome is that there will be a positive share of firms undertaking CSR, but not all of them.

Conversely, when we look at the view of CSR as efficient resource management, then we should distinguish the *independence* case from the "common pool" problem (*network effects/common pool* in the $\Pi_S$ function, *free-riding/spillover* in the $\Pi_N$,). In the first case, every equilibrium configuration would be possible, depending on the fixed costs of CSR and on the level of fixed costs of CSR. Conversely, under the pure "common pool" case, in equilibrium I expect that none of the firms will undertake CSR, because when there is no-one firm in the market already undertaking CSR, the $\Pi_S$ function lies below the $\Pi_N$ function, and thus there would be no incentive for any firm to be the 'first-mover'.

Clearly, this equilibrium is not efficient, because there are potentially huge gains from CSR for the firms which remain unexploited. In fact, in this case there are multiple configuration could arise in equilibrium: if there was a certain critical share of firms in the market which are already undertaking CSR, then all the firms would find it optimal to undertake it. Therefore the market would move to a situation in which all firms undertake CSR,[5] and this would be the efficient equilibrium from a perspective of maximising social welfare.

One way to push the market to the more efficient equilibrium would be through policy intervention, such as a subsidy for CSR. The important point to make is that such subsidy would not need to be *permanent*, but only *temporary*. In fact, once the number of firms undertaking CSR reaches the critical threshold, the subsidy would no longer be necessary. In fact at this point all the other firms left in the market would want to undertake CSR without need of the subsidy, but also those that adopted CSR because of the subsidy will not need it anymore, and the removal of the subsidy will not affect their decision to undertake CSR. Therefore, the overall welfare would increase, without any policy cost in the long term.

[5] This is true unless there are significant *free-riding* opportunities for the firms which are not undertaking CSR, or large *spillover* effects from the one which are undertaking it to those which are not

Another possible solution would be if a certain number of firms (large enough to reach the critical threshold), understanding the potential unexploited benefits from undertaking CSR, would spontaneously commit to undertake it. From a dynamic perspective, this would be the optimal choice for firms with perfect foresight. Nonetheless, there might be problems such as coordination failure and free riding, as firms would have an incentive to reap the benefits from other firms' CSR practices without undertaking any. In this model, which is static in nature, this solution would not be sustainable. This problem will be analysed more in depth in the Chapter 6, where it will be considered form a dynamic perspective using dynamic optimisation tools.

I also highlight why a policy intervention would not be necessary when we look at the cases when CSR is mainly a differentiation strategy. In fact, in this case there are not relevant efficiency gains which can be exploited given the characteristics of the firms in the industry/sector, and therefore there are not multiple equilibria. In this case, we expect the market to converge to the only possible equilibrium in terms on number of firms undertaking CSR, which is also the efficient one from a social welfare perspective. In this case a potential policy intervention with the objective to increase the number of companies undertaking CSR would have to be permanent and not temporary.

However there might still be issues which imply that the equilibrium when CSR is a differentiation strategy is not the most efficient, such as the impossibility of the stakeholders to reveal their true preferences (and in some cases the fact that they might even not be aware of their true preferences because they ignore the issue), or the lack of credibility of firms' promises due to the asymmetry of information. When these market-failures arise, the Government should try to address these directly rather than subsidising firm's engagement in CSR.

At the end of Chapter 5, I use some of the results from the theory developed to explain some of the empirical regularities - in terms of the different level of engagement in CSR by firms from different sectors – from the research on CSR in the Caribbean.

For example, the study revealed that the companies in the energy sector were the ones that were undertaking more CSR activities, and in particular internal CSR

practices such as employment benefits, health and safety practices etc. These were also the ones that were putting more effort in communicating these activities to their stakeholders. This type of behaviour seems to reflect the presence of a *differentiation* element, where the firms compete in order to improve the stakeholders' perception of the firm, as well as the presence of large *independent* gains from CSR. According to the model, this should lead to a situation in which we expect all the firms to be engaged, at least up to a certain degree, in CSR activities.

Conversely, companies in the construction sector often revealed a very limited awareness and understanding of CSR. The construction sector is also a sector where the cost side is more important than the demand side to determine firms' profitability. In this case, if the extent to which the 'common-pool' problem might arise is large, and there are not many 'win win' situations, it is likely that in equilibrium there will be no firms undertaking CSR. However this is the typical situation in which there might be huge potential unexploited gains coming from CSR - exploiting the network effects and possibly developing joint CSR projects – and where the intervention by the Government could increase the level of social welfare.

Finally, one last example is the financial sector, where many of the companies interviewed lamented that it was hard, for the companies which were undertaking CSR, to exclude the other from benefiting from the increased reputation of the sector. This is a typical situation of the view of CSR as differentiation strategy, where there are large *free-riding* effects. From our model, the equilibrium outcome should be a configuration in which some firms engage in CSR and others not.

The last chapter of my thesis, Chapter 6, contains the main theoretical innovation of my thesis and is drawn from my paper *A Dynamic Model of Internally-Driven Corporate Social Responsibility and Enlightened Profit Maximization*, which has also been provisionally published as WP N.674 of the University of Bologna.

As previously noticed, while most of literature on CSR viewed it as differentiation strategy, this chapter introduces one possible way of modelling CSR as efficient resource management. This will allow us to account for all those CSR practices - usually in line with the firm's core business - which are undertaken because of considerations of internal efficiency and long-term profit maximization.

In order to do so, first of all I introduce a new definition CSR. CSR is defined as *every activity that a firm undertakes voluntarily, based on a sensible economic incentive, resulting in the full or partial internalisation of the externalities – positive and negative – on the society and the environment associated with the firm's production of goods and services.*

This definition takes into account that CSR is a voluntary behaviour, that it provides some social good, but has the advantage - with respect to the one provided at the beginning of the introduction for example – that it considers the potential business benefits which a firm can achieve undertaking CSR. It also relaxes the assumption that CSR has to be strictly profit-enhancing, which is often the case in the literature on CSR as differentiation strategy, and also captures the distinction between private and social benefits vs. costs of production.

Moreover, this definition allows account for both the view of CSR as differentiation strategy and as efficient resource management, so provides a good starting point for developing a new framework of analysis. In the first case it would be because the stakeholders are also the ones which are directly affected by the externalities (in the case of 'ethical' consumers, it could be because of their altruistic preferences) and therefore have an interest in the fact that the firms produce more (less) of the positive (negative) externality. In the second case this happens because firms care about maximising their profits in the long-run rather than the short-run, and take into consideration how their behaviour affects the availability and the quality of the factors of production in the future. To show this, I develop a dynamic model of CSR as *enlightened profits-maximisation* (see also Jensen, 2006), which draws inspiration from the literature on renewable resources - and in particular the model developed by Clark (1990).

The main focus of my analysis if how firms use their factors of production and the key element is that CSR can affect the availability and the level of some factors of production (e.g. water, agricultural crops, forests, etc.), and the quality of others (e.g. labour productivity - where elements such as employees' motivation, satisfaction and well-being play a key role - support of the neighbouring communities, access to government licenses and foreign technology, etc.).

I define two types of firms: the *enlightened* firms, which take into account how CSR affects the quantity available and the quality of certain factors of production (i.e. the dynamic stock externalities), and the *non-enlightened*, which do not.

Another important element of my model is that these factors of production also have a value for the society as a whole, i.e. they are public goods in the sense that everyone in the society benefits, for example, from a richer environment, a higher level of satisfaction and happiness of employed people and their families, and so on. The main conclusions of the model are the following.

Firstly, an *enlightened* firm will stop employing the factors of production, before reaching the level at which the marginal revenues from using them equal the marginal costs of obtaining them, which is where a *non-enlightened* would stop. In light of this, an *enlightened* firm, even if it has the objective to maximise profits, will in fact be perceived as being socially responsible to the eyes of the society, because it will employ less the factors of production, which are also public goods.

Secondly, the distance, between the level of the factors of production employed by an *enlightened* firm, and the level at which marginal revenues equals marginal costs, decreases in the firm's time-discount rate. This implies that long-sighted firms will employ the factors less, the more weight it puts on long-term profits rather than short-term. In the limit, an *enlightened* firm with an infinite discount rate (i.e. which does not care at all about future profits), will behave exactly as a *non-enlightened* one, employing the factors of production until marginal costs equal marginal revenues, 'as if' it did not take into account the *dynamic stock externalities*.

Thirdly, if we define CSR as investments which can enhance the availability and/or quality of certain factors of production, the model shows an *enlightened* firm undertakes a positive level of CSR in equilibrium. In particular, it will do so up to the level at which marginal costs equal marginal benefits. Moreover, a firm which has a more long run perspective will undertake more CSR than one which cares exclusively of maximizing 'short-term' profits.

Finally - and very importantly from the perspective of the policy implications - the degree to which an *enlightened* firm will behave according to the predictions of my model, with respect to a certain factor of production, depends on its perception of the possibility to have access to that factor also in the future.

All these conclusions reflect to some extent the results that were observed in the study in the Caribbean region. Nonetheless, there would be scope and need for further empirical research to understand under which conditions firms actually behave as *enlightened*, and to which extent they do so, depending on the different characteristics of the relevant factors of production. This could also lead to some interesting refinements of the theory developed in this chapter.

For example, one implication from the model could be that long-term work contracts, or long-term government licences, might induce firms to undertake more CSR, as they increase the probability that they will also have access to the same factor of production in the future. It would be interesting to assess to which extent these theoretical conjectures are matched by the data.

# SECTION I: Literature Review and Empirical Analyses of CSR

## Chapter 1: Rationalising the Literature on CSR

### 1.1. What is CSR?

There are many possible definitions of CSR, often reflecting the point of view of the organization giving the definition. For the purposes of the present thesis, we will highlight three possible definitions, which seems to me to be exhaustive of the possible meanings which could be attached to the term.

The first is the definition by the European Commission, in the 2001 Green Paper on Corporate Social Responsibility, according to which CSR is a "*concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis*".

Another definition is the one by the working group of the ISO (International Standards Organizations) 26000 on Social Responsibility, which defines CSR as: "*the responsibility of an organization for the impacts of its decisions and activities on society and the environment through transparent and ethical behaviour that is consistent with sustainable development and the welfare of society; takes into account the expectations of stakeholders; is in compliance with applicable law and consistent with international norms of behaviour; and is integrated throughout the organization*".

Finally, McWilliams, Siegel and Wright (2006), define CSR as all the *"situations where the firm goes beyond compliance and engages in actions that appear to further some social good, beyond the interests of the firm and that which is required by law".*

Despite the abundance of possible definitions, it is possible to identify at least the fundamental aspect of CSR, on which all definitions agree, which is that a company incurs responsibilities to the society at large.

More debated is whether these responsibilities should go "*beyond the interests of the firm"* (i.e. beyond profit maximization from an economic perspective) and *"that which is required by law"*, and we will return to this later.

Furthermore, in the literature there is a general consensus towards at least three other key elements of CSR. First of all, CSR is a voluntary behaviour that is above and beyond the law; secondly, it is intrinsically linked to the concept of sustainable development, focusing on integrating economic, social and environmental impacts; finally, it is not prosthetic, but must be applied at the operational level of the business (Rieth and Zimmer, 2004).[6]

In addition, CSR is often associated with two other emergent concepts, *value creation* and *triple bottom line*.

Value creation means that for a business corporation to prosper over the long term, it must continuously meet society's needs for goods and services without destroying natural or social capital (Elkington, 1997).

The triple bottom line reporting approach acknowledges financial, environmental and social responsibilities of the firm to the wider society (Sarre, Doig and Fiedler, 2001). The environmental dimension reflects the impact on the environment (e.g. incorporation of new environmental technologies and efficiencies, assessing the impact of its products and services on the environment) while the social dimension informs about the impact on communities and the society as a whole (e.g. social investment, involvement in the community, human and labour rights, stakeholder collaboration, government dialogue).

Because CSR is not only a theoretical concept but also a business practice, several authors introduced the concept of the *stages* of CSR, which define the level of engagement of a firm in CSR. The main idea is that the engagement of a firm in CSR starts with a few interventions, which are marginal with respect to the core business

[6] Rieth and Zimmer (2004, p.12) also make an interesting distinction between minimalist and maximalist definitions of CSR. Minimalist definitions focus on the duty of creating wealth using means that avoid harm, and protect and enhance society's interests while following the law and attempting to internalize external costs. Maximalist definitions focus on a proactive and deliberate stance where business anticipates harm and internalises the social and environmental effects of its operations.

of the firm, and then they increase their level of engagement until CSR becomes part of their business strategy.

For example, a firm's engagement in CSR starts from very basic principles and activities, such as charity or support to non-profit organizations. Then, as long as its understanding of the strategic importance of CSR increases, the firm starts developing its CSR activities in a more systematic way, also linking them with the core business of the firm. In many cases this transformation implies also that the managerial structure of the firm changes, in order to account for these new priorities, and be able to address social and environmental challenges in a holistic way. During this process, the leadership and the commitment of the owner/managers is a key element to ensure the sustainability of the process and its enforcement. The final step is usually that the company develops an all-encompassing strategy, in which CSR is perfectly integrated in the managerial activities of a firm and it becomes a key component of its business strategy. At this stage, CSR involves all the aspects of the production process, including supply-chain management, customer care and marketing.

This is the most common view of the *stages* of CSR, however the number of stages, and the characteristics which determine the fact that a firm falls into one particular stage, can vary greatly from one author to another.

For the purposes of this thesis, two possible classifications are presented (see the following figures, *1a* and *1b*). One is very general and can be applied to all contexts (Mirvis and Googins, 2006). The other, which was the result of a study conducted in 2002 (Jones, 2003), refers to the specific context of the Caribbean Region, and will become useful in Chapter 3 of the thesis.

**Figure 1.1a. The stages of CSR**

| | Stage 1. Elementary | Stage 2. Engaged | Stage 3. Innovative | Stage 4. Integrated | Stage 5. Transforming |
|---|---|---|---|---|---|
| Citizenship Concept | Jobs, Profits, and Taxes | Philanthropy, Environmental Protection | Stakeholder Management | Sustainability or Triple Bottom Line | Change the Game |
| Strategic Intent | Legal Compliance | License to Operate | Business Case | Value Proposition | Market Creation or Social Change |
| Leadership | Lip Service, Out of Touch | Supporter, in the Loop | Steward, On Top of It | Champion, in Front of It | Visionary, Ahead of the Pack |
| Structure | Marginal: Staff Driven | Functional Ownership | Cross-Functional Coordination | Organizational Alignment | Mainstream: Business Driven |
| Issues Management | Defensive | Reactive, Policies | Responsive, Programs | Pro-Active, Systems | Defining |
| Stakeholder Relationships | Unilateral | Interactitve | Mutual Influence | Partnership | Multi-Organization Alliances |
| Transparency | Flank Protection | Public Relations | Public Reporting | Assurance | Full Disclosure |

*Source: Mirvis and Googins (2006*)

**Figure 1.1b. The stages of CSR**

| | First Wave | Second Wave | Third Wave |
|---|---|---|---|
| **Rationale** | Philanthropy | Strategic philanthropy | Community/investment |
| **Management** | Ad-hoc | Systematic manager | Entrepreneur/consultant |
| **Approach** | Passive | Responsive | Building capacity |

*Source: Jones (2003)*

A paper by Collier and Esteban (2004) also makes a distinction between *integrated* and *decoupled* CSR policies. In the first case ethics programmes are integrated into corporate policies and employees will be implicated in the exercise of

corporate responsibility, while in the second they are mainly 'window-dressing' exercises that can easily be decoupled from everyday organizational activities. In the latter case employees usually know little or nothing about the stated CSR policies of their employer. According to the authors, two of the reasons why decoupling may arise are too rigid compliance with guidelines and external regulations or 'quick-fix' responses to media attention.

As previously noted, CSR is not only a theoretical concept but also a business practice. From this perspective, one can also make a distinction between *internal* and *external* CSR practices, which will become useful for the purposes of my thesis.

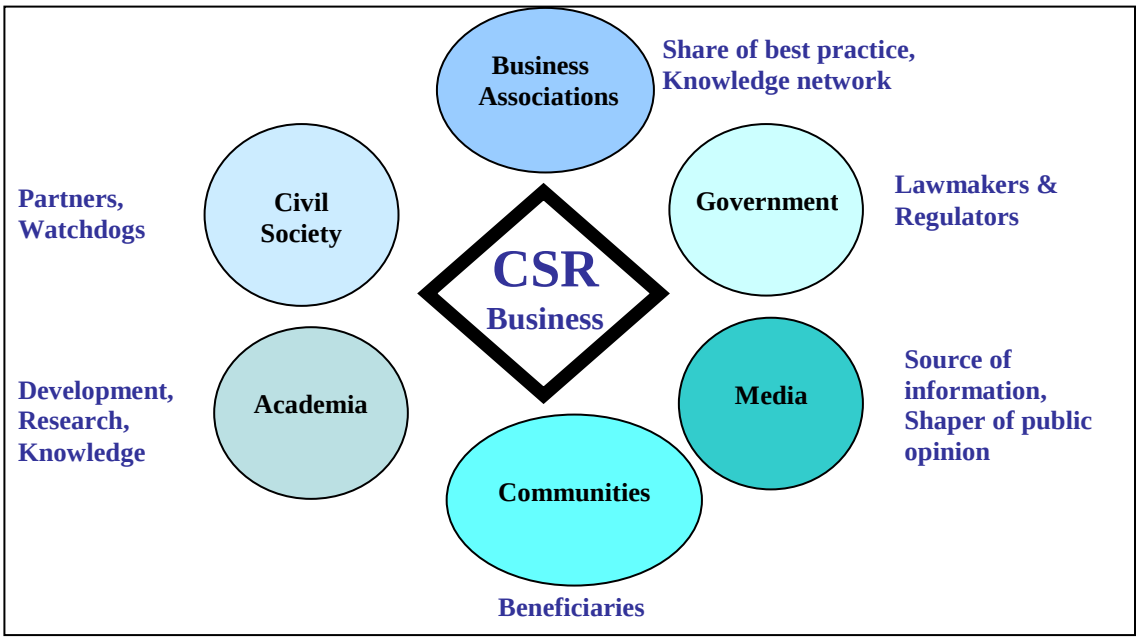
Internal CSR practices include those activities that deal with the core business of a firm and the workforce (e.g. Human Resources and Health and Safety practices, fulfilling work environment, employee development programs, reduced social and environmental impact).

External CSR practices include the social and environmental programs pursued by a firm, whose benefits are perceived outside the firm (e.g. community development, environmental beautification, educational programs, capacity building, supply-chain management).

A final note on the definition of CSR is that, while it is clear that the private sector is the key driver of CSR, there are other players who are important to facilitate the practice of CSR and its effectiveness in the development debate. These include Government, Non-Governmental Organizations (NGOs), International Organizations like the United Nations (UN), Media, Business, Academia, and Business Associations.

In a collaborative approach, through the widespread reach and influence of these organizations, they can act as partners to business in their CSR activities helping move towards achieving common development objectives.

**Figure 1.2. Key CSR players and their role**




## 1.2. The Business Case for CSR

As previously said, it is still under debate whether the responsibilities which a socially responsibly firm faces should go beyond the maximisation of profits.

However CSR and profit-maximisation need not be in contrast to one another. Recently in fact there has been widespread evidence that, when the CSR strategy is aligned with the company's core business, it often leads to a wide range of bottom-line benefits for the firms which implement it.

These benefits include:

i. more productive, motivated and committed workforce;
ii. increased ability to attract and retain employees;
iii. reduced costs from injuries and absenteeism;
iv. more sound and transparent business practices;
v. increased capacity for managing risks and changes;
vi. reduced operating costs;

vii. enhanced brand image and reputation;
viii. increased sales and customer loyalty;
ix. increased productivity and quality;
x. reduction of wastage and more efficient, environmentally-friendly production techniques;
xi. increased reliability of suppliers and standardization of products;
xii. reduced regulatory oversight; and finally
xiii. improved access to capital and licence to operate.[7]

The growing awareness that CSR is good for business has also aided its development. While the primary role of corporate executives is to maximize shareholder value, the global marketplace, where reputations matter deeply, dictates that shareholder value increasingly depends on corporate values. Business leaders understand that practising corporate responsibility affects their corporate reputation and brand image. Managers are becoming more and more aware that socially responsible investors and activist shareholders can impact the bottom line.

Therefore, the *business case for CSR* could be seen either as complementary or as in contrast to the ethical motivation of a company. As an example, while in recent years the proliferation of universally accepted codes of conduct has often been seen as a major by-product of an increased social awareness of multi-national corporations (MNCs), Rowe (2004) contests that this is only a new type of business strategy to quelling popular discontent with popular power and avoid enforceable governmental regulation. This issue was particularly sensitive for MNCs after the two strong waves of protest against corporate behaviour (in the 60s/70s and after the Seattle movement in the early 90s). From Rowe's point of view, the intrinsic weakness of current CSR practices lies in its self-regulation and in the absence of third parties which make it enforceable.

Let's now analyse in detail the key elements of CSR that make it a viable strategy to enhance a firm's profits. Porter and Kramer (2002) showed that in order

[7] See Porter and Kramer (2002) for an analysis of business benefits attached to CSR.

for these benefits to materialize, CSR has to be integrated into strategic planning and aligned with the company's core business.

To clarify this, first of all we need to introduce a distinction among the possible philanthropic activities which a company can undertake, dividing them into the following categories (see Balboni, Bute, Sookram, 2007):

i. *Communal obligations*: support of civic, political, welfare and education organizations;
ii. *Goodwill building*: support of causes favoured by employees, customers and community leaders, often necessitated by the quid-pro-quo of business and to improve the company's image and relationship;
iii. *Strategic giving*: focused on enhancing the competitiveness of a company, targeting its specific needs.

The practices which can enhance firms' profits fall within the third category, which can be referred to as "*context-focused philanthropy*" (Porter and Kramer, 2002). This is very different from philanthropy, and other handing out of small sums of money to various organizations, because the latter do not generate any business return.

As clarified by Gaspar (2003, p.3), "strategic" CSR is "an investment from which companies should expect tangible returns and positive impact on their net profits", while philanthropy relates essentially to "donations or charitable giving from which companies do not necessarily expect any direct positive impacts on their business activities".

Of course this view is not exempt from critique. There are many cases in which ethical concerns and profit maximization oppose each other. In these cases, it seems that "social responsibility is not appropriate when it could undermine a company's performance" (Bakan, 2004, p. 45).[8]

[8] Bakan in his book highlights one interesting case is BP's oil exploration activities in Alaska at the beginning of the 21st century (Bakan, 2004, p.40). BP, globally recognised as one of the world's leading corporations in the field of CSR, in the case of Alaska decided to disregard the "precautionary" principle - which require a firm to abstain from any activity of which it is not sure of the environmental consequences – to pursue its drilling operations. This a well-known case of a

Despite all these valid point, in our thesis we shall focus exclusively on "strategic" CSR, for many reasons that will be clarified later on.

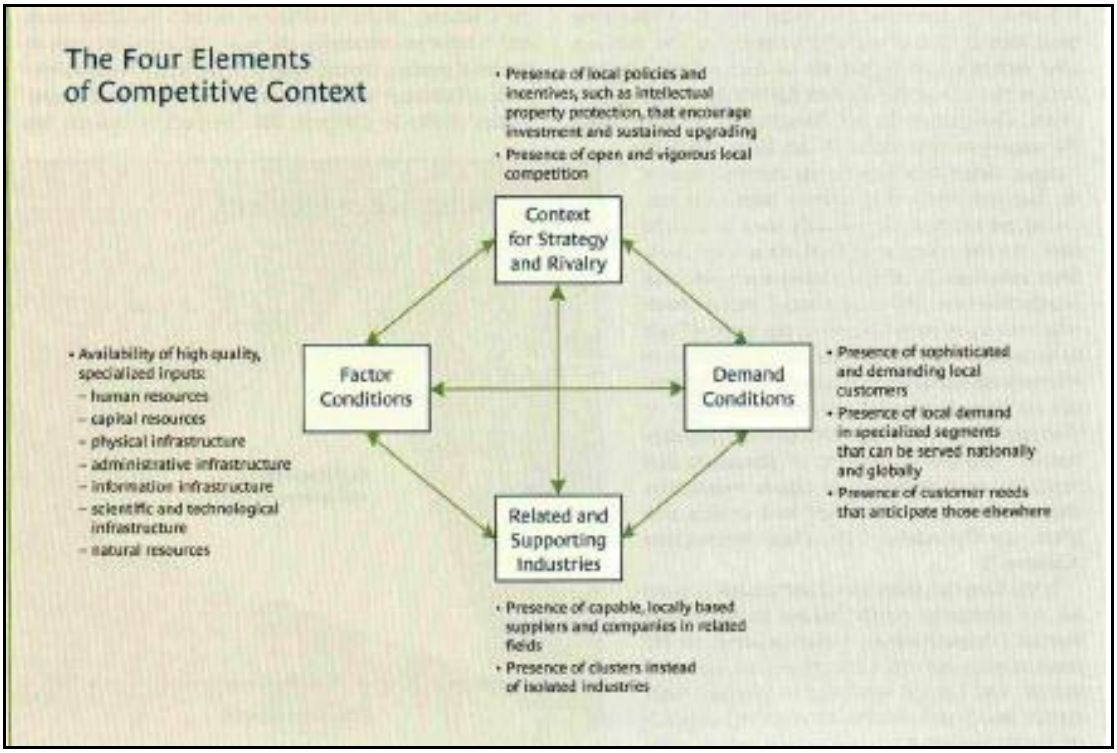
Probably the most complete theoretical analysis of the *Business Case for CSR* from a management perspective has been presented by Porter and Kramer (2002). According to these two authors, CSR practices should be specifically targeted at improving the "competitive context" of the firm.

This consists of four interrelated elements of the local business environment that shape the potential productivity of the firm:

- Availability of inputs for production (e.g. resources, workers);
- Demand conditions (e.g. demand sophistication, conditions to access international contractors, ethical funds);
- Context for strategy and rivalry (e.g. local policies, competition regulations, intellectual property rights);
- Availability of related and supporting industries (e.g. local suppliers, upstream and downstream industries, clusters).

conflict between increasing profits and being socially responsible, which contradicts the paradigm of the *Business Case for CSR*. Despite having gone on with the drilling, BP was still awarded a UN award for environmental leadership in 1999. Notably, in 2007 Fortune's magazine awarded BP with the prize for most socially responsible company in the world.

**Figure 1.3. The "Competitive Context" of a firm**

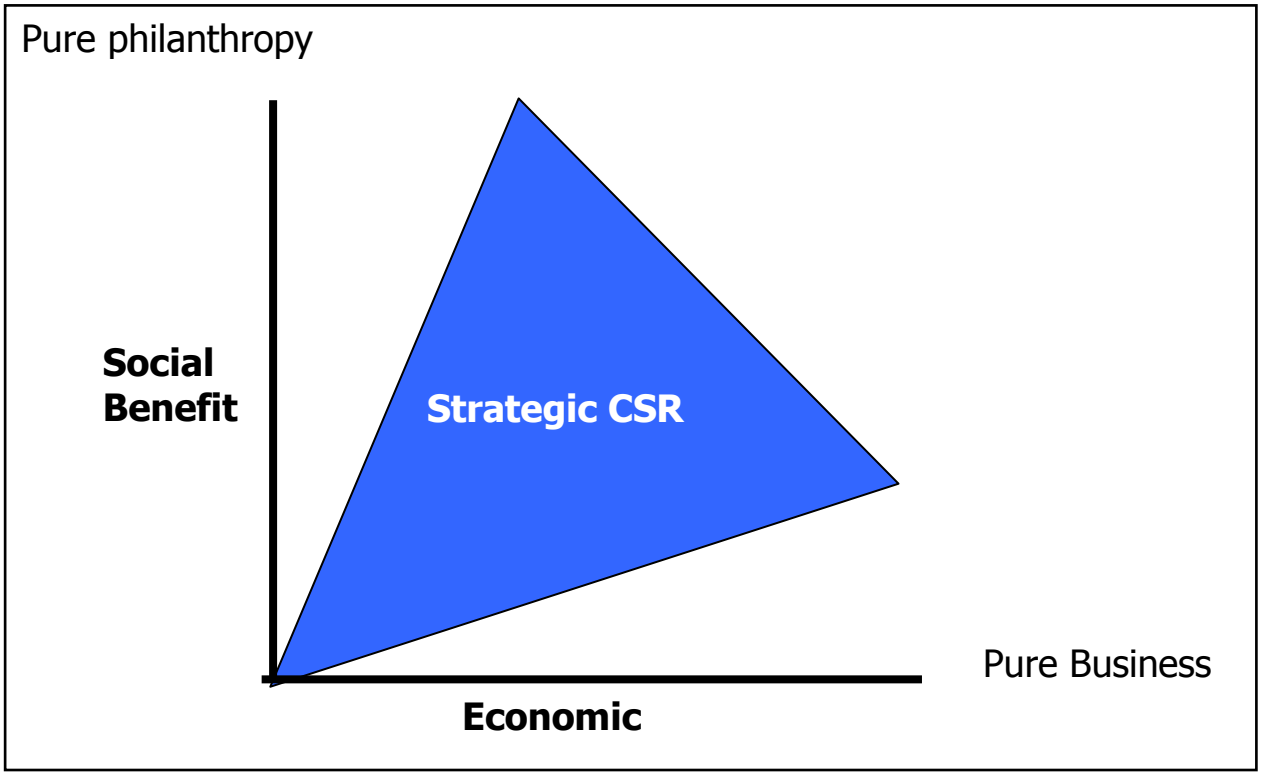



*Source: Porter and Kramer (2002)*

By carefully analysing the elements in this context, a company can identify the areas of overlap between social and economic values that will enhance its competitiveness and its long-term sustainability.

In fact, certain types of corporate expenditures can simultaneously produce social gains at a broader level and bottom-line benefits for the company. This convergence of interests between corporate philanthropy and shareholder interest is at the core of every CSR programme, allowing traditional philanthropy to have an important influence on a company's 'competitive context' and to become truly strategic.

**Figure 1.4. "Strategic" CSR: alignment of benefits for the firm and the society**




There are at least six key areas in which internal and external CSR practices could contribute to a company's economic success:

1. Select key areas of intervention for external CSR**.** In order to increase the companies should select projects and donations which are more closely linked to their business objectives and can impact their profitability. This *'context-focused philanthropy'* creates added value for a company willing to engage in external CSR activities. In this regard, companies should strive for the long-term sustainability of the programmes they undertake and of their Return on Investment (ROI), towards maximizing the impact of the funds spent and increasing their business profitability.

Such practices not only have a positive social, economic and environmental impact on the surrounding environment of a company, but driven by business profitability, they become sustainable and easy to replicate.

Traditionally, however, SMEs in particular, have engaged in social and environmental programmes that centred on donations and charitable contributions, mostly demand-driven and are not aligned with their core business, and therefore do not impact profitability. In addition, lack of specific annual budgetary allocations for these activities makes the contribution and the frequency highly dependent on the economic performance of a company. This in turn hinders the planning process and the capacity to promote a sustainable impact.

2. Protecting the intangible assets of a company. The most valuable intangible assets that a company possesses are Business Reputation and Consumer Trust. These assets, often identified as 'goodwill', affect the share price of a firm and are represented in monetary terms on the balance sheet of a company. In addition, the establishment of good and honest relationships reduces transaction costs, protects the firm's assets, and maintains client loyalty and share of revenue. CSR can provide a company with a licence to operate in a targeted market. A licence to operate can be further differentiated into *access* – the formal licence or concession granted by governments - and *acceptance* – the informal licence to operate granted by societies.

   Based on these considerations, CSR could be described as a *risk management tool*, allowing companies to build a stable and prosperous operating environment and at the same time manage the risks related to the functioning and development of local markets and society at large. These risks might materialize at the individual company level and along the corporate value chain (e.g. reputation, complaints due to poor product quality and health and safety issues), or at the national and international level (e.g. inequality, lack of economic empowerment and of access to basic goods and services, anti-globalisation and anti-capitalist movements and threats of excessive regulation).

3. Attracting, motivating and retaining talent. Attracting and retaining the best employees has always been an area of concern for companies because of the high costs associated with employee turnover and retraining. Some companies have even become weary of investing in employees, for fear that once they become more qualified they will leave the company.

   However, CSR can increase the ability of companies to attract the most talented employees by investing in high-quality institutions, promoting mentorship and scholarships in universities. In addition, it has been recorded that employees are generally more loyal and more likely to stay with a company that is willing to invest and develop them, has transparent and efficient administrative processes and has a good reputation for its external CSR activities.

   Furthermore, by improving the work environment and the Health and Safety practices, impact is made on other profit-sensitive areas, such as reducing absenteeism, increasing work productivity and preventing work-related injuries and accidents.

4. Exploiting existing market opportunities and creating new markets. There is an increasing global demand for socially engaged and responsible companies, which comes both from customers - willingness to pay higher prices for products that embed certain ethical qualities - and from other investors-shareholders - through social investment funds. In light of this, it is becoming increasingly more profitable for companies to target their offerings in a manner that will meet increasingly sophisticated demand at the global level. New business opportunities can range from environmentally friendly ("green") products, new technologies for production, new products to meet new and growing consumer demands, affordable goods for poorer consumers and new market mechanisms to ensure distribution to a wider segment of the market.[9]

[9] For an exhaustive overview of the business possibilities related to the poorest tier of the population see Prahalad C.K. and S.L. Hart, "The Fortune at the Bottom of the Pyramid", *Strategy+Business*, Issue 26, first quarter 2002, pp. 1-14.

5. Improving the competitiveness of a country. CSR, through its very inclusive nature, can influence the competitiveness of a country and its population. Through the synergies created and the opportunities for knowledge-transfer, it can increase the level of technological sophistication of local industries, foster the development of clusters and boost innovation. Through practices such as supply-chain management both the size and the quality of local suppliers can be influenced, facilitating the development of local companies in certain sectors and increasing the economic diversification of a country. Finally, through educational programmes and support to educational institutions, the availability of local resources can be increased, along with enhancing the skills of the local workforce by aligning the needs of the local economy with the curricula offered. In addition, CSR can assist in the creation of a more productive and transparent local economy, providing an inviting environment for new businesses and fuel for competitive entrepreneurial activity.

6. Responding to Environmental Challenges. With the business impact on the environmental debate in the global arena heating up, the need for clear CSR initiatives seems inevitable to assist companies in reducing negative environmental impacts and the risk of possible sanctions for non-compliance with new environmental laws and regulations and increased insurance premia.

   In addition, internal CSR practices can also increase the profitability of businesses through the implementation of new and more efficient environmentally-friendly production processes and the reduction of wastage.

   Finally, in response to the increasing international demand for green products and investments, companies can also embark on the procurement/offering of environmentally-friendly products and services to increase their market shares or gain access to environmentally-responsible contractors.

## 1.3. Main theoretical approaches to CSR

An early debate over the responsibilities of corporate managers and directors to their shareholders and other groups directly influenced by corporations took place in North America during the 1930s, starting with the contributions by Berle and Means (1932).

The first attempt to conceptualise CSR can be considered the statement by Bowen, who argued that businessman have an obligation "to pursue those policies, to make those decisions, or to follow those lines of actions which are desirable in terms of the objectives of our society" (Bowen, 1953, p.6).

The key elements in this concept of CSR are that businesses seem to exist "at the pleasure of society", which means within certain guidelines given by the society, which remains the source of business legitimacy, and that businesses act as a moral agent within society (Wartick and Cochran, 1985).

After this early contribution, the debate over CSR gained increasing importance in the 60s, as part of the decade's wider discussion of the corporation's growing power in society and politics.

In particular, the last decade saw a boom in the number of contributions on CSR, spanning over very different fields of analysis, from management to economics, from political economy to environmental economics. Sacconi (2004, p. 12) argues that the increasing success of CSR on the contemporary economic debate is the result of the combination of two tendencies which have progressively emerged: the tendency towards the privatisation of all relevant economic decisions and the tendency towards the increased responsibility of economic decision-makers towards different stakeholders from the society.

In fact, the growth of MNCs has given birth to supranational entities which can influence, with their behaviour, the work of national governments, particularly in the developing world. On the other hand, these governments realised that they cannot deal with all the relevant economic and social challenges without asking the private sector to help.

Furthermore, the growth of civil society globally, the increased demand for of transparency and ethical standards by shareholders and customers all over the world, reduced the freedom of companies of making certain unethical choices such as implementing different standards in different regions of the world.

As a result of this process, firms had to face at the global scale an increased demand for efficiency and profitability, together with an increased demand for equity and social responsibility, and in most cases CSR has provided the optimal answer to combine the two.

In the 70s CSR was heavily criticised by Milton Friedman. According to him, "the corporation is an instrument of the shareholders who own it" and "the only social responsibility of business is to maximise profits" (Friedman, 1974). This derives from the fact that the sole constituency of business is the stockholders and the sole concern of stockholders is financial return.

Hence, corporations cannot be moral agents – contrasting what Bowen (1953) had said – and only the individuals, as single stakeholders, can have moral responsibilities.

From Friedman's perspective, CSR cannot be justified because it shifts resources from the primary objective, which is profit-maximization and also because it reflects the personal beliefs and values of executives, neglecting the freedom of choice of every stakeholders to decide independently what to do with their money.

Indirectly Friedman's critique gave birth to a strand of the literature which is often referred to as *The Business case for CSR* - also known as the "neo-classical" approach – from which the economic concept of a "strategic" CSR originally derived.

In fact, if one considers Friedman's argument from a different perspective, it also implicitly states that CSR is justified in the two opposite cases, which is when it helps increase the profits and when it enhances social welfare more than the sum of single stakeholders' contributions, if profits were redistributed and they would spend them individually in charity.

While the second argument relies more on efficiency considerations, the first constitutes the heart of all economic models of CSR, which will be the focus of analysis

of our thesis. However, both arguments are linked one to another, as shall be seen when we will consider the view of CSR as private provision of local public goods.

Despite the dominance of the *Business Case for CSR* type of arguments over the last 30 years, already in the following decade several criticisms emerged. For example Walters (1977) argued that Friedman's assumptions of mere economic responsibility are in fact unrealistic, because they neglect the long run consequences of profit maximization and they fail to identify the appropriate relationship between the manager and changing political and legal conditions.

The 70s also saw the birth of an alternative theory with respect to the maximization of shareholders' value, which is the stakeholders' view by Freeman (Freeman, 1984; Freeman-Gilbert, 1988; Freeman-Evan, 1990, 1993).

According to this new paradigm, firms should respond not only to its shareholders but to all its stakeholders, which are "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984, page 46).

Hence, the firm's objective would not be only to maximize the shareholders' value (i.e. the profits) but also to maximize the benefits of all the other stakeholders, such as the customers, the employees, the suppliers and the local communities, among may others.[10]

According to this approach, CSR would be a way to pursue the maximization of stakeholders' value, finding "the optimal path to the differing impact of the firm on all its stakeholders" (Windsor, 2001). CSR can act as a corporate strategy to meet changing stakeholders' expectations and manage risk. For the stakeholder theory CSR can be defined in an holistic way as a stakeholders-management strategy, and it is not an incidental attribute of a firm (as it was in the case of the "market" theories of CSR) but it is in its very nature.

One critique often made of the theorem of the maximization of the benefits of all stakeholders is resumed in a paper by Jensen (2001), which argues that it is

[10] See the definition in the introductory chapter. It should be noted that one of the problems of this theory regards precisely the definition of the boundaries for who should be considered a stakeholder.

"logically impossible to maximize in more than one dimension, purposeful behaviour requires a single value objective function" (Jensen, 2001, p. 297).

In fact traditional value-maximization requires that managers should make all decisions so as to increase the total long-run market value of the firm. On the contrary the stakeholder theory, telling the managers that they should make decisions so as to take account of the interests of all stakeholders, it leaves the managers in the impossibility to make purposeful decisions and in the end makes them unaccountable for their actions.

Starting from the neo-classical paradigm that social welfare is maximized when all firms in an economy maximise the total firm value, "as long as there are no negative externalities" (Jensen, 2001, p. 303), a firm should expand its output until the value to society of the goods and services produced is at least as great as the price the firm receives.[11]

Therefore, the stakeholder theory does not maximize total welfare, since this is precisely what profit-maximization does. Furthermore, the stakeholder theory contains "no conceptual specification on how to make the tradeoffs among stakeholders that must be made", contrary to value maximization, which specifies that a manager should "spend an additional dollar on any constituency to the extent that the long term value-added to the firm from that expenditure is a dollar or more" (Jensen, 2001, p. 305).

Jensen's suggestion to overcome this problem is to modify the traditional stakeholder theory into an *enlightened stakeholder theory*, according to which the objective function of the firm should be to maximise total long-term firm market value. Such a theory would reduce the temptation of managers to maximise the short-term financial performance of the organization, which is what the principle of profit-maximization often leads to.[12] We will come back on this very important point in the Chapter 6 of the thesis.

[11] In very simplistic terms, value is created when a firm produces a set of outputs that are valued by its customers at more than the value of the inputs by its consumers (see Jensen, 2002).

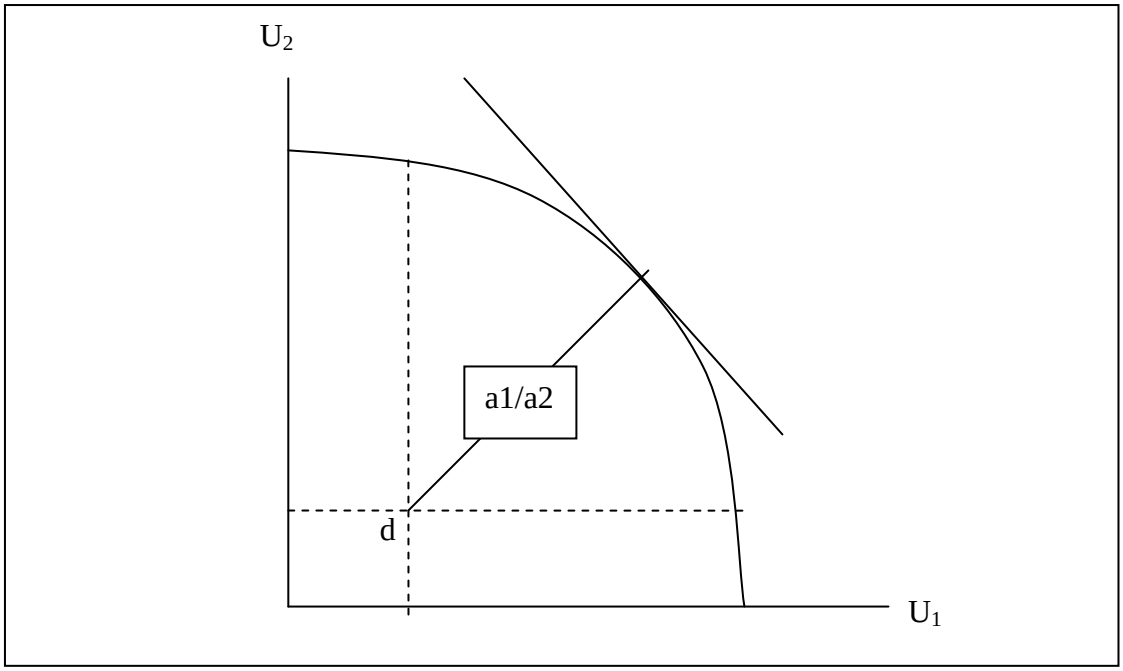
[12] One instrument to implement that principle could be the balanced scorecard an appropriate mix of outcomes and performance drivers that have been customised to the business unit's strategy (Kaplan and Norton, 1996, p. 150).

In defence of the stakeholder approach, Sacconi (2004) argues that these problems could be overcome via the introduction of a cooperation game between the stakeholders. In this game the Nash equilibrium will require that all players agree on a joint strategy which corresponds to the point on the frontier where:

$$\underset{i}{Max}\Pi\left(U_i - d_i\right)$$

where *d* is the initial status-quo and *i* denotes the participants to the game (i.e. the stakeholders).

**Figure 1.5. The cooperation game in Sacconi (2004)**




*Source: Sacconi (2004)*

Such equilibrium is possible when all stakeholders agree on a rule which makes them better-off with respect to the initial status quo, *d*, and it results from a bargaining game based on the rationality of all participants.

As a matter of fact, the equilibrium point corresponds to the point where the remuneration is proportional to the marginal utilities of players: the surplus of the game is distributed under a proportion which is equal - but with opposite sign - to the relative change in marginal utilities of the players. One possible interpretation of this

equilibrium point would that the benefits from participating in the game are distributed according to the relative needs of the players.

The interpretation by Sacconi combines aspects of the stakeholders' theory with elements taken from another possible approach to CSR, the neo-contractualism.

This theory moves from the seminal papers by Grossman, Hart and Moore (Grossman and Hart, 1986; Hart and Moore, 1990 and Kreps, 1990), in which the authors claim that the firm should be defined in terms of optimal allocation of propriety rights.

In fact, moving from the contributions by Coase (1937), and Klein, Crawford and Alchian (1978), which emphasize the benefits of 'control' in situations in which there are difficulties in writing or enforcing complete contracts, Grossman and Hart (1986) see the firm as composed by the assets that it owns and build a theory of costly contracts which emphasizes the difference between specific and residual rights: when it is too costly for one party to specify a long list of the particular rights except those specifically mentioned in the contract (residual rights), it might be optimal for that party to purchase all the rights excepts those specifically mentioned in the contract. Following this perspective, ownership is in fact the purchase of these residual rights of control.

Starting from a neo-contractualist perspective, Sacconi (2004) identifies CSR as a possible mechanism of governance which promotes the maintenance of an hypothetical social contract in which rights are allocated among all stakeholders. For him, who considers insufficient the specification of a firm in the mere distribution of propriety rights, CSR completes the concept of firms as governance institutions allowing transactions among the stakeholders and the adoption of regulatory solutions among them.

The optimal ownership structure and distribution of propriety rights as determined by the neo-contractualist theory is not sufficient to assess the efficiency of a firm and the relationships within it. On the contrary, the corporate culture and the ethical values embedded in corporate codes are equally important, since they allow the asymmetry of information to be overcome, and give incentives to the stakeholders to behave in a cooperative way.

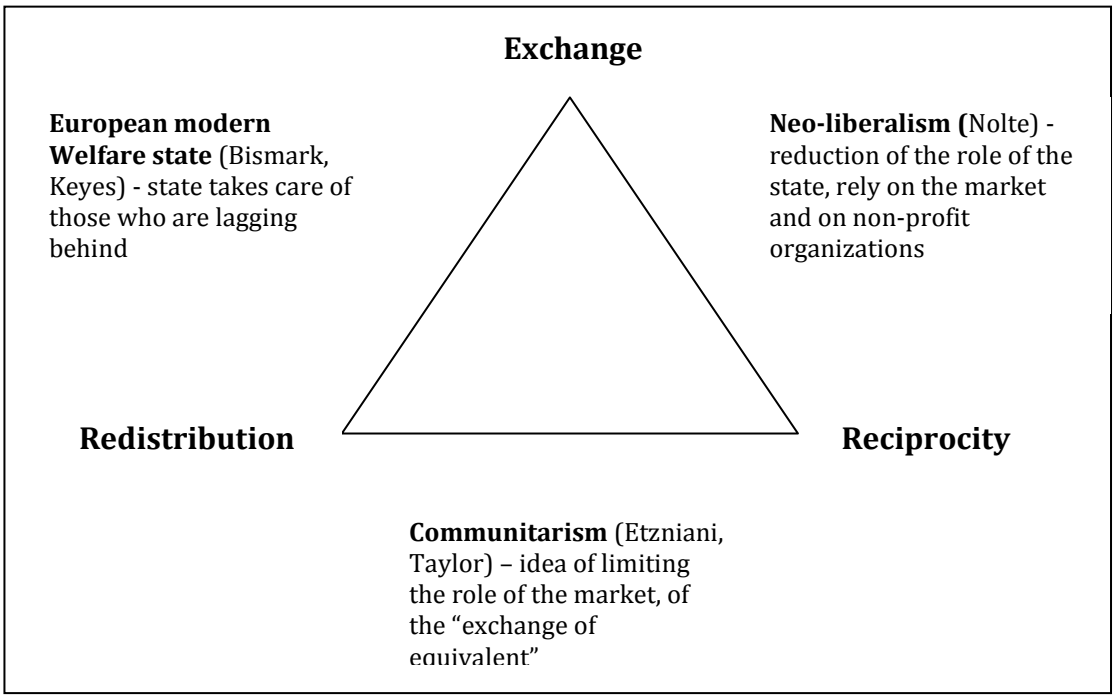
The fundamental mechanism of enforcement of the contract is reputation, which is again particularly important in situations of information asymmetry when maintenance of reputation becomes the main incentive for a given agent inside the firm.

Another interesting approach which has been used to explain firms' increasing engagement in CSR is the relational approach developed by Bruni and Zamagni (2004). This approach takes the issue of social reproduction into account in the description of the economic system, thereby looking at firms as producers of socially provided goods.

The background of this approach is the Civil Economy perspective. This theory identifies as the key principles sustaining a social order the ones of "exchange of equivalent and redistribution" (Bruni and Zamagni, 2004), which are similar to the two paradigms of welfare of the classical political economy approach, but with the addition of reciprocity, whose ultimate purpose is fraternity.

Similarly to political economy, both rely on the market as the key institution, but the final objective is different: the total good for the political economy and the common good in the civil economy (Bruni and Zamagni, 2004).

**Figure 1.6. An overview of the Civil Economy approach**




The challenge of the civil economy is to combine these three elements (i.e. exchange, redistribution and reciprocity).

Reciprocity becomes the key regulatory principle by which the individuals understand their belonging to a community with specific values and shared objectives (Zamagni, 2002).

The analysis of an economic system cannot abstain from an evaluation of such cultural elements, which are often taken as exogenous by the traditional political economy theories, since it is reciprocity which allows us to understand the economic actions of an individual, determining his preferences.

The second key foundation of civil economy is the presence of "*socially provided goods*" or *"relational goods"* which are those goods which are produced by the interaction among economic agents (e.g. friendship, social reputation etc.).

It is the relational orientation of an individual, defined as "the desire to increase one's proximity with other people, for instance through friendship,

sympathy, sharing of ends, of norms, of group belonging and, at the limit, of life" (Vanin, 2002, pp. 41-42) which allows him to produce and benefit from socially provided goods.

Therefore, social and civil enterprises play a key role in societies, which is precisely the production of relational goods. For that, it is necessary to put into place certain institutional forms which do not have as the exchange of equivalents as their only objective, but the participation principle which leverage the mechanisms of reciprocity (e.g. mutuality, cooperation, non-profit). Relational goods contribute to the building of social capital in an economy (see Bruni and Zamagni, 2004).

Following these premises, the conceptualization of CSR becomes straightforward. This would be a mechanism of corporate governance, however it is not driven by reputation as it was in Sacconi (2004, 2007), but it is the preference of economic agents for relational goods that leads the way to the birth of CSR.

In order to represent these preferences, traditional for-profit organizations also introduce institutional and decision-making mechanisms which are characteristics of social and civil enterprises (e.g. reciprocity, codes of ethics, etc.).

These theories bring CSR to the heart of the business strategy. CSR appears as the optimal response by firms to the intrinsic challenges that they face from their own nature, rather than a mere strategy to attain higher profits. CSR becomes the strategy to balance the different interests of the various stakeholders, allowing us to investigate the very nature of a firm and find ways to increase its efficiency.

However, there are some important drawbacks to take into consideration. First of all, if CSR belongs to the nature of a firm, then all of them should already be doing it and it becomes much less relevant to find ways to increase the level of CSR.

Another limit of these approaches is that they often rely on abstract arrangements and bargaining conditions among the stakeholders, which are not always plausible and rarely observed in reality.

Finally, as noted by Sacco and Viviani (2007), the fact that the contract is considered equal by the subjects that participated in the discussion (i.e. the identified stakeholders) does not imply that it is equal also with respect to the individuals that could not participate (e.g. the future generations for environmental concerns).

After this brief overview of the main theoretical views of CSR, it is clear that one of the main challenges is to put some order into the various contributions on CSR, which come from many different strands of the management and economic literature.

The surveys by Sacco and Viviani (2007), Windsor (2007) and Garriga and Melé (2004) provide excellent attempts to put all these contributions into some categories.

Garriga and Melé (2004) identify four key groups of theories, depending on which aspect of social reality the theory focuses on, such as economics, politics, social integration and ethics).

In the first group the authors include those theories (*instrumental theories*) which assume that the corporation is an instrument for wealth creation and that this is its sole social responsibility; in the second group (*political theories*) those which empathise the social power of corporation in its relationship with the society; in the third group (*integrative theories*) those which consider that business ought to integrate social demands and finally in the fourth (*ethical theories*) those which assume that the relationship between business and society is embedded within certain ethical values.

The literature review by Sacco and Viviani (2006) instead has a specific focus on the Italian debate and identifies three key strands of literature on CSR. These are the *neo-classical* approach, in which CSR is seen as a differentiation strategy in order to increase profits; the *neo-contractualist* approach, mainly developed by Sacconi (2004, 2005), in which CSR is a management strategy to attain the optimal allocation of rights among all stakeholders and enforce it through the mechanism of reputation; and finally, the *civil economy* one, developed by Bruni and Zamagni (2004), for which CSR is a mechanism of corporate governance which accounts for the preference of economic agents for relational goods which were traditionally the domain of social and civil enterprises.

We will now analyse specifically the way CSR has been introduces in the economic literature.

## 1.4. The economic analysis of CSR

When we look at the way CSR has been introduced in the economic analysis and modelling, it is important to highlight that the focus of attention has been only "strategic" CSR, rather than charity or other types of philanthropy. This will also be the perspective of our thesis, for a number of reasons.

First of all, this allows us to avoid the dangerous domain - in which an ethical behaviour goes against the objective of profit maximization – in which Friedman's critique could be used to dismantle our arguments.

Secondly, this seems to me the field where economic analysis can be more useful. Finally, many empirical studies showed that "strategic" CSR is also more effective than traditional philanthropy from a social welfare perspective. For example, a study by UNDP (2005) showed that only the projects which are sufficiently driven by business profitability can be considered sustainable in the long run, while charitable contributions depend too heavily on available cash-flows and therefore are often only ad-hoc interventions.

We will now introduce a key distinction between two possible approaches to the economic analysis of "strategic" CSR: (i) CSR as *differentiation strategy* and (ii) CSR as *efficient resource management*.

According to the view of CSR as differentiation strategy, there is a demand for a more ethical behaviour by the firms from one or more of the firms' stakeholders (e.g. consumers, workers, investors, government, etc.), which leads the firms to undertake CSR, mainly as a differentiation strategy. If this is the case, then we expect the CSR practices undertaken should reflect stakeholders' preferences.[13]

On the contrary, when CSR is seen as efficient resource management, then is would be a strategy undertaken by the firms to optimally manage the factors of

[13] Prof. Jean Tirole, speaking at the third annual *Economica*-Coase lecture at the LSE on 19th February 2009, on the subject "Individual and Corporate Social Responsibility", classified as *"Delegated Philanthropy"* all the CSR practices in which companies "act on behalf of their stakeholders". This is very similar to our definition of CSR as differentiation strategy.

production, with the objective of maximising long-term profits. Hence, the practices adopted should be closely linked to the firms' core business activities.

Both these views of CSR reflect elements which have been addressed in the earlier sections of this chapter.

For example, if one considers the framework developed by Porter and Kramer (2002), it is clear that all the elements that fall under "*demand conditions*" can be associated with the view of CSR as differentiation strategy, while the elements that fall under "*factor conditions*" are more closely related to a view of CSR as efficient resource management.

Also, if we consider the thirteen aforementioned elements which can lead firms to attain higher profits by undertaking CSR practices (see page 34), we note immediately than some fall under the category of CSR as differentiation strategy (e.g. enhanced brand image and reputation, increased customer loyalty, improved access to capital and licence to operate) while other under the CSR as efficient resource management (e.g. reduce operating costs, increased productivity and quality, more efficient production techniques).

It is important to highlight that in both approaches CSR remains a voluntary intervention, which goes beyond the compliance with local norms and regulations. This is the key element which distinguishes CSR from all the other social-welfare enhancing practices undertaken by firms, which are determined by compliance with health and safety regulation or environmental norms.

To the best of our knowledge, all the theoretical models of CSR which have been developed so far in the economic literature view CSR exclusively as a differentiation strategy.

In fact, the key common element of these models is the presence of a demand for CSR, or more generally for an 'ethical' behaviour, in some of the markets where the firm has to compete (e.g. products, workers, capitals, government licenses). This demand induces the firm to use CSR as a differentiation strategy in order to increase its profitability.

One of the earliest authors to introduce a formalised economic model of the *externally-driven* view of CSR, using the classical economic framework of supply and demand, was Baron (2001).

In this model, a firm faces a demand function given by: $p = a_0 - \beta q$ and constant marginal costs equal to $k$, a firm could decide to spend an additional amount $y$ per unit of output on improving the environment, in which case the consumers will reward by paying a higher price for its products. Since $a = a_0(y)$ is a strictly increasing, strictly concave function of $y$, the optimal level of $y*$ will have to satisfy the condition $\frac{\partial a_0}{\partial y} = \frac{\partial y}{\partial y} = 1$.

If this condition is satisfied, the level of CSR will be the one that maximises profits, and there will be an increase in the firm's margin with respect to the non-CSR equilibrium by $(a - k_0)$. In this model, the key element driving the result is that, initially, the costumers value an improvement in the environment more than what it costs for the firm in order to do so.

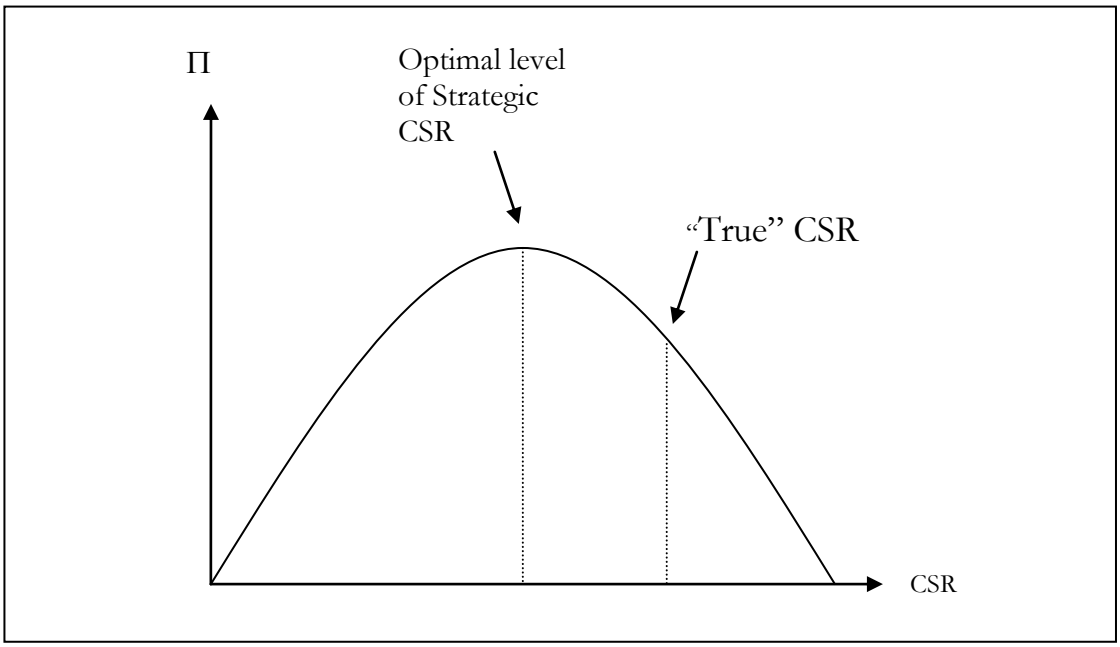
However Baron (2001) argues that this consideration alone can explain only one part of the CSR undertaken by firms, which is what he refers to as "strategic" CSR.

Instead other 'ethical' behaviours can be justified not only on the ground of profit-maximization (or anticipation of threat), but also on the basis of moral motivation. According to the author it only when this happens – i.e. when there are altruistic preferences, - that "some portions of the redistribution can be labelled as CSR" (Baron, 2001, p. 12).

While also "strategic" CSR could be beneficial for the society, the crucial element for Baron is that firms undertake it only because "it maximizes the profits of the firm" (Baron, 2001, p. 17).

Instead, the "true" CSR according to Baron would imply an additional effort by a company (e.g. an additional reduction in pollution) which goes beyond the profit-maximising level, being driven by the altruistic component in the utility functions of firms' owners and stakeholders.

**Figure 1.7. "Strategic" vs. "True" CSR**




*Source: adapted from Baron (2001)*

From the figure it is clear that the level of "true" CSR would be beyond the profit-maximizing level.

However it is worth noting that, unless we assume that there are some externalities, it would also be beyond the social optimum level. In fact the optimal level of provision of a good is when the marginal cost of producing one additional unit equals the price that the customers are willing to pay, which is precisely the profit-maximizing level.[14] Hence the "true", or "altruistic" CSR in Baron's wording would in fact decrease the level of welfare.

Of course, as mentioned before, this is true unless there are some negative externalities on the society arising from the firm's activities and which the firm does not takes into account. However Baron (2001) does not raise the issue of externalities because to him what really matters is the "altruistic" motivation to CSR.

[14] "As long as there are no negative externalities, a firm should expand its output until the value to society of the goods and services produced is at least as great as the price the firm receives" (Jensen [2001], p. 303)

This difficulty in analysing from an economic perspective the "non-strategic" CSR is another reason why the focus of our thesis will be exclusively "strategic" CSR.

The same difficulty is also present in other papers which look at CSR as differentiation strategy. One example is the model by Husted and Salazar (2006), in which one firm produces a private good and a social good (CSR) separately.[15]

In their paper, there are costs and benefits attached to the production of a social good. The benefits are private benefits from the provision of the social good (e.g. increase in sales, ability of extracting a price premium, reduction of costs, enhancement of brand) while the costs are the costs of the social good.

The costs are usually low at the beginning - the first 'unit' of CSR is not expensive, since it usually addresses the 'low-hanging fruits' - and increase with the level of the good produced, since it becomes harder to tackle more and more far-fetched social issues.

The benefits instead are high at the beginning and decrease with the amount of good provided, since the biggest impact on reputation comes with the first engagement of CSR and then it becomes smaller.

The maximum potential social output, $X_{SP}$ in *Figure 8a*, which could be for example zero emissions or 100% literacy, is the level of CSR beyond which even if the firms would spend more, it will not observe any additional improvement on the social outcome.

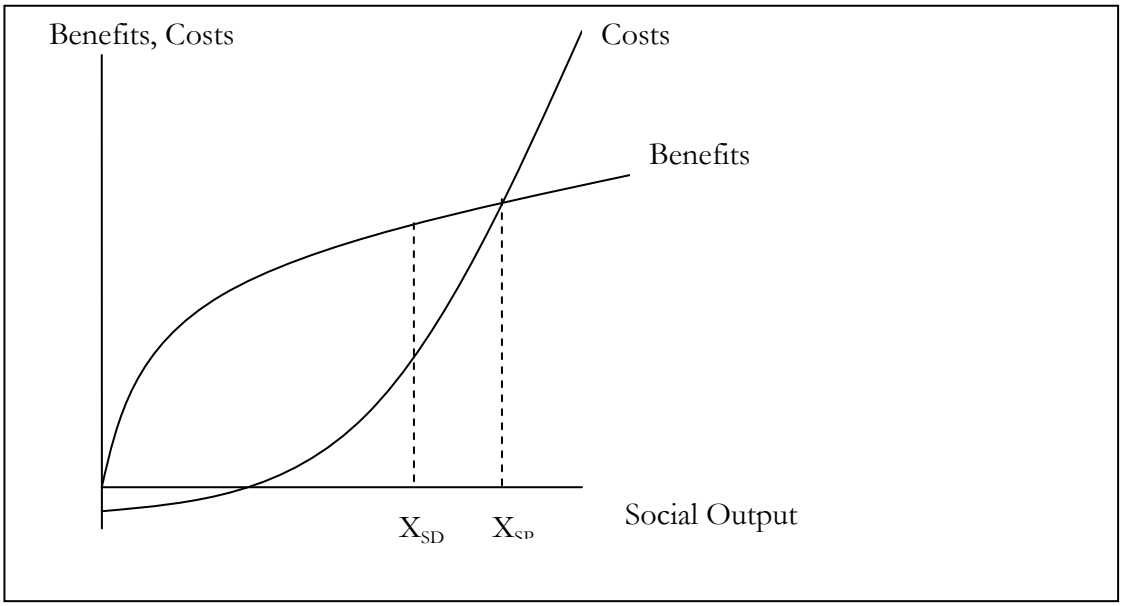
The authors claim that a *perfectly altruistic* firm will undertake CSR up to the point $X_{SP}$, while a *profit-maximising* one will stop either before or after reaching that level, depending on the private benefits that it will be able to extract from its CSR engagement.

However, again one possible criticism to this argument is that, if there is no distinction between private benefits for the firm and the benefits for the society (i.e. there are no externalities), both firms should stop at the same level of CSR ($X_{SD}$), which is where marginal costs equal marginal benefits.

[15] The fact that the production of these goods is separate fails to recognize one of the key elements of CSR, namely the synergies in the production of the private and the social good.

This level has to be below $X_{SP}$, where the marginal costs are larger than the marginal benefits, since after $X_{SD}$ one additional unit would have negative benefits, while the costs are always positive.

**Figure 1.8a. "Welfare-Maximising" CSR**




*Source: Husted and Salazar (2006)*

In the following figure (*Figure 1.8a*), $X_A$ depicts the level of CSR by an *altruistic* firm. An interesting distinction made in the paper is the one between a "coerced egoist" and a "strategic" firm.

In the first case a company complies with minimal societal expectations - including not being fined, sued, or subject to consumers' boycotts and decreased sales - which can be compared to the "defensive" firm on Clarkson's (1995) scale of social performance in which one does the least required by either law or social expectations.

Such a firm will stop at the level of CSR $X_E$ in *Figure 8b*. At this point social benefits are maximized so the government has an interest in designing appropriate regulations that promote private social investment up to this point.

Conversely, a *strategic* firm also obtains additional benefits from its social investment (e.g. good reputation, goodwill, differentiated products, more qualified personnel), which are not available to the *coerced egoist* and neither to the *altruist*,

because the firm has *"designed a strategy so as to appropriate such benefits"* (Husted and Salazar, 2004, p. 83).

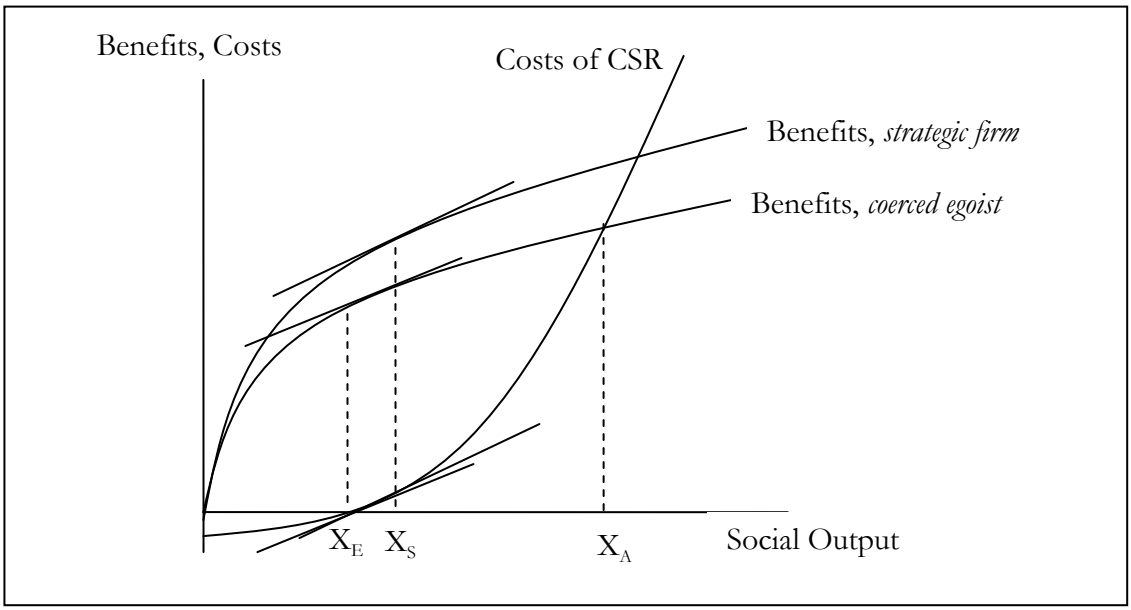
In this case the benefit curve will shift to the left - and the cost curve might shift to the right too, as the company might experience efficiency gains in the production cycle, such as increased productivity and reduced waste - and the firm in equilibrium will invest more in CSR-related activities and provide a higher level of the social good, up to the point $X_S$ in figure 8b.

It's worth making one final remark. Again, if there is no distinction between private and social benefits then both the *coerced egoist* and the *strategic* firm should provide the welfare-maximising level of social good. However, we see from the figure that they will provide different levels of CSR, so one might wonder which one of the two is the one that really maximises welfare.[16]

This problem will be addressed specifically in the Chapter 6 of my thesis, when the link between CSR and firms' externalities will be disentangled.

[16] Another way to look at this argument is the following: if the *coerced egoist* is already producing the welfare-maximizing level of the social good, then the level of production of the *strategic* firm has to be too high with respect to the optimum level, because marginal benefits are higher due to the private benefits that the firm is able to extract from CSR.

**Figure 1.8b. "Profit-Maximizing CSR" – *Strategic* vs. *Coerced* egoist**




*Source: Husted and Salazar (2006)*

The papers presented so far did not take into consideration the dynamic aspects of CSR and in particular the effects of firms' interaction in the market.

These aspects were introduced by McWilliams and Siegel (2002), who, seeing CSR as a differentiation strategy for firms, analyse how it influences their strategic behaviour in the market. As previously said, the presence of a demand for CSR in one of the markets where firms compete is the key aspect which characterises the view of CSR as differentiation strategy.

The authors do not utilize a formalized approach, but through their reasoning come to a number of conclusions which have been the point of reference for further contributions.

First of all, the authors show that there will be a "*CSR neutrality*" on profits, meaning that in the equilibrium socially responsible (SR) firms and non-SR firms will make the same profits. In fact, if one firm can achieve extra profits by introducing CSR than it will do so until profits are the same. The opposite is true if profits are higher for non-SR firms. In fact there is no ethical motivation behind CSR and this is seen only as a profit-enhancing differentiation strategy.

Secondly, despite the fact that the optimal level of CSR will be determined by a cost and benefit analysis (CBA) at the firm level, there are some patterns which should appear depending on the different characteristics of the products, the market and the type of interaction among firms on that market.

In particular, a high level of CSR is likely to be associated with the following elements:

i. high level of product differentiation in the industry (which could rise from a more sophisticated consumer's demand);
ii. intensity of advertising in the industry (CSR activities need to be advertised to be promoted);
iii. *experience* goods (i.e. products that must be consumed before their value is known, for which advertising is more important);
iv. high consumer income (demand's sophistication should depend on income);
v. price of substitute goods (if competitor firms sell at a much lower price, CSR qualities embedded in the product would not help to gain market shares);
vi. shortage of skilled workers in the sector (CSR promotes training for employees and increases the capacity of firms to attract and retain the best employees);
vii. size of the firm (because of possible scale economies in the provision of CSR);
viii. presence of firms that sell multi-products (because of the presence of scope economies);
ix. presence of more established firms in mature industries (because such firms should be able to derive greater product differentiation as consumers are more likely to be educated in these products and firms).

McWilliams and Siegel's contributions have been fundamental in setting the stage for more sophisticated economic models of CSR as differentiation strategy. These will be the subject of the next chapter of the thesis.

# Chapter 2: Critical Review of the Theoretical Models of CSR as Differentiation Strategy

## 2.1. Review of the main contributions in the literature

As mentioned in Chapter 1, under the view of CSR as differentiation strategy the main reason why firms undertake CSR is because there is a demand for CSR for a more "ethical" behaviour coming from one or more of their stakeholders (e.g. consumers, workers, investors, Government, lobby groups).

Over the last decade, several models of CSR as differentiation strategy have been developed in the economic literature, to analyse the implications of CSR on the strategic interaction of firms in the market.

Broadly speaking, the models presented in these papers can be classified into four categories, according to the different ways in which the authors view CSR. These are:

i. a strategy to exploit the increasing sophistication of consumers' demand for "ethical" products (Becchetti, Giallonardo and Tessitore, 2005; Becchetti, Federico and Solferino, 2005; Manasakis, Mitrokostas and Petrakis, 2007; Evangelios and Petrakis, 2007);
ii. the private provision of a local public good or the reduction of a public bad, from which consumers gain a certain utility (Bagnoli and Watts, 2003; Besley and Gathak, 2007);
iii. a labour market screening strategy, to attract the most motivated and productive employees (Brekke and Nyborg, 2005); and finally,
iv. a strategy to pre-empt government regulation, which could result from increasing lobbying activities by the civil society (Maxwell, Lyon and Hackett, 2000; Baron, 2001).[17]

[17] It might not be immediately evident why point (iv) belongs to the view of CSR as differentiation strategy. However one has to consider that the demand for government regulations – which is what

We will analyse these contributions in detail with a view to discuss them in a critical way, identifying the main common elements, differences, and limitations.

### 2.1.1. CSR as a product differentiation strategy for the consumers

The main approach to the economic modelling of CSR has been to view CSR as a product differentiation strategy, to cater for the increasing sophistication of consumers' demands. CSR is seen as an additional attribute of a certain product, as a 'quality' which is embedded in the product making it more valuable than the 'non-ethical' version of the same good.

The main point of disagreement in this literature is whether CSR should be considered as a vertical differentiation or a horizontal differentiation. In the first case we expect that, for the same price, more CSR is always better than less CSR whereas, in the latter, that each consumer has its own preferred CSR location on ideal 'ethical' segment, implying that there might be consumers which could be better off with less quality of CSR for a given price. We will come back to this point in more detail later on in this chapter, when we analyse the main theoretical challenges of modelling CSR.

The theoretical models of CSR as product differentiation which will be considered in this section are the ones by Becchetti, Giallonardo, Tessitore (2004) and Becchetti, Federico and Solferino (2005).

These models are based on the findings of an empirical survey (Becchetti and Rosati, 2003), which fund that, with the phenomenon of globalisation, there is evidence that some consumers are willing to pay a higher price for products that have certain 'ethical' qualities. The authors refer to these products as 'fair-trade' products, following the definition given by the Fair Trade Labelling Organization (FLO).[18]

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the firms are trying to pre-empt – often comes from the Civil Society and other lobby groups, which are indirectly a stakeholder of the firm. This will be clarified further on in this chapter.

[18] To obtain the "fair-trade" label products need to comply with a series of criteria, which include: (i) paying a fair wage for the local context, (ii) offering employees opportunities for advancement, including investment in local public goods, (iii) providing equal opportunities employment for all people, particularly the most disadvantaged; (iv) engaging in environmentally sustainable practices; (v) being open to public accountability; (vi) building long-term relationships; (vii) providing healthy and safe working conditions within the local context; (viii) providing technical and financial

In the paper by Becchetti and Rosati (2003), the consumers' willingness to pay a higher price depends not only on the 'ethical' qualities embedded in the product, but also on other factors such as the habits, the distance from the closest shops and of course other characteristics of the good.

To account for these empirical results, Becchetti et al. (2004) and Becchetti et al. (2005) develop a model of CSR as horizontal differentiation strategy, in which the traditional unit segment measures consumers' tastes about CSR instead of geographical distance. Thus, consumers are homogenous but differ in their CSR preferences, which are equally distributed over an 'ethical' segment, going from 0 to 1.

Every consumer has his/her preferred positions and bears a cost from moving from its optimal position to another. The choice of horizontal differentiation is justified because values and preferences, according to them, are very heterogeneous across individuals, and this heterogeneity violates the fundamental element of vertical differentiation, which is that more of a given feature of the product (i.e. CSR) is better for everyone.

However, there is one important difference with a traditional framework of horizontal differentiation. In fact, in the model it is assumed that the consumer bears additional costs only when it has to move 'on the left' on the ethical segment in relation to their preferred location (i.e. has to choose a product with a lower 'ethical').

In so doing, the authors seem to combine the standard features of horizontal differentiation model with a vertical-differentiation element, which is to assume that consumers care only for a downward deviation from their preferred location.

In the two papers considered, CSR is modelled either as an exogenously fixed transfer s - where $s \in [0,1]$ - to producers in the South of the world in addition to the monopsony wage (Becchetti et al., 2004), or as paying a portion $a$ - where $a \in [0,1]$ - of a premium s over the cost $w$ of an intermediate output: $w(1+as)$ (Becchetti et al., 2005). A similar mark-up with respect to the original cost $w$ does not need to be a market failure per se, but it could be a bottom-up solution to specific market failures.

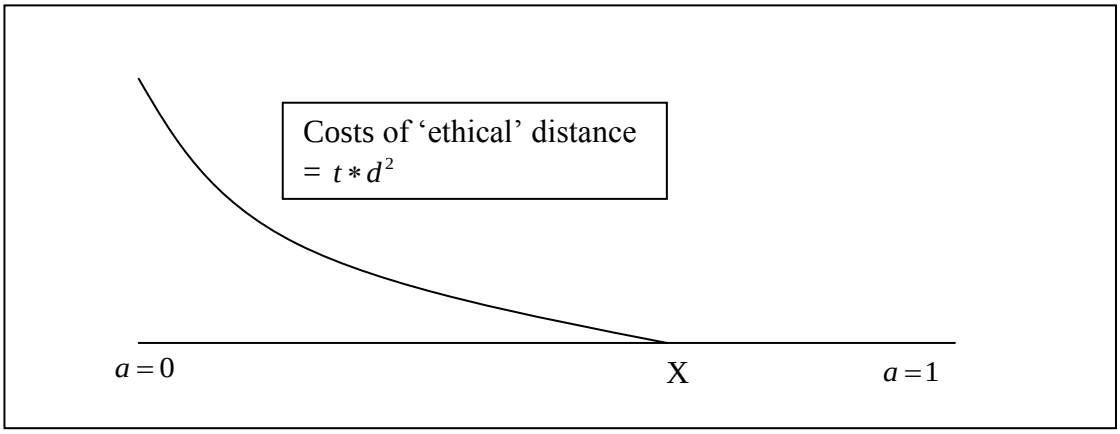
assistance (price stabilization insurance services and anticipated financing arrangements which reduce financial constraints) to producers whenever possible.

This is true for example if the market is a monopsony, in which case *w* will be below the marginal value of the intermediate product. This often happens in the developing world where companies are often monopolistic or oligopolistic buyers of raw material products from subcontractors.

These two ways of modelling CSR are in fact the same: in both CSR is a wealth transfer from shareholders to stakeholders. This can take the form of a transfer to the south 'on behalf' of altruistic stakeholders (which reveal their preferences paying a higher price for the good sold by the firm) or by paying a higher rent to workers and subcontractors.

On the demand side, consumers have inelastic, unit demands, with heterogeneous preferences for social responsibility. Therefore, they are uniformly distributed on the segment [0,1]. These have been represented in Figure 2.1.

**Figure 2.1. Consumers' utility function and 'ethical' distance**




*Source: derived from Becchetti et al. (2005)*

According to this framework, the price which a consumer is willing to pay for the product depends on the distance from his/her preferred location on the ethical segment. From this perspective, CSR can be thought as the introduction in the market of a new variety of a product which improves the utility of consumers who have 'socially responsible' preferences.

In light of this, consumers' utilities will be decreasing in the price of the product, as well as in the distance between the consumer's preferred "ethical" location

and the actual location of the product. From this one can derive the following formulas for the consumers' reservation price ($R_p$):

$$\begin{cases} P_A + d\left(x-a\right)^2 = R_p \text{ if } x-a \geq 0 \\ P_A = R_p \text{ if } x-a < 0 \end{cases} \tag{0.1}$$

In Becchetti et al. (2004) the authors analyse the case in which there is a Profit-Maximizing Producer (PMP) monopolist in the market, which transforms raw materials received from unskilled producers from the South of the world paid at a monopsony wage *w*, which faces the challenge of the entry of a 'fair-trader' zero-profit producer (FT). Therefore, the zero-profit condition for the entrant will be: $P_B = w\left(1+\bar{s}\right)$.

The paper analyses three different scenarios: (i) the PMP can compete only on the price because its ethical location is fixed (ii) the PMP can react both on the level of the price and on the ethical location; and finally (iii) the FT wants to maximize overall transfers from the 'industry' to the South rather than its own transfer only.

In the first scenario, the FT will place himself exactly at $s=\bar{s}$. If the condition for a non-zero market share for the FT is verified - $t\left(x-a\right)^2 > P_B - P_A$ - then the incumbent's market share will be: $x^* = \sqrt{\frac{P_B - P_A}{t}} + a$. Clearly, the incumbent's market share decreases less than proportionally in the price gap and increases less than proportionally in the costs of ethical distance perceived by consumers.[19]

After the fair trader has entered the market, the incumbent maximises:

$$\underset{P_A}{Max}\,\pi = \left(P_A - w\right)\sqrt{\frac{w\left(1+\bar{s}\right)-P_A}{t}} \tag{0.2}$$

which yields an unique solution:

$$P_A^* = w\left(1+\frac{2\bar{s}}{3}\right) \tag{0.3}$$

In conclusion, the incumbent's price is increasing in the FT's transfer to south.

However, from equation (0.2) it can be shown that the incumbent finds it optimal to reduce its price after the FT's entry. Therefore, his optimal price is between

[19] The less-than proportional result depends on the assumption of quadratic costs of ethical distance.

his zero-profit price and the FT's zero-profit price. The incumbent divides the distance between these two prices in two parts: one (the largest) is his margin - which is smaller than in monopoly - and the other (the smallest) is the extent of the price cut.[20]

In the second case, the incumbent can react to the FT entry by choosing both optimal price and location on the "ethical" segment. Therefore, he can decide to transfer a positive amount *a*, where $a \in [0,1]$ of the FT's transfer, in order to move rightwards on the "ethical" segment. Now the equilibrium will shift from one with maximum ethical differentiation to another with partial ethical imitation by the PMP, at least when consumers' marginal costs of ethical distance are higher enough than producers' cost of ethical imitation.

From an analytical point of view, the profit maximization problem for the PMP becomes:

$$\underset{(P_A,a)}{Max}\,\pi = \left[P_A - w\left(1+a\bar{s}\right)\right]\left[\sqrt{\frac{P_B - P_A}{t}} + a\right] \tag{0.4}$$

which gives the following solution for the price:[21]

$$P_A^* = P_B - \frac{\left(\bar{s}w\right)^2}{4t} \tag{0.5}$$

and for the ethical location:

[20] With quadratic costs of ethical distance, PMP market share is $\sqrt{\frac{\bar{s}w}{3t}}$. Hence, with FT exogenous location ($s=\bar{s}=1$) and $t<1/3$ conditions for entry do not materialize and the PMP maintains all the market.

[21] As the authors say, it is interesting to note that the PMP optimum price in equilibrium increases in consumers' costs of ethical distance (t), an apparently counterintuitive result which however is evident from the PMP price reaction function derived from the F.O.Cs. The effect of FT location on PMP optimal price is ambiguous: on the one side more ethical FT location raises $P_B$ allowing the PMP to compete with higher prices, on the other hand it raises costs of ethical imitation, thereby reducing one source of PMP price increase.

$$a^* = \frac{1}{2} - \frac{3\bar{s}w}{8t} \text{ for } t > \left(\frac{3\bar{s}w}{4}\right)$$
$$a^* = 0 \text{ for } t < \left(\frac{3\bar{s}w}{4}\right) \quad (0.6)$$

Hence $t = \left(\frac{3\bar{s}w}{4}\right)$ is the threshold of consumers' costs of ethical distance which triggers PMP imitation.

Finally, the paper presents the simultaneous game between the PMP and FT, in which the FT location is not given. If the FT wants to maximize its own transfers to the South, it will choose the maximum s on the ethical segment (*s=1*). However, the authors show that if the FT that wants to maximize the global transfer to the South – i.e. the sum of its transfer and the one of the PMP – it will not choose *s=1* in order to trigger the maximum imitation by the PMP.

In fact, total transfers are increasing in PMP 'ethical imitation', therefore the FT will find it convenient to elicit PMP imitation and, for this reason, he will find it optimal to locate himself further left in order to reduce PMP's costs of imitation.

In conclusion, there seem to be, in the words of the authors, a "*trade-off between radicalism and effectiveness of social responsibility*" (Becchetti et al., 2004 pag. X). This has many interesting implications for the real world. In particular, where CSR is purely a differentiation strategy, firms seem to care only about their own "ethical reputation", and in these cases they could find it optimal to be seen as a great social contributor rather than cooperating with other firms to achieve the maximum social benefit for the society as a whole.

In a following paper (Becchetti et al., 2005) the authors attempt to relax the assumption that consumers' preferences are exogenous, by introducing a law of motion in the 'ethical' preferences of the consumers.

The objective is to take into account again the empirical evidence from the paper by Becchetti and Rosati, 2004 that habit persistence reinforces the CSR preferences of consumers and that the consumers' willingness to pay for a product is related to the persistence of their 'ethical' shopping habits (i.e. the more people buy

'ethical' products, the more they become aware of the problem, and thus their willingness to pay increases).

In their model there is a profit-maximizing monopolist in a horizontal differentiation framework. Consumers are different in their preference for CSR and their preferences are determined by a law of motion. According to this law of motion, consumers' marginal cost of ethical distance depreciates through time at a fixed rate, but increases in relation to the monopolist's commitment to CSR, weighted for its market share. The idea behind this law of notion is that, the more the monopolist invests in CSR, the more the consumers will be aware of the issue and will be willing to pay a higher price.

Without going into much detail into the analytical solutions of the model, the main intuition is that the monopolist has an incentive to reduce its engagement in CSR in order to avoid reinforcing consumers "ethical" shopping habits through time.

The only exception is when the difference between the consumers' reservation price and the monopolist's production costs is sufficiently high that the costs of CSR can be entirely transferred on the consumer.

Needless to say, the main driver of this paper's "perverse" results in terms of the engagement in CSR by the monopolist is the fact that it is the monopolist itself which influences the "ethical" preferences of the consumers. The result would be much different if the monopolist would be "habits-taker", in the sense that it cannot influence directly the "ethical" preferences of the consumers; however these still increase over time due to the increased CSR awareness.

Other models of CSR as differentiation strategy have been developed with the objective to find a solution to the problem of asymmetry of information. This problem of asymmetric information arises because CSR is a 'credence' good (Manasakis, Mitrokostas and Petrakis, 2007), which means that consumers' willingness to pay is determined by their beliefs over the ethical attributes of a product, but that they cannot infer anything about these attributes from simply buying it, or consuming it. As a consequence, a time-consistency problem arises: the firms have no incentive to comply with their promises once the consumers believe them, the consumers

anticipate this incentive and do not pay the higher price for allegedly ethical products. As a result, firms will not undertake any CSR.[22]

We will now analyse in details the contributions by Manasakis, Mitrokostas and Petrakis (2007) and Mitrokostas and Petrakis (2007). Both papers start from a similar setup: the market consist of two firms, denoted by: $i, j = 1,2, i \neq j$, each of which produces one brand of a differentiated good.

On the demand side, there is a *unit mass* of consumers composed by individuals who are homogeneous with respect to the physical characteristics of goods but heterogeneous in their "ethical" preferences (i.e. their valuation of the level of CSR embedded in the good).

The utility function of the θ-type consumer, following Häckner (2000), is given by:

$$U = \left(a + \theta s_i\right) x_i\left(\theta\right) + \left(a + \theta s_j\right) x_j\left(\theta\right) - \left[\frac{x_i^2\left(\theta\right) + x_j^2\left(\theta\right) + 2\gamma x_i\left(\theta\right) x_j\left(\theta\right)}{2+m}\right] \quad (0.7)$$

where $x_i\left(\theta\right)$ - for *i*=1,2 - represent the quantity of good *i* bought by a consumer of type $\theta$ and *m* is the respective quantity of the "composite good".

The parameter $\gamma \in \left[0,1\right]$ is a measure of the degree of substitutability among goods, while $s_i \geq 0$ represents the CSR effort by the firm *i*.

Finally, the parameter $\theta$ represent the level of "social consciousness" of the consumers, and it stands for the increase in the θ-type consumer's willingness to pay for the firm *i*'s good per unit of CSR effort undertaken by the firm. The authors assume that $\theta$ is distributed according to a cumulative distribution function $F\left(\theta\right)$ with density function $f\left(\theta\right)$, where $\theta \in \left[0,1\right]$.

Maximizing the utility in the formula (0.7) with respect to $x_i\left(\theta\right), i = 1,2$, gives us the inverse demand functions for a θ-type consumer:

$$p_i = a + \theta s_i - x_i\left(\theta\right) - \gamma x_j\left(\theta\right), \quad i = 1,2 \quad (0.8)$$

[22] This theoretical problem has a great empirical relevance: in fact, it is quite common to hear news from companies claiming to undertake certain CSR practices, which then proved not to be true.

where the price of the composite good has been normalized to unity.

After some algebraic passages, the authors obtain the firm *i*'s aggregate demand function:

$$p_i\left(q_i, s_i\right) = a + \bar{\theta} s_i - q_i - \gamma q_j \tag{0.9}$$

where $\bar{\theta}$ is the average-type of consumer.[23]

The firm's total costs are given by $C_i\left(q_i, s_i\right) = c\left(1 + s_i^2\right) q_i$, implying that there is an increasing negative impact of CSR effort on the unit production costs (i.e. the costs of CSR are marginally increasing).

Firm's I profits can be expressed as:

$$\Pi_i = \left(a + \bar{\theta} s_i - q_i - \gamma q_i\right) q_i - c\left(1 + s_i^2\right) q_i \tag{0.10}$$

from which it is evident that CSR increase both consumers' valuation of the product (and thus their willingness to pay for it) and the firm's costs.

At this point the problem of the asymmetric information becomes crucial. In fact, if the firms are not able to credibly commit to maintain their CSR promises, consumers will not believe their promises and will not pay the extra price.

If the firms cannot credibly commit to their CSR promises, the market outcomes coincide to the standard *Cournot* game, where the equilibrium output, price and profits are, respectively:

$$q^C = \frac{a - c}{2 + \gamma}; \quad p^C = \frac{a + (1 + \gamma) c}{2 + \gamma}; \quad \pi^C = \frac{(a - c)^2}{(2 + \gamma)^2} \tag{0.11}$$

while total welfare will be given by $TW^C = \left(q^C\right)(3 + \gamma)$.

This result is used in the paper as a benchmark to evaluate the equilibria in which a firm is able to credibly commit to undertake a certain level of CSR.

The problem of asymmetry of information is then addressed in different ways in the two aforementioned papers.

[23] The average type of consumer in the population is given by $\bar{\theta} = \int_0^1 \theta f\left(\theta\right) d\theta$

Mitrokostas and Petrakis (2007) introduce a "CSR-certification", which can be either self certification or a global one, in which the firms will bear the costs of the certification and of inspection to show the consumers that they do not cheat on their promises.

Contrarily, Manasakis, Mitrokostas and Petrakis (2007) introduce a market for manager: the owner of the firm has to choose whether to hire a manager committed to CSR (*type 1*) or one that is not (*type 2*). In the first case, the firms is signalling to the market that it is committed to CSR, while the manager itself would have no incentives to cheat on its CSR promises because there is a market for managers in which its capacity to perform on CSR is rewarded by higher wages.[24]

Let's look first at the case of self-certification. This implies that firms use labels on the products or publish reports about their CSR activities, at no additional costs.[25] The game is a two-stage game in which the firms first decide whether to engage in CSR activities or not, and in the second they compete à la Cournot in the market.

The reaction function of the firm *i* becomes:

$$q_i = R_i^{SR}\left(q_j\right) = \frac{a - c - \gamma q_j}{2} + \frac{\bar{\theta} s_i - c s_i^2}{2} \tag{0.12}$$

Clearly there are two opposing effects on the firm's output: on the one hand CSR increases the demand for the firm's product and thus increases the quantity sold in equilibrium. On the one other it also increases the unitary costs, which in turns reduces the level of the output in equilibrium (when $s_i < \frac{\bar{\theta}}{c}$). Cross-substituting the reaction functions of the two firms (the two firms are symmetric), the authors obtain the following expression for the equilibrium output:

$$q_i^{SR}\left(s_i, s_j\right) = \frac{a\left(2-\gamma\right) + \bar{\theta}\left(2s_i - \gamma s_j\right) - c\left[2\left(1+s_i^2\right) - \gamma\left(1+s_j^2\right)\right]}{4-\gamma^2} \tag{0.13}$$

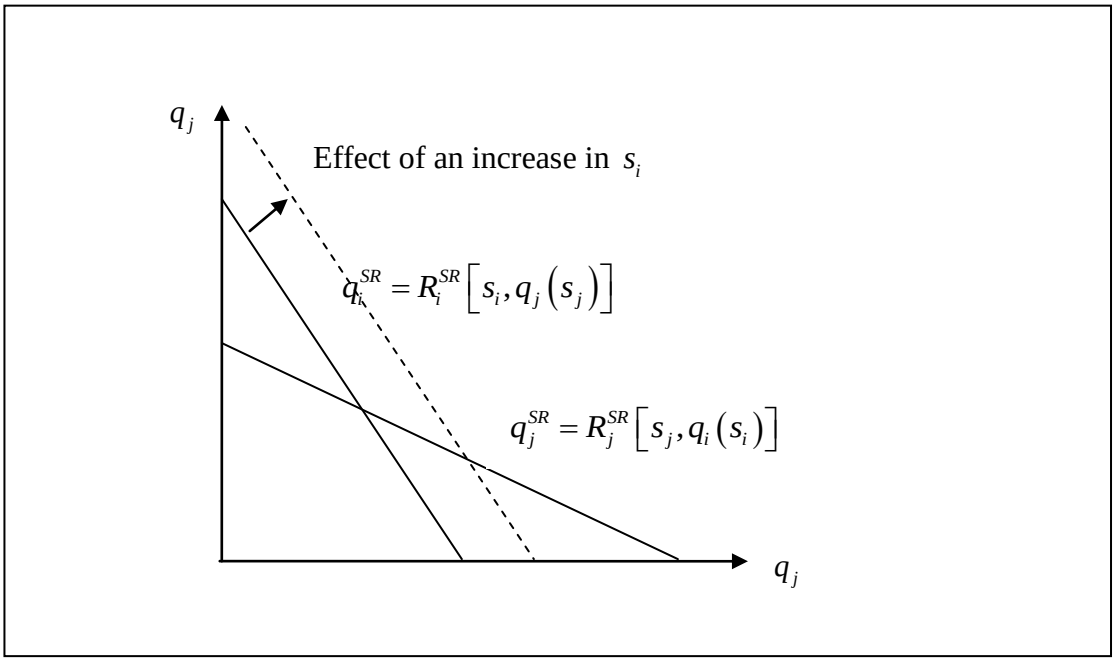
[24] The setup is one of strategic managerial delegation, in which each manager is committed to his type.

[25] The authors consider the cost of this type of information as negligible, following Baksi and Bose (2006).

From this expression it is evident that the equilibrium output increases in $s_i$, which is the level of the engagement in CSR of the firm, and decreases in $s_j$, which is the other firm's level of engagement.

This is a direct consequence of the strategic substitutability of decision variables in a *Cournot*-type of competition: when a firm increases its output as a result of its engagement in CSR, the optimal reaction by the other firm is to reduce the output. This strategic substitutability is represented in Figure 2.1. below.

**Figure 2.2. The strategic substitutability of decision variables**




*Source: author's own re-elaboration from Mitrokostas and Petrakis (2007)*

In the first stage of the game each firm chooses to maximize profits, which implies setting $\frac{\partial q_i^{SR}(.)}{\partial s_i} = 0$. Due to the symmetry between firms, the level of CSR in equilibrium is:

$$s_i^{SR} = s_j^{SR} = \frac{\bar{\theta}}{2c} > 0 \qquad (0.14)$$

which increases in the level of "social consciousness" of the average consumer $\left(\bar{\theta}\right)$ and decreases the larger is *c*. A higher level of *c* can be interpreted as a more inefficient 'production technology' of CSR.

The main result from the paper is that in equilibrium both firms decide to engage in CSR activities - setting a positive level of CSR effort $0 < s_i < \frac{\bar{\theta}}{c}$ - and by doing so they end up obtaining higher equilibrium profits with respect to the benchmark case. In fact, *s* is within these thresholds, the firm's profits are an increasing function of *s* (see equation (0.10)).

Furthermore, since CSR is the optimal response of both firms, they will both end up undertaking a positive level of CSR.[26] This result of 'universal CSR' in equilibrium is a key one, since it implies that when firms are identical, 'ethical imitation' is complete.

The equilibrium values for output, price and profits is:

$$q^{SR} = \frac{a-c}{2+\gamma} + \frac{\bar{\theta}^2}{4c\left(2+\gamma\right)}, \quad p^{SR} = \frac{a+c\left(1+\gamma\right)}{2+\gamma} + \frac{\bar{\theta}^2\left(3+\gamma\right)}{4c\left(2+\gamma\right)}$$
$$\Pi^{SR} = \left[\frac{a-c}{2+\gamma} + \frac{\bar{\theta}^2}{4c\left(2+\gamma\right)}\right]^2 \tag{0.15}$$

while total welfare is defined as: $TW = CS_{net}^{SR} + 2\Pi^{SR}$.

Therefore, an important implication of the paper is that, in equilibrium, if $\bar{\theta} > 0$ then $q^{SR} > q^{C}$ always holds and also $\Pi^{SR} > \Pi^{C}$ holds. Finally, also $TW^{SR} > TW^{C}$ always holds, since the positive effect of increased profits and consumer's surplus on total welfare dominates the negative effect of increased costs.

In conclusion, the introduction of CSR is a Pareto-improvement with respect to the non-CSR equilibrium.

[26] Moreover, since selecting zero CSR is not an equilibrium choice, the optimal response to a competitor that sets zero CSR is a positive CSR effort.

The case of self-certification can be considered as the benchmark for an equilibrium in which firms engage in CSR, because there are no additional costs attached to the practice of CSR.

However, it can be argued that companies could also cheat also on the information they put in the brochures, or simply that in certain instances there might not be an appropriate system for disclosing credible information.

In this light of this, the authors introduce the possibility that the regulator introduces a standard for CSR and provides a certification to the firms which comply with it. This of course would be credible information about the CSR efforts of a firm.

However, the firms will have to bear a fixed cost for monitoring *M*, while it is assumed that the probability that one if caught cheating is almost one. In this case, the model is slightly more complicated, but the main conclusions remain the same.

The game is a three-stage game in which in the first stage the regulator fixes a standard for CSR $s^R$; in the second, given this standard, both firms decide whether or not to engage in CSR activities; and finally in the last stage they compete in the market *à la Cournot*.

This formulation of the problem introduces a welfare-maximization issue: in fact the regulator could choose to set a standard in the first stage of the game to maximize total welfare. The profits will now be equal to:

$$\Pi_i\left(S^R\right)=\left(\frac{a-c}{2+\gamma}\right)^2+\frac{s^R\left(\bar{\theta}-cs^R\right)}{\left(2+\gamma\right)^2}\left[2\left(a-c\right)+s^R\left(\bar{\theta}-cs^R\right)\right]-M \qquad (0.16)$$

This implies that firms will undertake CSR only if their profitability is higher compared to the benchmark without CSR. Solving for *s*, the authors found the firms' participation constraint. This is given by:

$$s_{pc}^R \le \frac{\sqrt{4c\left(a-c\right)+\bar{\theta}^2-4c\sqrt{\left(a-c\right)^2+M\left(2+\gamma\right)^2}}}{2c} \qquad (0.17)$$

This participation constraint is more demanding than that of the equilibrium with self-certification.[27] However the authors demonstrate that, when this

[27] The authors show that $s_{pc}^R \le \frac{\bar{\theta}}{c}$ for every $\bar{\theta}, M > 0$.

participation constraint is met, then firms will undertake a higher CSR effort compared to their optimal choice under no regulation.

In the first stage of the game, the regulator will set the standard to the level which maximizes total welfare, given by $TW^R = CS^R_{net}\left(s^R\right) + 2\Pi_i\left(s^R\right)$.

The regulator will therefore solve the f.o.c. to obtain the unconstrained minimum effort $s^{R*}$. If this is lower than the level of CSR compatible with the participation constraint, $s^R_{pc}$, then it will set $s^{R*}$ as the standard and both firm will participate. If it's higher then no firm will participate and introducing the standard would be useless, so the regulator will prefer to set $s^R_{pc}$ as the standard. In conclusion, the standard will be set at a level of CSR equal to:

$$s^R = \min\left[s^{R*}, s^R_{pc}\right] \tag{0.18}$$

The same results for the output, profits, consumer surplus and total welfare that were found in the self-certification case also hold in this case, provided that the participation-constraint level of CSR is met.

While there are some limitations in this analysis due to the adoption of specific functional forms, the authors claim that these results will hold under more general demand and cost functions, since it is the nature of the equilibrium that drives the results and not the functional forms adopted (Mitrokostas and Petrakis, 2007, p.15).

In the other aforementioned paper (Manasakis, Mitrokostas, Evangelios, 2007), the problem of asymmetric information is solved by introducing a market for managers. This reflects the fact that large corporations often hire managers with a strong "ethical" reputation and accompany the announcement with a detailed report of their CSR background, with the clear intent of giving a market signal of the firm's future intent in the field of CSR.

In the model, there are two types of managers $\tau_1, \tau_2 > 0$, whose utility functions are the following:

$$M_i\left(\tau_i\right) = \Pi_i + \tau_i \frac{s_i^2}{2} q_i \tag{0.19}$$

In this, the additional utility from CSR (coming from the reputational incentive) increases, at an increasing rate, with the level of CSR activities per unit of output produced by the firms.[28]

The contract is a 'take it or leave it' type of contract, which is incentive compatible since the manager is made residual claimant of the net revenues of the firm, once it has paid to the owner a franchise equal to $\Pi_i$.

The game is a two-stage game: in the first stage the owner chooses the type of manager; in the second, the firms compete in the market *à la Cournot*. Without going into too much detail in the paper, since it works in an analogous way as Manasakis, Petrakis (2007), we will mention the most important results.

Firstly, there will be an endogenously emerging equilibrium in which both firms undertake a CSR effort equal to $s_i^{CSR} = \frac{\bar{\theta}}{2c - \tau_i}$.[29]

Secondly, even in the asymmetric case in which in the market there are a socially responsible and a profit-maximizing firm, the SR firm will have higher outputs, prices and profits in the equilibrium. Therefore, the manager of the profit-maximizing firm will have an incentive to deviate from the original strategy and to introduce CSR practices.

Finally, CSR is welfare-enhancing with respect to the non-CSR scenario, as the positive effects on output, profits and consumer surplus dominate the negative of increased costs.

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[28] It can be argued of this is true, since reputation is often based on a few very successful CSR projects rather than a large number of those. However the claim of the authors is that their results are not driven by the functional forms used.

[29] In the equilibrium the CSR effort falls within the range in which the quantities are increasing in CSR. From the reaction functions of the firms which are not showed here, this is true for $s_i < \frac{2\bar{\theta}}{2c - \tau_i}$, $c > \frac{\tau_i}{2}$, while output is a decreasing function of the CSR effort when $s_i > \frac{2\bar{\theta}}{2c - \tau_i}$.

The intuition behind the result in the equilibrium, where $c > \frac{\tau_i}{2}$ always holds, is that the manager prefers to increase CSR up to a level when also the output is increased, since in that range both terms in its objective function are increased (the utility from CSR activities and the firm's profits) and there is no trade-off between them.

### 2.1.2. CSR as the private provision of local public goods

CSR has been also modelled as the provision of public goods by private firms. The main motivation to undertake CSR from the firm's perspective is still to gain a competitive advantage in the markets over other firms. However, the underlying cause of this is the consumers' demand for a certain public good rather than en ethical preference, as it was in the case of CSR as a differentiation strategy.

There are two key implications from this difference. First of all, CSR is not merely a "wealth transfer", as it was in the product-differentiation case, but it is related directly to the specific needs and demands of the consumers. Secondly, this type of approach allows us to identify the synergies between the goods and services produced by a firm and the specific CSR practices which it undertakes. This is an important element of CSR which was identified in the first chapter of the thesis.

In this section we will present the papers by Bagnoli and Watts (2003) and Besley and Gathak (2006).

In the paper by Bagnoli and Watts (2003), firms compete in the consumers' market by linking the provision of a public good to each sale of their private good. Since consumers achieve a higher utility by buying from the firm that also provides the public good, they will have a higher willingness to pay for the private good. The possible asymmetry of information between the firms and the consumers is not considered by the authors.

The competition in the market is between the firms that choose to link the sales of the private good to the private provision of the public good (*l-version* of the private good) and the other which do not (*nl-version*).

Another important distinction is between the cases where the linkage between the private and the public good is explicit (i.e. one unit of the public good is provided for each unit of the private good sold)[30] or implicit (i.e. there is no direct linkage between the amount of public good provided and the unit sold).

[30] An example for that could be a pharmaceutical firm that decided to provide wheelchairs once a certain number of sales for their products is reached

To simplify the model, the authors assume that when the provision of the public and the public good is linked, then one unit of the public good is provided for each unit of the private good purchased by the consumer.

Thus we will have the following consumers' utility functions for each unit x of the private good:

$$U(x,y,Y,i)=\begin{Bmatrix} I+b(i,Y) & \text{if } x=0 \\ I+\rho(i)+n(i)+b(i,Y) & \text{if } x=1 \text{ unit of the l-version} \\ I+n(i)+b_i(i,Y) & \text{if } x=1 \text{ unit of the nl-version} \end{Bmatrix} \quad (0.20)$$

where $b(i,Y)$ is a monetary measure of the value to consumer *i* of having *Y* units of the public good (with marginal utility positive and decreasing); $n(i)$ is a monetary measure of the value to this consumer from buying the *nl-version* of the private good and $\rho(i)$ is a monetary value of the value to this consumer from participating in the provision of the public good by buying an additional unit of the private good linked to it.[31]

Consumes are distributed over the continuum [0,1] and they buy - if they buy at all - only one unit of the private good. Therefore *i* is also the quantity of the good.

This particular form of the utility function implies that not all the consumers have to buy the good, while all of the consumers benefit from the local public good provided, since $\rho(i)>0$.[32]

Since the number of consumers is infinite, in equilibrium there will be complete free riding and no provision of the public good (Samuelson, 1954), However, the equilibrium would be a different if there are a finite number of consumers in which each one perceives himself as strategic player.

[31] This captures the idea of a "warm-glow" utility (Andreoni, 1989, 1990), whereby the consumer has a utility gain from participating to the provision of a social good. However this component does not vary with the total amount of the public good provided, in which case there would an additional force pushing towards the efficient provision of the public good and thus reducing the problem of underprovision.

[32] This assumption puts us in the vertical differentiation framework, since for every consumer "more" CSR is better than "less" CSR.

We will now go slightly more in depth in analysing the model. Consumers are labelled with a parameter *i* between 0 and 1 and $n_i = a - i$, implying that the overall willingness of the consumers to pay both for the *l-version* and the *nl-version* of the good is decreasing in the label.

Also the willingness to pay for the *l-version* of the good is decreasing in the consumer's label [0,1], so that $\rho_i = \gamma - \delta(i)$. The authors assume that $a + \gamma > a(1+\delta)$ to ensure that every consumer is willing to pay a - as small as possible - premium for the *l-version* of the private good. This implies that all consumers are to some extent "socially responsible". This assumption puts us into the framework of vertical differentiation, in which all consumers, everything else being equal, prefer a higher quality than a lower one.[33]

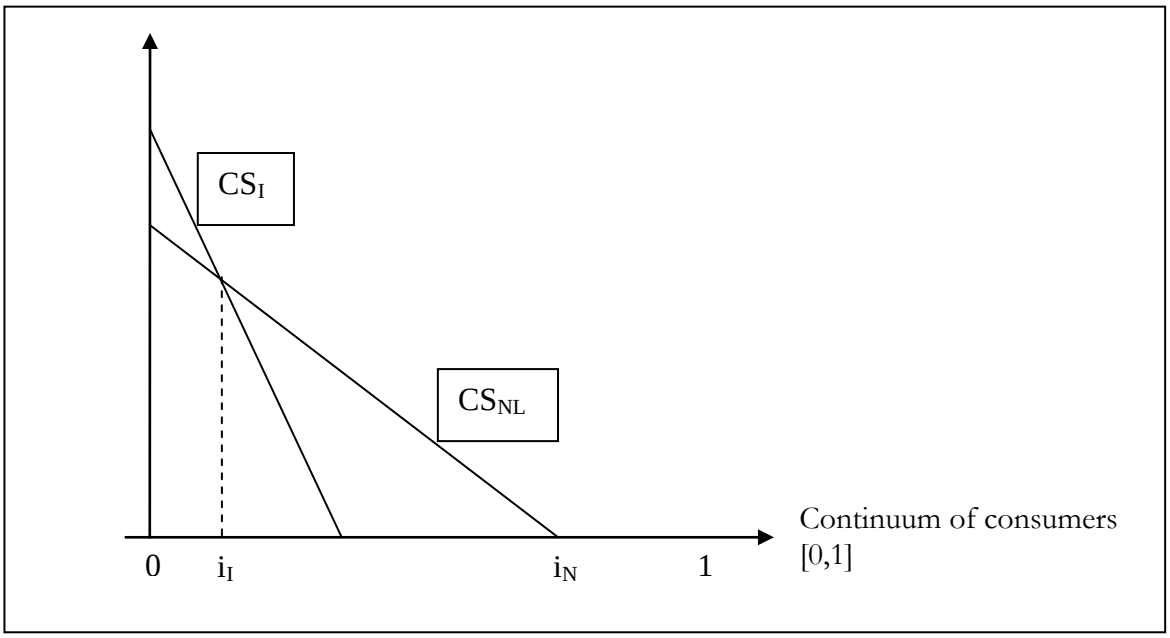
An important note is that in the consumer's willingness to pay for the private and public good are linked. This is a crucial assumption: if they were not linked then the benefits from linking the production of the two would be reduced for the firm and thus the amount of the public good provided would be lower (i.e. there would be less CSR in equilibrium).

To analyze the predictions of the model, the authors focus on the case where both the *l-version* and *nl-versions* are sold in equilibrium. This condition implies the existence of a consumer $i_1$ which is indifferent between buying the two versions of the good. For this consumer, the condition $P_l - \rho_i = P_{nl}$ has to hold. In addition, there are some consumers that buy neither good; thus there has to be a consumer $i_N$, for which $P_n - n_i = 0$.

The CS functions drawn in the following figure are the Consumer Surplus associated to each consumer.

[33] Not every author share this opinion, as we shall see later on.

**Figure 2.3. The equilibrium level of CSR**




*Source: Bagnoli and Watts (2003)*

The demand function for the *l-version* is:

$$Q_i\left(p_I, p_N\right) = i_I\left(p_I, p_N\right) = \frac{1}{\delta}\left(\gamma - p_I + p_N\right) \qquad (0.21)$$

and the demand function for the *nl-version* is:

$$Q_N\left(p_I, p_N\right) = i_N\left(p_I, p_N\right) - i_I\left(p_I, p_N\right) = \frac{1}{\delta}\left[-\gamma + \delta a + p_I - \left(1-\delta\right) p_N\right] \qquad (0.22)$$

The first scenario analyzed is when firms explicitly link the amount of the public good provided to the amount of the private good purchased by the consumers, which could be referred to as the *wheel-chair* case.[34]

There is a constant marginal cost of producing the *nl-version* of the private good $c_n$ and a marginal cost of producing the public good, $c_\rho$, so that the marginal

[34] In the study on CSR in Trinidad & Tobago I conducted for UNDP a company in the distribution sector had put into place a programme in which it bought a wheel-chair free to a charitable institution every certain amount of products sold. This is a clear way of linking CSR with the amount of private good sold. Another interesting example is the "green" credit card recently introduced by Barclays into the market, which allows you to give a 1% of the amount spent to NGOs working with the environment.

cost for a firm that explicitly links the public to the private good will be $c_n + c_\rho$.[35] Firms first choose the product version and then the price to charge.

The main results of the paper concern the number of firms (*N*) and the equilibrium quantity of the public good. When firms compete *à la Bertrand*, if *N=1* there will be a monopoly selling the type of product that allows to earn greater profits; if *N=2* each version of the product is made by one firm, charging the monopoly price; if *N=3*, then one firm sells one version at the monopoly price and the other two sell the other version with price equal to marginal costs and finally, if *N≥4*, there will be at least two firms producing each version, which will be sold at a price equal to the marginal cost.

In equilibrium there will be some production of the public good but less than the social optimum, in which the marginal cost equals the sum of the marginal benefits for all the individuals.

The reason is that firms can capture at most the consumers' willingness to participate to the provision of the public good, $\rho(i)$, but not the value of the public good itself, $b(i,Y)$, which is common among all consumers. This intuition is always true when there is free entry in the market and there are more than 4 firms.

Another interesting result is that in the cases in which there is inefficient production of the *nl-version* of the private good (e.g. in the monopoly case), there will be a larger provision of the public good since the *nl-version* is sold at a price that exceeds its marginal cost. This result is consistent with the predictions by McWilliams and Siegel (2002) presented in the first chapter.

In some cases this could even lead to an excessive provision of the public good. In fact, the increase in sales of the *l-version,* which follows from the monopoly pricing of the other good, is disconnected from the value of the public good itself, because the public good is provided by the monopolist with the sole intention of "luring" the consumers which express a demand for it. In these cases, a trade-off between a more efficient provision of the private good (i.e. increased level of competition in the

[35] To ensure that at least some consumers will buy the good the authors assume that $a + \gamma > c_n + c_\rho$ and $a > c_{n'}$. To ensure that marginal costs are small enough so that consumers' willingness to pay for either version exceeds its marginal cost.

market) and the provision of the public good may arise. This result seems to be in line with Baumol (1989), which claimed that increased competition in the market will reduce firms' [or the firm's] ability to provide CSR.

When firms compete *à la Cournot*, there might be an equilibrium in which only one version of the good is sold. In particular, only the *nl-version* (*l-version*) of the good will be sold when $\rho(i)$ is relatively small (large) and $c_\rho$ is relatively large (small).

The *l-version* is sold at a price which is always higher than the marginal cost (different from the *Bertrand* case) but the main conclusions remain valid: when there are enough firms active in the market there will be some, but too little, provision of the public good in the equilibrium. With free entry, the equilibrium will converge to the *Bertrand* case with N≥4.

When there are fewer firms in the market, the result of excessive provision of the public good is more frequent than in the *Bertrand* equilibrium: in fact, when firms compete *à la Cournot* the price in the equilibrium is still relatively high with the respect to the marginal costs so demand will shift towards the *l-version* of the good.[36]

One conclusion from this argument is that that limitation of entry can actually improve private provision of the public good, if it reduces the overall efficiency in the production of the private good [is this a condition for the conclusion – in which case get rid of 'also' and keep in 'if'; if it is an additional conclusion keep 'also' get rid of 'if'].

The provision of the public good in the equilibrium depends positively on $\gamma$ and negatively on $\delta$ and $c_\rho$, which all reflect the relative preference of consumers for the *l-version* of the good over the *nl-version*. As previously mentioned, it does not depend on the common benefits derived from the public good $b(i,Y)$, which the firms are not able to capture.

[36] In particular, the authors highlight some conditions for which the amount of the public good provided uner Bertrand competition exceeds the amount provided under Cournt In particular, this occurs when there is a small number of firm active in the market, and other conditions ensuring that the price of the nl-version of the good is high relative to the l-version (in comparison to the difference under Bertrand competition)

To summarize, one key result of the paper is that, under certain conditions,[37] a less competitive environment, such as the *Cournot* competition, results in greater provision of the public good than a more competitive environment (like the *Bertrand* competition).

The intuition which drives this result is that in the *Cournot* case the equilibrium price of the firms not engaging in CSR is higher, which leads to a larger shift of the consumers to the ones which engaged in CSR.

Another implication is that entry, even though it leads to a decrease in the equilibrium price of the private non-SR firms, will also lead to a reduction in the provision of the public good and to an increase in the provision of the private good by the non-SR firms.

Again, both these results seem to confirm the intuition by Baumol (1991), which argued that the engagement in CSR by firms depends inversely on the level of competition in the market.

The second scenario considers the case when the provision of the public good is not linked directly to the sale of the private good. In this case the costs of CSR are fixed, meaning they are independent on the amount of the private good sold.

To simplify the analysis, the authors assume that the cost of the private good is also fixed. Since this is a fixed cost, the amount of the public good will now only depend on the number of firms selling the *l-version* and not on the quantity sold of the *l-version* of the good. Therefore, the authors only concentrate on the equilibrium with free entry.

In the competition à la *Bertrand*, the result of the under-provision of the public good with respect to the social optimum remains.[38] The same is true for the *Cournot* competition, with firms producing at a level of the price equal to marginal cost.

Similarly as when the public and private good were linked, with free entry we will have that less of the public good is provided in the *Bertrand* case than in the *Cournot*. In fact, in the former case there will be fewer firms selling the n*l-version* of

[37] These are N4 but small, $\gamma - c_\rho$ small, $\delta$ and $a - c_n$ large

[38] It has to be highlighted that in presence of fixed costs pure-strategy equilibria are no longer possible.

the good, which on the one hand shifts some of the consumers' demand to the *l-version* and on the other it leads some consumers to forgo purchasing of the private good.

The provision of the public good depends positively on $\gamma$ and negatively on $\delta$ and $F_\rho$, and again does not depend on the common benefits from the public good $b(i,Y)$, which the firms are not able to capture.[39] The key difference with respect to the explicit linkage case is that, while before more of the public good was provided when more of the private good was sold, now more of the public good is provided when more firms enter the market. However, the result of under provision of the public good with free entry in the market will hold in both cases.

The second model of CSR as private provision of public goods (or, in this case, also curtailment of public 'bads') which we consider in this section was the model developed by Besley and Ghatak (2007).

This model also allows us to analyse some of the key issues in the analysis of CSR. These are:

i. the effects of increasing competition on the level of CSR (Baumol, 1991, claimed increasing competition will reduce the level of CSR);
ii. whether undertaking CSR actually increases profits (this is related to Friedman's critique but also to McWilliams and Siegel (2002) statement that in equilibrium there will be both SR and non-SR firms, which will achieve the same level of profits); and finally
iii. the implications of CSR in terms of social welfare (i.e. whether CSR allows us to achieve a higher provision of the public good than what could happen is this was provided by the government or a non-profit organization).

[39] An interesting compendium of this is that, since the firms can capture only the willingness of the consumers to participate to the provision of the public good but not the common benefit from it, unless the public goods for which participation value is high are also those that generate the largest increase in social welfare, private provision of public goods will tend not to provide the most socially valuable goods. More in general, firms will be inclined to link popular public goods to their private goods, because it is for this kind of goods that consumers are more likely to value participation.

The structure of the model is simple: there are N potential consumers and two private goods, one of which is not produced and serves as *numeraire*. The other goods need to be produced, and their level is denoted by *x*, while the level of the public good is denoted by *g*.

One group, *n,* of consumers (n≤N) value the public good, and they have a valuation function, $f(g)$, which is increasing and strictly concave. These consumers are referred to as "caring", while the rest of the population (N-n) is "neutral".

The utility function of a representative consumer is:

$$V_i = b - p + \gamma_i(g) \tag{0.23}$$

where $\gamma_i \in \{0,1\}$ is the consumer's valuation for the public good: $\gamma_i = 0$ if the consumer is *neutral* and $\gamma_i = 1$ if he's *caring*.

Different to the model analysed previously, the consumer's utility function does not include any "warm glow" component (cf. Andreoni, 1989), from which consumers derive additional utility by the mere fact of contributing to the production of the public good.[40] In light of this, we would expect the problem of the underprovision of the public good to be stronger in this case.

There are *S>3* producers which can produce each unit of the private good at a cost of $c + \alpha\theta$, where θ, with $\theta \geq 0$, is the amount of public good they commit to providing alongside the private good. Each producer has the capacity to serve the entire market.

When the firms compete *à la Bertrand*, the unique competition is characterized by two pairs of price and public good contributions, $(p_n^*, \theta_n^*)$ and $(p_c^*, \theta_c^*)$, the first for the neutral consumer and the second for the caring consumer, such that::

$$\begin{aligned} p_n^* &= c \quad \text{and} \quad \theta_n^* = 0 \\ p_c^* &= c + \alpha\theta_c^* \quad \text{and} \quad f'(n\theta_c^*) = \alpha \end{aligned} \tag{0.24}$$

[40] However, as shown later in the paper, adding warm glow utility in the form of $V_i(p,\theta,g) = b - p + \gamma_i[f(g) + v(\theta)]$ will leave the result unchanged in term of the underprovision of the public good with respect to the social optimum. However the self-selection constraint for caring consumers will be reinforced and the public provision will be higher in equilibrium.

The proof of this is straightforward. First of all, since there are consumers which do not value the public good, if $\theta_n^* > 0$ then another firm could offer a slightly lower $\theta_n^*$ and a slightly lower price for the private good and thereby attract all the *neutral* consumers. Secondly, all caring consumers will be offered the same package $\left(p_c^*, \theta_c^*\right)$. In fact, if someone were offered a different package $\left(p_c^*, \theta_c^*\right)$ where $\left(p_c^{'} \neq p_c^{'}\right)$ and $\left(\theta_c^{'} \neq \theta_c^*\right)$ then, supposing that $\left(p_c^{'} > p_c^*\right)$ for the zero-profit condition, it has to be true that $\left(\theta_c^{'} > \theta_c^*\right)$.

Consumers have to receive the same payoff from the two packages; otherwise one of the firms would attract both types of consumers. But, due to the public good nature of the public good, the utility that consumers receive from it depends on total provision and not on how much an individual personally contributes, then the utility that they derive from the $\left(\theta_c^*\right)$ has to be the same for each consumer, and thus a difference in $\left(p_c^*\right)$ would not be justified.

Finally, the level of the public good offered has to respect the equation $f'\left(n\theta_c^*\right) = \alpha$ because the firm's payoff increases in $\theta$ until that level is reached. For the symmetry of the cost structure of firms, this condition has to hold for all the firms in the market.

To summarize, in equilibrium there will be two types of firms: the "neutral" firms producing at price equal marginal cost and not producing any of the public good, and the 'caring' firms which contribute to the public good and charge a higher price accordingly.

Importantly, none of the consumers will have an incentive to deviate and buy the other package. While this is trivial for the neutral good, the self-selection constraint also holds for caring consumers. If these consumers switched to the neutral good, they would save $\alpha\theta_c^*$ but would also have a loss in utility of $f\left(n\theta_c^*\right) - f\left(n\theta_c^* - \theta_c^*\right)$, due to the reduction in the public good provided equal to the

per capita contribution of each consumers. Since the utility function is strictly concave: $\frac{f\left(n\theta_c^*\right)-f\left(n\theta_c^*-\theta_c^*\right)}{\theta_c^*}>\alpha=f'\left(n\theta_c^*\right)$.[41]

Looking at the welfare implications, while there is no adverse effect on the 'neutral' consumers - which can still get the no-CSR package at the marginal cost - the introduction of CSR makes the 'caring' consumers better-off. Therefore, the introduction of CSR is a Pareto-improvement with respect to the situation where only non-CSR products are provided.

The level of the public good provided in equilibrium will be lower than the social optimum – when marginal cost equal the sum of marginal benefits: $nf'\left(n\theta_c^{\max}\right)=\alpha$ - because the consumers do not internalize the positive externalities on other "caring" consumers arising them purchasing the 'ethical' good. The result is similar to the one from the paper by Bagnoli and Watts (2003); however here it is even more accentuated due to the absence of a "warm-glow" component in the utility functions.

Finally, the author consider whether, from a social welfare perspective, there is a difference between providing the public good via CSR and buying the private good for the firm at its marginal cost and giving the extra-money to a local charity which will provide the public good.

The paper shows that when the private and the public good are naturally bundled, the level of production of the public good in equilibrium will be higher when it is provided via CSR. Therefore, there will be a Pareto-improvement with respect to the giving the money to local charities.

This is a crucial point, addressing the second of Friedman's critiques of CSR, which is that CSR could be justified when the level of the social benefits which can be obtained by the firm is higher than what would be achieved summing up the private contributions of all the shareholders, using the profits redistributed by the firm (which would not need to withhold them to undertake CSR).

[41] With a concave utility function the marginal utility is decreasing, so around the equilibrium point I have that $\frac{f\left(\theta_c^*\right)}{\theta_c^*}>f'\left(n\theta_c^*\right)$

The counterfactual of this result can be found in a paper by Kotchen (2006) which, analysing the issue of green markets and the private provision of public goods, concluded that when in the provision of the "bundled good" (i.e. the good which contains the private and the public good) there are no positive externalities between them (e.g. technological advantages) then the level of provision of the public good will remain at the same level than when people were voluntarily contributing to it. We will come back on this crucial point later in the chapter.

The authors also analyze the effects of introducing a standard for CSR, and then progressively increasing the level of CSR required by the standard. The authors find that an increase in the level of the standard from $\theta_c^*$ to $\bar{\theta}_c$ , even though it would make every "caring" consumers better off, might still not be enough to reach the socially-optimum level in the provision of the public good, i.e. $nf'\left(n\theta_c^{\max}\right)=\alpha$ unless the marginal utility diminishes very fast.[42]

In addition, a very high standard is difficult to sustain in the standard market equilibrium since firms will have an incentive to undercut this level – combining it with a lower price for the private good – which will attract the "caring" consumers due to the concavity of the utility function. A drawback is that a high standard might induce the "neutral" consumers to not buy at all, because of the increase in price.

So, the positive effect of increasing the CSR standard on the level of social welfare is true only so long as the lobbying allows the market is split between "ethical" firms and "neutral" firms. In this case in fact lobbying for higher CSR standard would increase overall welfare - since it is only the highest valuation consumers which determine this equilibrium - but if it targets all firms, like a uniform regulation for example, it might result in the firms stopping to produce the "neutral" version of the good and thus decrease the overall level of welfare.

Another interesting result from the paper regards the effect of an increased provision of the public good by the government, which will crowd-out the competitive provision of CSR. CSR will not occur at all of the surplus-maximizing level of the public good is provided. This result is driven by the consideration that if $\bar{G}$ is the

[42] For the explanation of that see the paper by Besley and Gathek (2006)

exogenously given level of the public good, then the equilibrium under CSR will solve $f'\left(n\theta_c^* + \bar{G}\right) = \alpha$, and thus an increase in $\bar{G}$ will lead to a decrease in the provision of the public good via CSR. This result is also true in case of charitable provision of public goods.

This conclusion raises some questions on the effectiveness – or even desirability - of CSR, which seems to be linked to the type of public good which needs to be provided.

Given what has been previously said on the "natural bundling" between private and public goods, CSR seems to be certainly justified when the public good is bundled with the private one, or when government intervention would be excluded by the nature of the public good (in particular it would not be justified for a government to provide a local public good which affects only certain communities, in which case CSR would be a better candidate in order to deal with those).

However, there are other cases in which it might be justified, which is when there is an inability of Government itself to achieve first-best allocation. According to the authors, this is mainly related to the Government's inefficiencies

The three possible sources of government failure are:

(i) the possibility that the marginal cost of providing the public good is higher for the government $\left(\alpha_g > \alpha\right)$, as it is when the firm has more expertise to modify slightly the production process in order to achieve such goals ore there are some intrinsic jointness between the private and public good production process;

(ii) if the government has different distributional preferences, in particular with respect to caring vs. neutral consumers[43], but also general vs. local communities; and finally

(iii) when there is government opportunism, which is when government officials can consume tax revenues raised for public goods.[44]

[43] In particular, it is easy to show that if the government chooses the policy preferred by the majority of citizens, then it will pick the zero provision of the public good if the majority are the neutral consumers, while it will choose an excessive provision if the majority are caring, arising by the fact that neutral consumers are forced to pay taxes which the caring consumers do not internalize. Differently from the uniform regulation, where there was a redistribution but the same total surplus, here the total surplus could be lower or higher.

When these inefficiencies occur, then CSR is a Pareto-improvement for the consumers. In particular, while it is true that the power to tax gives the Government an intrinsic advantage over CSR, it is also true that government may fail to respond to the wishes of minorities that have strong preferences, in which case CSR may be a useful complement, in which case CSR can be a useful complement to government intervention.

### 2.1.3. CSR as labour market screening

Starting from the consideration that morally motivated individuals behave more cooperatively that predicted by the standard theory, Breeke and Nyborg (2004) analyse the case of CSR as a screening device to attract morally motivated employees – which are also the more productive. From this perspective, CSR is a differentiation strategy on the labour market which allows the firm to reduce moral hazard problems like shirking and increasing the overall labour productivity.

The link between morally motivated agents and higher productivity comes from the assumption that cooperative behaviour in various situations originates from a common underlying principle of ethics. Therefore, firms could aim to attract the most productive workers by offering high levels of CSR rather than higher wages.[45]

The empirical evidence used in the paper comes from a study by Frank (2003), which found that many individuals prefer their employer to be socially responsible and may be prepared to pay a substantial premium to achieve this goal. Through an interview survey allowing to rate the social responsible image of each employer, he found that, controlling for sex, curriculum and academic performance, the jobs rated as less socially responsible earned a substantial higher wage.

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[44] In this case the key parameter is the measure of transparency of the government, which means the likelihood that a government is caught cheating, A higher value of this parameter will reduce the risk of government opportunism, and thus it will reduce the increase in the marginal cost of public provision which is linked to it. The authors highlight that this parameter might be very low in issues such as foreign aid and foreign policy, which could lead the consumers to support CSR initiatives such as fair trade to support the developing world rather then relying on the state to do so out of taxation. On the contrary, it other issues such as building/maintaining bridges and highways it is doubtful that CSR has much of an advantage.

[45] From this perspective, the argument can be linked to the standard signalling and screening models.

The model proposed by the authors is quite complicated, and for the purposes of this literature review I will only highlight the main intuitions.

On the production side, firms can choose either to be "green" - in which case they will pay a fixed cost $(\tau_1 = 1)$ for CSR, or "brown" - where they will not pay a fixed cost $(\tau_1 = 0)$.

In the economy there are *N* workers with identical utility functions:

$$U_i = u(x_i, E, e_i) + S_i \tag{0.25}$$

where $x_i$ is individual's private consumption measured in monetary terms; $E$ is a pure public good, such as for example environmental quality; $e_i$ is a measure of the effort the individual exerts at work; while $S_i$ is a measure of the benefits derived from having an image as a SR individual.[46]

The utility increases in $x_i$, $E$ and $S_i$,and decreases in $e_i$. For simplicity, the authors assume the additive reparability of the latter variable, such that workers first choose in which firm to work and then decide how much to work.[47]

Firms are characterized by team production with unobservable - or at least unverifiable - individual effort, and individual wages are equal for all workers within a given firm. The individual's budget constrain is given by:

$$x_i = w(\tau_i) \tag{0.26}$$

where $\tau_i$ is the CSR profile of the company where the individual *i* decides to work.

The utility function depends on the self-image, which in turns depends on the welfare consequences of if "everybody acted like me":[48]

$$S_i = a_i\left(\tilde{V}(e_i, \tau_i)\right)^{49} \tag{0.27}$$

[46] I could think at that as a sort of "warm-glow" utility à la Andreoni (1989).

[47] However this assumption seems quite unrealistic, since in the real world workers choose how much to work depending on the satisfaction from a given job, and this element may influence their decisions in terms of their preferred work.

[48] The authors claim that this is consistent with widely accepted ethical theories such as in the Bible or in Immanuel Kant.

The production function, $y_h = f(L_h)$, where $L_h$ is effective labour input in firm *h*. This depends on the number of employees in the firm and their effort, in the following way:

$$L_h = N_h(1+\mu\bar{e}_h) \tag{0.28}$$

where $\bar{e}^h$ is a measure of the average effort level among the firm's workers, $e_i$ which can be regarded as the "unpaid" contribution to the firms' productivity as workers' salary is fixed,[50] and $\mu > 0$ is a parameter that determines the impact of effort on effective labour.

All firms have the same production technology, and can then decide whether to install some abatement equipment and stop polluting, or to continue polluting.[51]

The firm's cost curve will include labour costs, abatement costs (A) and a fixed cost F of production:

$$y_h = N_h W_h + F + \tau_h A \tag{0.29}$$

The worker's wage in equilibrium must equal total production value per worker, after subtraction of the fixed cost:

$$W_h = \frac{\left[ f\left(N_h(1+\mu\bar{e}_h)\right) - F - \tau_h A \right]}{N_h} \tag{0.30}$$

While firms take the equilibrium wage for each type of worker as exogenous, they also acknowledge that it can be different for "green" and "brown" firms, reflecting differences in the marginal productivity of workers.

Assuming zero profits in the long run equilibrium, wages are set at:

$$w(\tau_h) = f'\left(L(\tau_h)\right)(1+\mu\bar{e}_h) \tag{0.31}$$

where $L(\tau_h)$ - the effective labour input for a firm of type *h* - is fixed and independent of workers' efforts.

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[49] With this formulation individuals' benefit from "being moral" does not affect their assessment of what is in fact morally right. This allows to avoid the discussion present in the economic literature as to whether "altruistic benefits" should be counted in social welfare calculations.

[50] This individual effort is unobservable, so the firm cannot differentiate wages according to individual efforts and consequently faces a moral hazard problem.

[51] This is a quite strong assumption, since firms in the real world can decide to reduce their pollution but usually don't stop to pollute completely.

Since all the workers consider average effort, wage levels and environmental quality (the public good $E$) to be exogenous, they do not believe that their own behaviour can have a perceptible effect on these variables.

The optimal level of effort of a morally motivated worker is the level where the marginal benefits of effort, reflected in a better self-image, is equal to the marginal disutility of effort.[52]

As long as $\frac{\partial \tilde{V}(e_i, \tau_i)}{\partial e_i} > 0$, individuals with strong moral motivation (higher $a_i$) receive a higher marginal compensation - again in terms of improved self-image - than the others for their efforts and, under reasonable assumptions,[53] they will exert more effort.

Thus, morally motivated workers will choose $e_i > 0$, thus alleviating the moral hazard problems in team production.

However, if a worker is employed by a "brown" firm, the increased total production will be accompanied by a reduced environmental quality, which will yield lower self-image benefits for the worker.

The crucial point is that, *if wages were equal in both firm types, some fraction of the workers would strictly prefer to work for "green" firms*, while the rest will be indifferent.[54]

From a mathematical point of view, the wage differential that can be sustained between a "brown" and a "green" firm is equal to: $W(0) - W(1) \leq \phi(a_i)$. This implies that workers with sufficiently high $a_i$ will prefer to work for a "green" firm even if it pays lower wages.

[52] An important comment is that the worker in fact stops short of reaching the ideal moral best, which is the hypothetical social welfare if everybody acted like him. See the paper for clarifications. discussion.

[53] This is necessary due to the presence both income and substitution effects.

[54] Despite the fact that they are mathematically the same, I prefer this formulation rather than the workers will accept lower wages for working in a green firm, which implies that there is a substantial willingness to pay by workers for working in green firms. In fact, the formulation I used above seems to be more realistic to be assessed empirically.

However, since workers' effort also increases in $a_i$ ; a firm may actually be able to use their "green" profile, combined with a relatively *low* wage as a screening device to attract more productive workers.

Another conclusion from this paper is that an equilibrium in which there are both "green" and "brown" firms will exist if the difference in wages between the two firms is such that at least one worker *m* prefers to work in the "green" or one worker *m+1* prefers to work in the "brown".

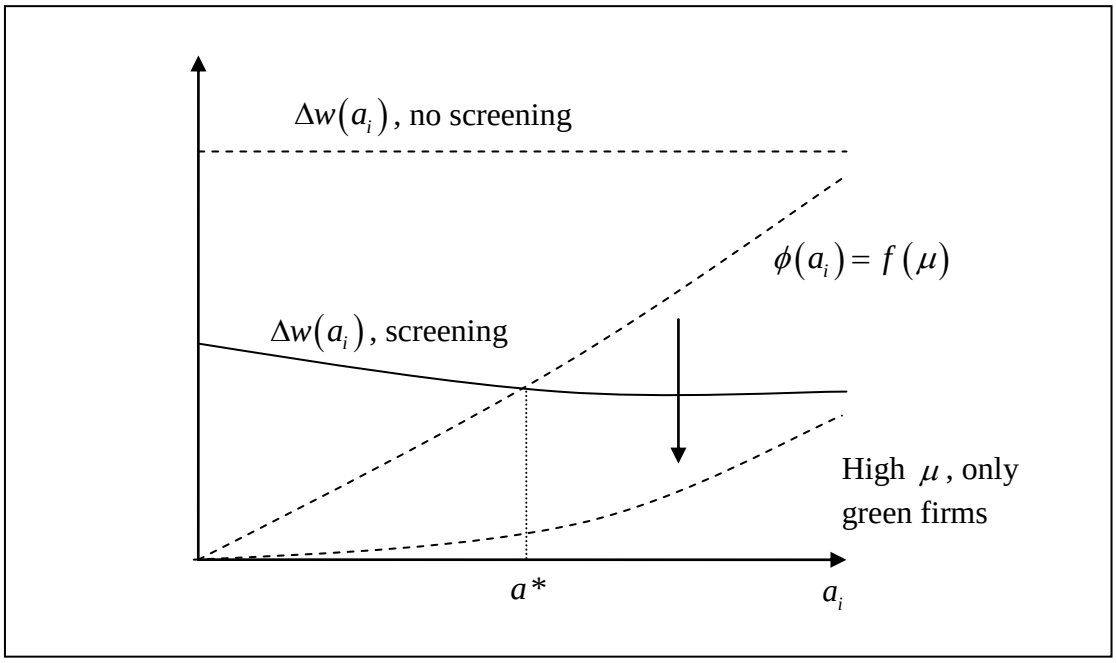
Formally, defining $\Delta w(a)$ as the maximum wage difference (i.e. the maximum *extra wage* a brown firm is able to offer with respect to the "green" for a given $\alpha$ ), the condition can be written as:

$$\phi(a_{m+1}) \geq \Delta w(a_m) \geq \phi(a_m) \tag{0.32}$$

If such a worker does not exist, then the equilibrium will be a pooling equilibrium with only green or brown firms. In addition, the authors show that without screening, the existence of any wage differential between "brown" and "green" firms would determine that there will be no "green" firm in equilibrium.

On the contrary, if the technology for abatement is cheap, screening will outweighs the costs of abatement and "brown" firms will be driven out of business. In fact, should a "brown" firm enter the market, it would only recruit the very least motivated workers, and will not be able to survive.

**Figure 2.4. Wage differentials and willingness to pay in screening vs. no screening; high vs. low values of $\mu$**




Source: Brekke and Nyborg (2004)

Another conclusion from the paper is that, even if there will be more pollution abatement than in a traditional model, the result of an undersupply of public goods in equilibrium still holds.

In fact, as the public good approaches the socially optimum level, the marginal self-image improvement of contributing decreases, while the individual cost does not. Therefore, in the words of the authors, the "workers fall short" of providing that level of effort that would lead to the socially optimum level of pollution abatement.

Finally, with respect to the introduction of policy measures such as a green tax, the authors show that its effect may depend on how the workers perceive the tax.

If it is perceived to be too low, it will not affect the moral motivation of employees (see also Garella, 2007). On the other hand, if it is perceived to be a correctly-set Pigouvian tax, which fully internalizes the external effects, then there will be no need for the workers to take any individual responsibility for the firm's pollution.

Therefore, since now both firms will be seen as equally socially beneficial, the green tax will completely crowd out workers' moral motivation.

This again confirms the existence of a trade-off between provision of a public good via public intervention and private intervention via CSR, on which we will come back to later.

### 2.2.4. The political economy of CSR: CSR and lobby groups

As seen in Chapter 1 of the thesis, one of the main arguments to explain firms' engagement in CSR is that CSR allows firms to circumvent the threat of increasing Government regulation. The main driver of Government's intervention is the increasing demands coming from the civil society and other activist groups (See Baron, 2001 and Rowe, 2004).

The key point of this type of approach to CSR is that firms undertake CSR to pre-empt Government's intervention and hence avoid incurring losses to the increased level of regulation. This is different to the cases seen before in which CSR was used as a strategy to increase the firms' profits.

Even though it does not increase the level of the profits, CSR is still a profit-maximizing strategy which comes from the presence of a demand for an "ethical" behaviour from some of the stakeholders (i.e. the civil society). From this perspective, this type of approach also falls under the category of CSR as a differentiation strategy.

The paper by Baron (2001) moves from the idea that there is a group of activists which seek to change to production practices of a firm for the purpose of redistribution to those whose interests the group supports.

The strategy of the activist group is that either the firm accepts to redistribute, or the activist group will boycott the firm. In that latter case, there is a positive probability in which the boycott will succeed and the firm will have to pay a settlement – which is higher than what the activists would have accepted in the first instance; otherwise the firm will fail.

The settlement reflects a general claim that when firms do not meet the expectations of the society with regard to their social performance, they will be faced with government action.

Baron identifies some key elements which contribute to increasing the effort made by the activists and thus the probability of success of the boycott, which in turn will make it more likely for the firm to accept the initial demand by the activist and voluntarily provide the social good.

Another interesting issue that the paper addresses is the effect of increased competition in the market on the probability of success of a boycott. The authors show that, when a boycott is threatened only against one company of a certain industry, the more competitive the market, the higher the possibility for the boycott to be successful. In fact, if this is the case, the threat of the activist will be more effective and the company will have a strong incentive to pre-empt it.

This result is of particular interest since it goes against the traditional claim that the more competitive is the market, the less firms will engage in CSR (Baumol, 1991).

We will now analyse in more detail the paper by Maxwell, Lyon and Hackett (2000), which addresses the issue of the voluntary reduction of pollution emissions. The main idea behind the paper is that, when political "entry" is costly for consumers, firms can deter it through voluntary restraints, in such a way as to pre-empt government regulations.

The model is a three-stage game: at the first stage, there are two symmetric firms which have to choose the level of abatement; at the second, the consumers, depending on their satisfaction with the chosen level of abatement, decide whether or not to enter into the policy arena to influence government's legislation; and finally in the last stage, firms compete on the market *à la Cournot*. As usual, the game is solved by backward induction.

There are $N_f$ identical firms, and consumers cannot observe the emission of one individual firm but can observe the aggregate level of environmental damage.[55]

[55] This assumption implies that, differently from Baron (2001), it will not be possible to boycott a single firm, but the only possibility will be to lobby for a common regulation that applies to all firms.

Firms' costs include the costs of government regulation (i.e. the mandatory level of emission reduction, $Z_m$) and the costs of self-regulation (i.e. the voluntary abatement choose by the firm $Z_v$). These costs have all the same functional form.

The firms' maximization problem is given by:

$$\max_{q_i}\left[P\left(Q_{-i}+q_i\right)-c\left(Z\right)\right]q_i-k\left(Z\right) \tag{0.33}$$

Therefore, in the symmetric Cournot-Nash equilibrium, firms will produce a level of the output equal to:

$$q_i^*=\frac{\left[P\left(Q^*\right)-c\left(Z\right)\right]}{P'\left(Q^*\right)} \tag{0.34}$$

where $Q^*=N_f q_i^*$ is the aggregate quantity traded and $P\left(Q^*\right)$ is the market clearing price.

Consumers' utility is a decreasing function of prices and of the level of pollution, and if they are not satisfied with the level of pollution chosen by the firm they will choose to "enter" (paying a fixed cost $f$ which can be seen as an organizational cost) in the political arena and then allocate an amount of resources $M=N_c m$ to lobby for an increase in the mandatory level of pollution abatement.

Firms will also face a similar cost, but without loss of generality this has been normalized to zero. The aggregate resources devoted by firms to political pressure are: $L=N_f l$.

The result of the political entry of the lobby group and the firms will be a mandatory level of abatement, which can be represented by the function $Z_m=\left(M,L\right)$.

Firms will chose the optimal input $l$, to maximize:

$$\pi_n\left(Z_v+Z_m\left[M,L_{-i}+l\right]\right)-l \tag{0.35}$$

Similarly, the consumers will choose the optimal effort $m$ to maximize:

$$U_n\left[P\left(Z\right),D\left(Z\right)\right]-m \tag{0.36}$$

Solving this maximization problem yields the two reaction functions in the "influencing" game. From these functions, it appears that lobbying expenditures are strategic complements.

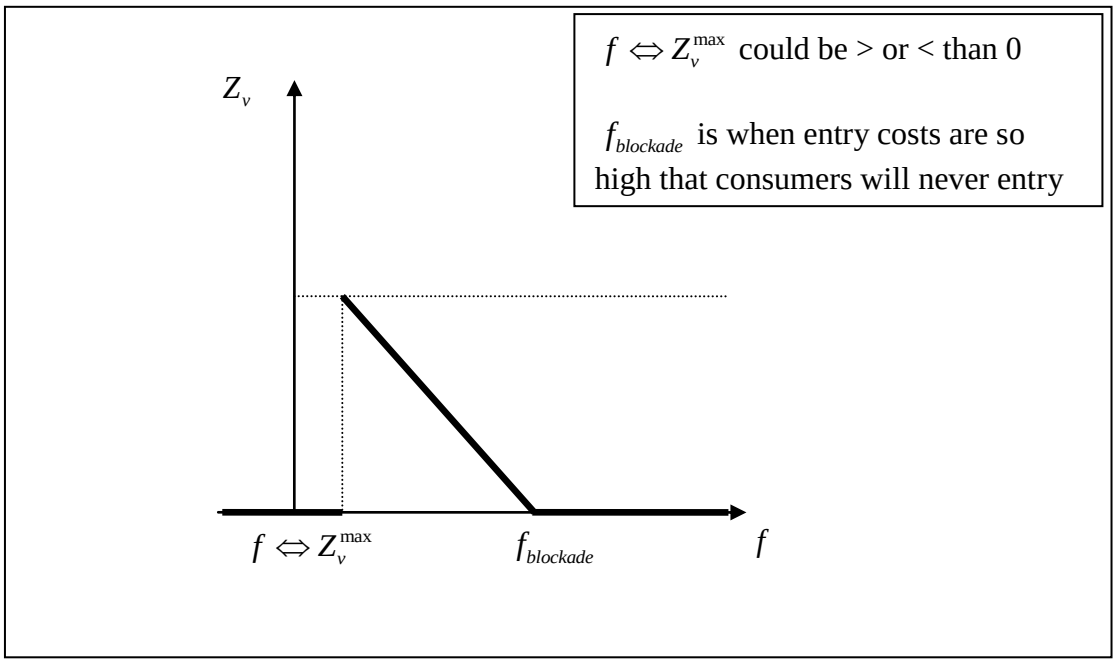
Cross-substituting the reaction functions of the two players, one finds the equilibrium levels of pressure: $l_e(Z_v) \equiv l_e(m_e, Z_V)$ and $m_e(Z_v) \equiv m_e(l_e, Z_V)$.

Since the optimal effort by the firms is an increasing function of the level of voluntary abatement - the reaction function shifts upwards - while the optimal effort by consumers is a decreasing function - the reaction function shifts downwards - self-regulation makes firm "tough" in the influence game, while also making consumers "soft".

Therefore, for a certain range of consumer's fixed costs of organization, a perfectly collusive oligopoly will choose to voluntary abate and thus pre-empt consumer's entry in the political arena.

The intuition behind this result is that political costs of entry drive a wedge between the consumer utility from voluntary and mandatory abatement which make it possible for firm to pre-empt regulation.

**Figure 2.5. Participation Costs and equilibrium**




*Source: Maxwell et al. (2000)*

One limitation of this model is that there needs to be a perfectly collusive equilibrium, otherwise free riding will occur. In fact, the firm's optimal strategy would be to not participate in the influence game as long as the other does. This will determine a reduction of the mandatory level of abatement anyway. In particular, for low-enough values of the fixed costs of entry, it is possible to show that the pre-emption will occur only when firm collude and not when they act in a non-cooperative way.

From this paper it is also not clear how a change in the number of firms in the market will affect this free-riding problem (traditionally we would expect it to be worse when the number of firms increases, because of higher incentives and higher coordination problems).

The main conclusion of the model with respect to the welfare implications is that, even if the "influencing" game will produce a weaker regulation than the socially optimum level (as long as there are more consumers then firms) voluntary abatement improves both consumer welfare and profits beyond what would have existed with no voluntary abatement.[56]

Therefore, with no fixed costs of entry in the political arena, voluntary abatement is always a Pareto-improvement.

Two policy implications can be inferred. The first is that political entry by lobby groups should not be discouraged (but should also not be made too easy, otherwise firms may find pre-emption unprofitable, which would also make consumers worse off); the second is that firms should be allowed to coordinate their voluntary abatement to avoid the emergence of the free-riding problem.

[56] This condition holds provided that the direct effects of voluntary abatement for each group are greater than the strategic effect. For more details see the paper.

## 2.2. Main theoretical challenges

The objective of this section is to summarize the main theoretical challenges in the papers analysed, highlighting which among the several options for modeling CSR seem to be preferable in our opinion.

### 2.2.1 Vertical vs. horizontal differentiation

In the model a demand for CSR comes from different markets. In most cases it is the consumers who exhibit (or at least some of them, in the cases when CSR is seen as horizontal differentiation rather than vertical) a preference for products which embed certain "ethical" qualities, or benefit from the provision of a local public good which is bundled (directly or indirectly) to the private good sold by the firm. In both cases, the consumers are willing to pay a higher price for the private good which presents such characteristics.

In the "CSR as a public good" approach, the consumers might obtain, aside from the direct utility from the public good itself, some additional utility for having contributed to the provision of the public good (i.e. the "warm glow" preferences *à la Andreoni*, 1989), which arises from their altruistic preferences.

Consumers are usually distributed homogeneously over an 'ethical' segment – represented by the continuum [0,1] - according to their preference for CSR (Bagnoli and Watts, 2003; Becchetti et al., 2004; Mitrokostas and Petrakis, 2007). In the model by Besley and Gathak (2007) consumers are either 'caring' or 'neutral'.

The market in equilibrium can be either covered (i.e. all the consumers always buy either the "ethical" or the "unethical" good), or uncovered (i.e. some of them decide not to buy any).

In other models the demand for CSR comes from the workers (Breeke and Nyborg, 2001) whose motivation at work depends on the perceived 'ethicality' of the firm. In this model, as in the public good approach, all workers benefit from the provision of a public good (e.g. flexibility, nicer work environment), or reduction of

public bad (e.g. less pollution), while some of them might also exhibit a "warm glow" component (Andreoni, 1989). In this case they are also distributed over a continuum according to their preferences for CSR.

Finally, the demand for CSR could come from groups of citizens, usually activists forming lobby groups (Baron, 2001; Maxwell et al., 2000). In this case, CSR emerges as an attempt by the firms to pre-empt these groups from organizing themselves and lobbying the Government to introduce additional laws and regulations.

One of the key issues in the models which identify CSR as differentiation strategy on the consumers' market is to determine whether CSR can be better represented by a framework of horizontal or vertical differentiation.

Some authors support the first option, arguing that some empirical studies demonstrate that consumers seem to have their own preferred locus on the "ethical" segment, and, for the same price, do not necessarily prefer to have more CSR than less (Becchetti, Giallonardo and Solferino, 2004).[57]

Others (e.g. Mitrokostas and Petrakis, 2007) are more favorable to using the framework of vertical differentiation (i.e. at the same price, more CSR is better for everyone).[58]

In our opinion, a framework of vertical differentiation should be preferred.

While it is true that each consumer might have his preferred location on the "ethical" segment with respect to individual aspects of CSR (e.g. environmental protection, labor standards, gender issues, etc.), when CSR is considered in an holistic way, it seems unrealistic to assume that there are consumers which, at a given price, would prefer to buy the variety of the good with a lower CSR content.

[57] Using the wording of the authors, "I model CSR with horizontal instead of vertical differentiation because values and social preferences are extremely subjective and heterogeneous across individuals as several empirical papers demonstrate. This heterogeneity violates a fundamental element of vertical product differentiation models in which more of a given product feature is better for everyone" (Becchetti, Giallonardo and Tessitore [2004], pag 2)

[58] It should be noted that also Becchetti, Federico and Solferino (2005) implicitly accept that there is at least one element of vertical differentiation in CSR, since in their paper consumers bear a cost only in case of a downward deviation from their preferred location in term of "ethical" content of the product, and not otherwise.

Therefore, since in most of the models of CSR as differentiation strategy (including the ones that will be developed in the chapters 4 and 5 of this thesis) CSR is considered in an holistic way rather than the sum of many different types of interventions and activities, a framework of vertical differentiation will be adopted.

### 2.2.2. Fixed vs. variable costs

Looking at the supply-side, the number of firms present in the market varies from a monopoly (Becchetti Giallonardo and Tessitore, 2004) to a duopoly (Manasakis and Petrakis, 2007) to a situation in which there is a profit-maximizing monopolist facing the threat of entry by a fair-trader producer (Becchetti, Federico and Solferino, 2005). In the "public good" approach (Bagnoli and Watts, 2003) the number of producers varies from 1 to infinite (i.e. free entry), which allows the authors to draw some conclusions on the effects of increasing competition on the provision of CSR. Also in the labour market screening approach the number of firms is indefinite.

As regards the costs of CSR, this is always seen as an additional cost for the firm. This can be a fixed or a variable cost, constant or quadratic (which implies that the unitary cost of CSR increasing with the level of CSR).[59]

Bagnoli and Watts (2003) consider the case in which the private and the public good might be naturally bundled or there are positive externalities in their production processes. This could explain why a firm which produces both of them can exploit these synergies. However to the best of our knowledge so far no analytical model has been developed to support this conjecture.

The distinction between fixed and variable costs of CSR is particularly important, and it is worth spending a few words on it.

[59] The idea behind this is that the costs of the social good are usually low at the beginning (the first 'unit' of CSR is not expansive, since it addresses what is often referred to as the 'low-hanging fruits') and increase with the level of the good produced, since become harder to tackle more and more far-fetched social issues (Husted and Salazar [2006])

In general, it could be debated whether CSR incurs a cost for the firms at all, since there is a large management literature which claims that the efficiency gains and savings from implementing CSR practices go far beyond the initial costs (Porter and Kramer, 2002).

However, when CSR is a differentiation strategy, these efficiency gains are usually left aside and the authors concentrate on the actual costs of implementing CSR. These have to be positive because they result from the specific actions which a firm has to undertake to be socially responsibly, regardless of the possible future impact that these actions might have on the profits of the firm.

The key element which distinguishes fixed and variable costs is whether undertaking CSR will increase the costs of production of every unit of the firm's output, or it is a fixed cost which is separated from the actual costs of producing the goods/services.

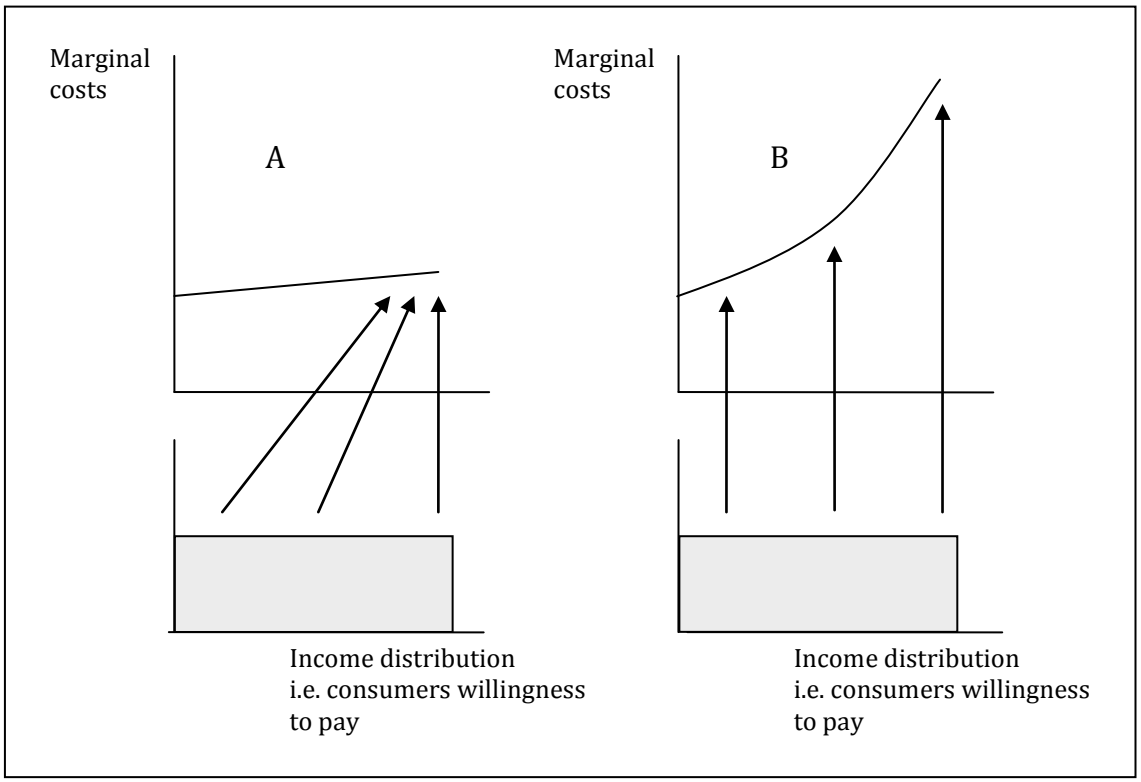
To analyse the importance of choosing between fixed and variable costs of CSR we refer to the paper by Sutton (1991). The crucial element is that, even in a framework of vertical differentiation, if we assume that CSR entails higher variable costs then we will go back to the typical situation of the classical model of horizontal differentiation.

In fact, as Sutton showed, it will always be possible for a new entrant to insert a new product with a different level of CSR between two adjacent products, which will capture a positive market share, by setting price equal to marginal costs (Sutton, 1991).

Conversely, in the case of fixed costs of CSR, once the 'ethical' producer has entered the market, it will not lose market shares due to the entry of a "less-ethical" producer, because the marginal costs of production are the same and the high-quality producer can always replicate the price of the low-quality one.

These two situations are depicted in the following figure (*Figure 2.6*). On the left-hand side there is the case of variable costs of quality, while in the left-hand side the case of fixed costs.

**Figure 2.6. Different implications of Fixed vs. Variable costs**




*Source: Sutton (1991)*

As seen is the first chapter of the thesis, CSR comprises internal and external practices. Internal CSR practices include those activities that deal with the core business of a firm and the workforce (e.g. Human Resources and Health and Safety practices, fulfilling work environment, employee development programs, reduced social and environmental impact). External CSR practices include the social and environmental programs pursued by a firm, whose benefits are perceived outside the firm (e.g. community development, sponsorships, environmental beautification, educational programs, capacity building, supply-chains management).

In a first approximation, one could say that for internal CSR there is a prevalence of variable costs, while for external CSR, fixed outlays would be more important. In fact, internal CSR often implies higher variable costs (for example paying a higher salary, benefits, training, cleaner and safer production methods, etc.). However this is also where most of the potential future efficiency gains might occur.

On the other hand, external CSR, which is more visible to the outside and thus can be more easily exploited by the firm as a differentiation strategy, requires large fixed costs, but no variable costs, as they are not directly linked with the production process.

However, in our opinion, for the purpose of modelling CSR from an economic perspective, it would be better to assume that the costs of CSR can be assimilated to a fixed cost of production.

In fact, even in the case of internal CSR practices, what it seems to matter more is the initial cost in terms of providing the necessary infrastructure, codes of conducts, from which the efficiency gains will then arise, rather than increasing the variable costs such us giving higher wages.

The assumption that CSR entails only fixed costs of production together with the choice of a vertical differentiation immediately puts us in a situation in which, if there is enough willingness to pay by the consumer, there will be at least one firm in the market which undertakes CSR.

### 2.2.3. Asymmetry of information and free-riding

Another theoretical challenge that we will analyze is the issue of asymmetric information. As highlighted in the paper by Manasakis, Mitrokostas and Petrakis (2007), CSR is a "credence" good, which implies the following: once the consumers believe that the firm will undertake a certain level of CSR and are willing to pay a higher price for the product that embed these "ethical" characteristics, the firms have no incentive to comply with their initial promises; therefore the rational consumers will no longer trust the original promises and will not pay the extra price. At the end, the market will reach an equilibrium in which nobody undertakes CSR.

In the literature that we have reviewed, several solutions have been proposed to this problem. These are:

(i) The introduction of a monitoring technology (Besley and Gathek, 2007), where the companies would be willing to pay the costs of monitoring in order to increase the credibility of their promises and avoid the third-best equilibrium;

(ii) The introduction of a market for socially responsible managers sustained by the mechanism of managerial reputation (Manasakis, Mitrokostas and Petrakis, 2007), in which case firms can choose to hire a SR-manager in order to signal their commitment to CSR;

(iii) The introduction by the government of a certification for CSR (Mitrokostas and Petrakis, 2007), whose monitoring costs are paid by the firms. This case works in a similar way as the monitoring technology.

These are only some of the possible alternatives that would mitigate the "lemons" problem. For example, one could think of firms' introduction of codes of conduct or policies such as the one for whistle blowing. By introducing such strict policies firms would "cut their hands" against the possibility of reneging on CSR commitments in the future. At the same time, they would ensure the commitment of employees to firms' policies in terms of CSR, which is important since it is the employees which undertake the daily activities of a firm (Collier and Esteban, 2002).

Finally, the last major challenge that we will mention is the problem of free-riding, and the consequent under-provision of CSR with respect to the socially optimum level.

This problem has been first highlighted by Bagnoli and Watts (2003) and Besley and Gathak (2006), in the context of CSR as private provision of local public goods. According to these authors, CSR is subject to the same free-riding problem as any voluntary contribution to public goods.

In fact, to provide the public good firms have to charge a higher price on their products, however only some of the consumers, who would benefit from the public good, actually pay this higher price. Therefore, these firms do not capture all the common benefits from the provision of the public good and will provide less than

what would be socially optimal.[60] This argument holds even if consumers' preferences exhibit a "warm glow" component (Andreoni, 1989)[61] and can be extended to all models of CSR as differentiation-strategy.[62]

While in the literature some solutions to the problem of asymmetry of information have been found, a convincing solution to the problem of free riding has not yet been found.

## 2.3. Main conclusions and empirical relevance

The objective of this last section is to recap the main conclusions from the papers analyzed, the extent to which these reflect the main empirical findings on the practice of CSR, and to discuss the reasons leading to the main similarities and differences in the conclusions reached by the papers.

In particular, we will analyze the conclusions along the following lines:

(i) whether the equilibrium market configuration in terms of CSR is a *symmetric* one (i.e. either all firms undertake CSR or none of them) or an *asymmetric* one (i.e. some firms undertake CSR and some other do not);

(ii) what are the effects of increasing competition on the level of CSR undertaken by firms;

(iii) what are the welfare implications of CSR and, finally

[60] The socially-optimal level of CSR would be given by the standard Lindahl-Samuelson rule of marginal costs equal to the sum of marginal benefits. For completeness, in the model by Bagnoli and Watts (2003), there are some cases in which there is actually overprovision of the local public good.

[61] A "warm-glow" component means that consumers receive not only the direct utility from the public good, but also an indirect utility from having contributed to it, which comes from altruistic preferences or social status considerations. Besley and Gathak (2006) showed that the presence of this component among some of the consumers, can mitigate the problem of free riding, but not solve it completely, unless it is strong enough to compensate for the free-riding of all the others.

[62] For example, Brekke and Nyborg (2001) show that 'motivated' workers provide less effort than what they would themselves consider morally best. In the authors' words, a worker, despite "stretching towards his conception of morally ideal behaviour, stops short of reaching that ideal" (ibid., p. 12).

(iv) once it has been assessed that CSR is welfare-increasing, what would be the optimal government policies to promote firms' engagement in CSR.

### 2.3.1. Symmetric vs. asymmetric equilibrium configurations;

Considering the approach in which CSR is seen as the "private provision of a public good" (Bagnoli and Watts, 2004; Besley and Gathek, 2007), there is an *asymmetric* equilibrium, with the firms in the market selling two distinct packages in equilibrium: one in which the private good is sold at a lower price and no public good is attached to it and the other in which the private good is sold at a higher price and one unit of the public good is provided by the firm.

On the contrary, the approach followed by Becchetti, Giallonardo and Tessitore (2004) leads to a situation, to which the authors refer as "ethical imitation", in which the optimal strategy for the incumbent - facing the possible entry of a "fair-trader" - is to introduce at least some CSR practices. Therefore, there would still be an *asymmetric* equilibrium but both firms would undertake at least some level of CSR.

Finally, in the papers by Manasakis Mitrokostas and Petrakis (2007) and Mitrokistas and Petrakis (2007), if certain participation constraints for the firms are met, there is a perfectly *symmetric* equilibrium in which both firms will choose the same level of CSR, because undertaking CSR is always the profit maximizing strategy for both.

However, the authors assume that markets are uncovered, and one should take into consideration the different implications of assuming that the markets are covered. In fact, with covered markets it might be optimal for one firm to offer the minimum level of CSR required by law without running into the risk of losing any of the consumers on the left side of the "ethical" segment. This could never happen with uncovered markets (cf. Motta, 2003, analysed in chapter IV of the thesis). If this is true, with covered markets we might go back to a situation in which there is a *symmetric* equilibrium.

In the "CRS as labour market screening" approach both equilibrium configurations (*symmetric* and *asymmetric*) are possible, depending on the level of "ethical motivation" of the workers and the wage differential between the two types ("green" and "brown" of firms).

Finally, looking at the political economy approach, it is important to recall that CSR implies a voluntarily behaviour by the firm, so we can consider an action as CSR if the firms are successful in pre-empting Government's intervention, but it will not be CSR if they introduce CSR *as a consequence* of Government's legislation.

In the paper by Baron (2001) the key element to determine which type of equilibrium will arise is whether lobby groups are able to target only the "bad" firms or they cannot disentangle the "good" from the "bad". If they are able to do so, then the "bad" firms will have to introduce CSR in order to reduce the threat of stricter legislation and there will be a *symmetric* equilibrium with all firms undertaking CSR (even if at different levels); if they are not (i.e. free-riding is possible) then the equilibrium will be a*symmetric* because the "bad" firms will not undertake CSR.

The same idea works in the paper by Maxwell, Lyon and Hackett (2000), when it is not possible for the lobby groups to disentangle the level of negative externalities produced by each firm in the market. Due to this impossibility, lobbying will have to be targeted towards a common legislation for the entire sector. In this case all the firms from that sector –unless free riding is possible - will have to introduce CSR in order to pre-empt Government's intervention.[63]

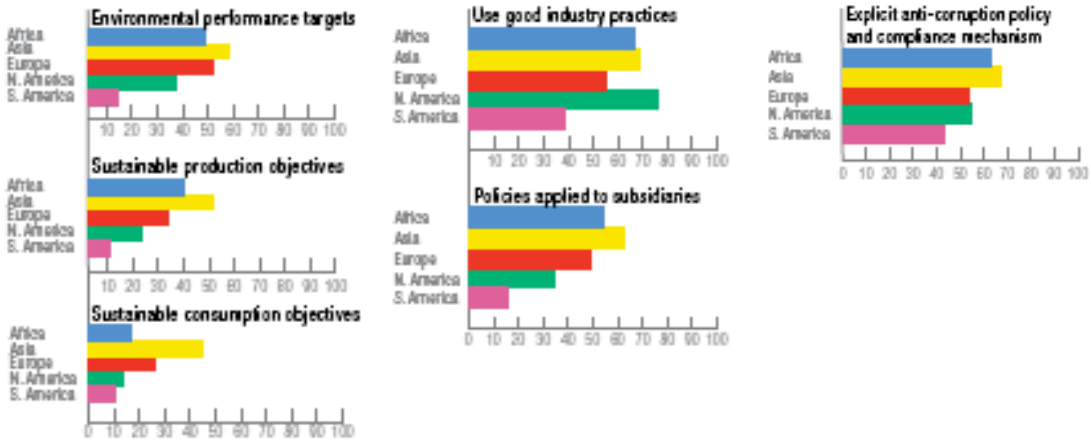
Looking at possible confirmations or rejections of these results coming from the empirics of CSR, there is evidence of two opposing trends:

i. CSR seems to be on the rise globally, with a growing number of firms reporting on their SR activities, signing on to CSR initiatives such as the UN Global Compact and so on.

[63] Of course one could argue that since the "good" firms are already good they must do some sort of CSR, so the final equilibrium will always be a pooling one, in which some firms do CSR as their natural choice and other do it in order to pre-empt the regulatory intervention of the government.

ii. However, with a closer look at which type of CSR initiatives firms undertake, it seems that there is a large degree of heterogeneity with respect to this element (see following figure).

**Figure 2.7. CSR priorities in the regions of the world: *symmetric* vs. *asymmetric* equilibrium**




*Source: UN Global Compact website*

Comparing these empirical regularities with the economic theories presented in the previous chapter, one logical conclusion would be that the product differentiation approach seems to account better for the growth of CSR globally, while the "CSR as private provision of public good" could explain the differences in CSR in the different areas of the world.

In fact, on the one hand firms have to face an increasingly sophisticated consumers' demand at the international level, coming in particular from developed countries, and see CSR as an optimal differentiation strategy.[64]

[64] In a different context (vertical differentiation by quality with uncovered markets) Motta (1993) showed that a result of minimum differentiation with quality equal to the maximum level is attained if I introduced an upper bound to quality improvement and assume that, when computed at this highest level, marginal costs of are not as high as the marginal revenues. Hence, a similar equilibrium could be attained when CSR is seen as strategy of vertical differentiation and marginal costs of CSR are always be lower than the marginal revenues. This seems to be a realistic assumption since CSR has been exploited only recently as a differentiation strategy by the firms and

On the other hand, the public good approach accounts for the regional differences between the type of CSR firms undertake. The needs and the demands (and also the cultural traditions) of the consumers and the neighbouring communities are very different in the different areas of the world (e.g. more interest for labour issues in).

Finally, the labour market approach provides a more flexible framework, which can account for both trends. However, it should be noted that if CSR is seen only as a labour screening device, its role is much more limited than catering to global demands.

This distinction between a "local" vs. an "international" demand will be used to develop the model presented in the Chapter IV of the thesis, where firms face an increasingly sophisticated demand for CSR from a pool of "international" consumers and need to decide between producing in countries with different characteristics.

In the Chapter V we will come back on the issue of the market configuration in terms of CSR engagement by the firms, attempting to develop a unique framework which can explain the different trends in CSR globally, and also the differences across different sectors.

### 2.3.2. Effects of increased competition in the market

Baumol (1991) argued that CSR deteriorates with the level of competition in the market.

This claim has been addressed in an analytical way by Bagnoli and Watts (2003), which confirmed that an increased competition in the market reduces the contribution to the provision of the public good via CSR.

In their model, the element driving this result is the price of substitute "unethical" goods: the less competitive the market of substitute goods, the higher the

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each marginal innovation yields very high returns, leading all firms to converge to similar levels of CSR in the equilibrium (corresponding to the current "frontier" of CSR).

price with respect to the marginal cost and the more consumers will be willing to pay for the "ethical" good.[65]

Comparing the *Betrand* case with the *Cournot*, the authors find that this effect is weaker in the former case, because of the less stringent competition at the marketing stage of the game.

The opposite result has been found from the political economy approach to CSR. Baron (2001) showed that, in a more competitive environment, the expected losses of a firm will be greater if the "targeted" lobbying is successful. Therefore, with more competition, the firm will have a much higher incentive to pre-empt lobbying by voluntarily engaging in CSR.

One possible way to account for these differences from the empirical perspective is distinguishing between *negative* vs. *positive* externalities arising from the firms' activities.

We will come back much more in detail on this distinction when we introduce a new definition of CSR in the Chapter VI.

However, to mention it only briefly, in the "public good" approach CSR accounts for a situation in which there are *positive* externalities arising from the firms' activities. In this case, CSR is a profit-enhancing strategy, and since profits are higher in situations of less competition, it is plausible that more competition will lead to less CSR.

On the contrary, in the public economy approach, CSR accounts for the presence of *negative* externalities arising from the firm's activities, and it is a way to limit the expected losses which could derive in case the requests from the lobby groups were accepted. Thus, since these losses can be much higher in a very competitive market - at the limit it could imply being ejected from the market - than in a less competitive (or even monopolistic) one, it is realistic to conclude that with more competition there will be also more CSR.

[65] For the same reason Bagnoli and Watts (2003) found that when the market for the "neutral" version of the good is monopolistic and the one for the ethical is a perfect competition, there will be even excessive provision of the public good since more consumers will shift to this good.

### 2.3.3. Welfare implications

In all the models which view CSR as the "private provision of a public good", in equilibrium there will be under-provision of the public good with respect to the socially optimum level - determined by the standard Lindahl-Samuelson rule of marginal costs equal to the sum of marginal benefits.[66]

The element driving this result is that CSR is subject to the same free-riding problems as would be any voluntary contribution to the provision of the public good: only some consumers show consistent "ethical" behaviour and firms are not able to capture the common benefits from the provision of the public good. This holds even when consumers' demands exhibit a "warm glow" component (Andreoni, 1989), even if this mitigates the problem.

Similarly in the labour screening case, at equilibrium a worker provides less effort than what he would consider morally best. In the words of the authors, a worker, despite "stretching himself towards his conception of morally ideal behaviour, always stops short of reaching that ideal" (Brekke and Nyborg, 2001, p. 12).

A logical conclusion would be that, in principle, the provision of the public good via CSR should not be better than the provision via voluntary contributions by the shareholders (through charitable organizations for example) or even by the government.

However, Bagnoli and Watts (2003) and Besley and Gathak (2007) show that when the private and the public good are "naturally bundled", or there are network externalities in their joint provision, CSR is welfare-improving and the level of the public good will be higher in equilibrium.

This conclusion allows us to respond to one of Friedman's arguments against CSR, which is that, in order to be justified from a social welfare perspective, CSR should be more effective that the sum of the voluntary contributions by the stakeholders - if the profits were redistributed – to some Civil Society Organization (CSO).

[66] Only in the model by Bagnoli and Watts (2003) there is one case in which there will be overprovision of the public good. See the relevant section in the Chapter.

From the models analyzed, the right answer to Friedman's claim would be the following: *unless there are specific elements which determine that the provision of public good via CSR is more efficient than the sum of stakeholders' contributions to a CSO, then in principle they are exactly the same*.

We can examine the above statement from the opposite perspective, because *we know* that there are situations in which there are synergies in the provision of the private and public good, positive externalities in the production processes, technological spillovers, natural bundles between the two goods and finally government opportunism and private benefit-seeking by government officials and non-profit managers (Bagnoli and Watts, 2003; Besley and Gathak, 2007). Clearly, in all these situations, Friedman's argument would prove to be wrong.

The models of CSR as differentiation strategy for the consumers also allow us to assess the welfare implications of CSR. In fact, when at least some of the consumers exhibit "ethical" preferences, the papers analyzed seem to agree with the conclusion that the equilibrium when firms are allowed to undertake CSR as a differentiation strategy always yields a higher level of social welfare than the one in which CSR is not an option (see for all Mitrokistas and Petrakis, 2007).

However, this does not imply that every firm should increase its CSR effort to an infinite level. For example Becchetti, Giallonardo and Tessitore (2004) show that total welfare is not maximized when the fair trader wants to maximise its own CSR contributions, since this would reduce the incentives towards "ethical imitation" for the profit-maximizing incumbent.

This argument opens the way for an interesting discussion on the opportunity to set an upper bond for CSR engagement by firms.

For example, in the context of vertical differentiation in a duopolistic market, Motta (1993) showed that when there is an upper limit to quality improvement which is set at a level when marginal benefits are still lower (or equal) than the costs, then both firms will set their quality equal to that level and there will be an equilibrium with minimum differentiation.

If CSR can be assimilated to quality differentiation, then there may be situations in which setting a upper boundary to CSR is a welfare-enhancing policy,

since it would ensure that firms never go above the level of CSR at which the marginal costs for the society are equal to the marginal benefits.

Bagnoli and Watts (2003) obtained a result which is in line with this intuition, namely that the lack of competition in the market of the non-CSR good determined an excessive provision of the public good at equilibrium.[67]

On the assessment of the implications of CSR in terms of social welfare, however, there is one caveat which should be taken into consideration, which is how to measure social welfare in the presence of CSR. The papers mentioned above look at the change in consumer and producer surplus which result from the firms' engagement in CSR.

In the models which look at "CSR as a private provision of public goods", it is straightforward to assume that CSR enters both as a cost for the firm and as a benefit for the consumers, in the form of the public good. The same is true for the models of CSR as "labour screening", since it is the workers themselves which benefit from things such as the improved work environment.[68]

On the contrary, when CSR is a product differentiation strategy for the consumers, it is less evident how to measure the costs and benefits of CSR from a social welfare perspective. What the authors actually measure is the increase in the level utility of "ethical" consumers of the firm's product, and the increase in firms' costs for things such as wealth transfers to poorest regions of the world (Becchetti et al., 2004). However, it is not clear how these costs could be translated into social benefits in these regions, and if the increase in utility in the firms' consumers reflects correctly the benefits which will be obtained in these regions.

The key distinction is that in the "public good" approach, the group which is willing to pay the higher price for the private good is the same one which will then benefit from the firm's engagement in CSR (i.e. the provision of the public good). On

[67] The element driving the result is that when the market of the "unethical" good is inefficient then the economic incentive behind the provision of the public good becomes completely detached from the benefits that people receive from the public good and comes from the willingness to attract more consumers from the inefficient market of the "unethical" good.

[68] In the case of labour screening there is also an externality from the firm's production process, which is pollution. Therefore, in the welfare equation it enters also the equation of Environmental deteriorations (see Brekke and Nyborg, 2001, p. 10).

the contrary, in the case of product differentiation, the link between those who buy the good and the beneficiaries from CSR is not as clear.

We will come back on this point from a more empirical perspective in the Chapter 3, when we will analyse the fact that the CSR priorities of large multinational companies are often determined by distant stakeholder and are not necessarily in line with the actual development needs of the countries where the firms locate their production.

In conclusion, measuring social welfare in the presence of CSR seems to be problematic when CSR is viewed as a differentiation strategy. This leads us back to some of the considerations made in the first Chapter of the thesis, analysing the models by Baron (2004) and Husted and Salzar (2006), when we looked at the difference between *private* benefits from CSR for the firm, and *social* benefits, and how these might be different.

In the Chapter 6 we will see how looking at the other rationale behind firms' engagement in CSR, i.e. CSR as *efficient resource management*, might make it more straightforward to assess the social costs and benefits of it, because of the alignment of *private* and *social* incentives.

### 2.3.4. Optimal policies

Another important issue is to understand the relationship between government's direct intervention and firm's intervention via CSR to provide a certain public good and also which policies could be implemented by the governments to foster firm's engagement in CSR in order to increase social welfare.

The first result which can be mentioned is that the direct provision of the public good by the government will crowd-out the provision via CSR. The proof of this is in Besley and Gathak (2007), who showed that the direct intervention by the government to provide the public good reduces the marginal utility of the consumers from receiving the good itself, leading the firm to provide less. This seems to confirm

Friedman's claim that there is a trade-off between Government's direct intervention and CSR in the provision of public good (Friedman, 1978).

However, if we consider the issue more in detail, one could argue that there are different types of public goods which can be provided. For example, firms could concentrate on providing certain public goods, particularly local ones, which governments would have no reason to produce (e.g. community centres but not bridges). In these cases the trade-off between public and private intervention would be avoided.

The result of crowding-out of CSR is verified also when we consider the approach to CSR as labour market screening device (Brekke and Nyborg, 2001). The authors find that, if the government decides to introduce an optimally-set *Pigouvian* tax, CSR would not be effective any more as a screening device.[69]

One might object, in the case of CSR as labour screening device, that if the *Pigouvian* tax is already set at a level which will yield the socially-optimum level of environmental damage, then CSR would become redundant. The same might be argued if the Government itself decides to provide the public good.

However here we are simply looking at whether firms will undertake CSR or not, where CSR is defined as a voluntary intervention. In addition, of course there is the issue of the distribution of the costs. In the case of public goods the costs of providing it would have to be beard entirely by the Government, while with a *Pigouvian* tax there might still be relevant implementation costs.

The second issue regards the possible government actions which can be undertaken to foster's firm's engagement to CSR. The one that has been more widely addressed in the literature is the introduction of a standard for CSR, which the firms can then voluntarily choose to abide to. This has been mainly seen as a device to improve the credibility of firm's CSR promises and solve the problem of asymmetric information.

[69] However on should not forget that a Pigouvian tax is by definition set at a level which allows to reach the social optimum, therefore CSR would not be necessary any more.

This is the case presented by Mitrokostas and Petrakis (2007). However one could argue that the same system could work without the direct intervention of the government.

In fact the companies themselves would have a strong incentive to introduce a standard to increase the credibility of their CSR, and then establish a private institution in charge of the monitoring. (see Besley and Gathak, 2007, and also Mitrokostas and Petrakis, 2007).

To find an answer regarding the level at which the CSR standard should be set, we need to look in the literature on CSR as the private provision of public goods.

Besley and Ghatak (2006) showed that if the standard is set at a level equal to the social optimum than it would lead to a Pareto-improvement – recall that because of free-riding firms never reach the socially-optimum level of CSR without government's intervention. However it might be difficult to sustain such a high level of the standard, as some firms could decide to leap-frog and not provide CSR at all. In fact, a CSR standard that leads firms to contribute to the public good up to the socially efficient level has similar implications than a uniform head tax to subsidize the government's provision of a public good and could be feasible only so long as the neutral consumers are still willing to buy the good at the new price.

One could also have the case of a CSR standard set at a level which is lower lever than the current level of CSR provided by the "ethical" companies in the market. In this case it will not affect the level of CSR provided by them, and it will not change the level of total surplus (cf. Garella, 2007).

In the Chapter 3 we will look at some actual examples of policies which could be implemented by governments to foster firm's engagement in CSR, in the specific context of the Caribbean basin.

Finally, in Chapter 5 we will analyse theoretically the possibility of introducing a temporary subsidy for CSR by the Government. This could be justified because there are multiple equilibria to which the market could converge, and a temporary subsidy could help the market move to the equilibrium which yields the highest level of social welfare.

### 2.3.5. Other issues and limits

In addition to the issues which have been addressed so far, it is worth mentioning some other limits in the approach to CSR as differentiation strategy.

All the papers presented only take into consideration the case of CSR within one country. Introducing a two or multiple country setting could potentially lead to a number of interesting implications, such as for example the fact that one country might have less freedom of choice in setting the CSR standard to a certain level, since firms always have the option to relocate their production to the other countries.

This problem has been addressed by Petrakis and Xepapadeas (1998 and 2002) in a different context than CSR, i.e. the time-consistency of optimal environmental taxation with monopolistic markets.

This particular problem involves long term decisions (i.e. level of environmental innovation, abatement effort) together with short-term ones (i.e. level of the output). This leads to a situation in which the optimal tax rate announced *ex-ante* by the government will not be the optimal *ex-post*, when the firm has already implemented its abatement efforts. Hence, the tax rate announced is not credible unless the government can commit to it.

The authors show that in a closed economy the discretional equilibrium (i.e. the *ex-post* optimal tax) would lead the monopolist to voluntarily decrease its emissions – which could be viewed as CSR - in order to strategically induce the government to reduce emission tax in the second stage of the game.

However in a two-country setting, when the monopolist can reallocate production to the country with lower levels of environmental taxation, the authors found that the monopolist relocates more often under the *ex-post* optimal emission tax scenario.

In fact in this case, if the government can credibly commit to an *ex-ante* tax rate it can manipulate this rate in order to induce the firm not to relocate. On the contrary, in the *ex-post* optimal tax scenario, because the decision to relocate is a long-term decision, the firms anticipate that if they decide not to relocate then it would become optimal for the government to increase *ex-post* the tax rate announced.

Translating these results to the issue of CSR (and leaving aside for the moment the issue of time-inconsistency), it would be interesting to see how much a government can increase a CSR standard, without inducing a company to relocate, and how credibly it can commit to the standard announced.

In the context of CSR there is another element which needs to be taken into consideration, i.e. the demand side. In fact firms could experience a loss of "ethical" consumers if they decide to relocate to a country with lower ethical standards.[70] If this "punishment" works then the CSR equilibrium would be self-sustaining and the threat of re-locating would be not credible. Some of these issues have been considered in the model presented in the Chapter 4 of the thesis.

Another issue which to our knowledge has not been addressed in the economic literature on CSR is the optimal set of policies which can be adopted by governments in developing countries. These countries present the additional issue that they usually rely on the cheap labour and their natural resources to attract FDIs. Doing that, these countries often expose themselves to the risk of attracting unethical companies and/or depleting the environment. This is an issue which lies at the heart of the relationship between CSR and long-term sustainability of economic systems.

One conclusion which we can draw looking at the literature on quality standards is the following: a "country which imports all the products of the markets concerned has an incentive to raise its minimum quality standards as long as both firms enter the market in the country, because their consumers can realize a higher surplus whereas the diminished profits leave the country anyway" (Boom, 1995, p. 115).

It would be interesting to see whether this conclusion also holds for CSR and other "ethical" standards in general. In fact in this case it could become optimal for a government to increase CSR standards - based on social welfare considerations - even if this will prevent some companies from entering in the market. Again, the model presented in the Chapter 4 addresses some of these issues.

[70] Of course this could happen only if the firm decide to reduce its own standard to the ones of the country, and the consumers discover that.

# Chapter 3: An Empirical Assessment of CSR (in the Caribbean region)[71]

The aim of the chapter is twofold: first of all to provide an empirical assessment of the practice of CSR, to understand to what extent the theoretical issues analysed in the literature review are relevant from an empirical perspective; secondly to highlight other relevant issues which might not have been addressed so far in the existing economic literature on CSR, and which then formed the basis for the theoretically innovations to the literature presented in the following chapters of the thesis (*Chapters 4*, *5* and *6*).

At the end we will also highlight what the governments in the region could do to foster firms' engagement in CSR. This part is directly linked to some of the conclusions from the literature review presented in Chapter 2, and in particular in the section *2.3.4*.

## 3.1. Review of the existing literature on CSR in the Caribbean

While there might be differences from country to country, the Caribbean region faces a number of common challenges in its drive towards attaining sustainable development.

These include: high levels of poverty[72] and social inequity, increasing divide among the poorest and the richest tier of the population, high levels of unemployment

[71] The results presented in this chapter refer to a study undertaken in 2007 in three countries of the Caribbean region: Trinidad and Tobago, Jamaica and Barbados and draws from the paper "New Perspectives on Corporate Social Responsibility in the Caribbean", which I co-authored with Dr. Wayne Charles-Soverall and Dr. Brigette Levy, and was published on the first issue of the *Caribbean Development Review*, edited by the United Nations Economic Commission for Latin America and the Caribbean (UN ECLAC).

[72] Some countries within the Caribbean, having invested heavily in the social sector, have achieved relatively low levels of poverty. These are: Antigua, the Bahamas, Barbados and St. Kitts.

and underemployment,[73] increasing urban violence and crime, high incidence of HIV and AIDS, exposure to natural disasters, brain drain[74] and insufficient access to new information technologies.

Several strategies to address these challenges have been identified by the Governments of the region, such as reducing poverty and enhancing social protection for particularly vulnerable groups, providing a more equitable access to employment, ensuring the integrity and the preservation of the environment, improving the transparency and accountability of governments. However, it is evident that without the support of the private sector to complement the efforts of the public sector, these countries will found it very difficult to achieve their development objectives.

In acknowledgment of this there is a surge of interest on the topic of CSR, reflected in the rise of national organizations promoting its practice, an extensive media coverage and an increasing number of CSR events region-wide (Peinado-Vara, 2004). However, the data on the actual level and incidence of CSR in the Caribbean are far from being exhaustive.

Jones (2003) interviewed representatives from 58 business corporations in 6 countries across the Caribbean, namely Barbados, Grenada, Guyana, Jamaica, St. Lucia, and Trinidad and Tobago. The research also included feedback from 25 NGOs. Using a three-wave analytical model that ranged from philanthropy to community investment, the study concluded that similar to developed countries, CSR practice in the developing countries of the Caribbean was still rooted in basic philanthropic giving (75%) and strategic philanthropy (25%), rather than strategic community investment (5%).

[73] As a matter of fact, Trinidad and Tobago is an exception to that, with a rate of unemployment that has decreased to 5% in 2006, reaching almost full-employment. However, underemployment is still an existing factor.

[74] Countries such as Jamaica, Dominican Republic, Cuba, and Trinidad and Tobago rank high in the emigration of qualified labour. Based on data provided by the United States Bureau of the Census 12, of all foreign nationals living in the United States, 10% are of Caribbean origin. With respect to this, it should be noted that the continued depletion of professionals deprives the Caribbean region of its qualified professionals whose education and training were often a considerable expense to its taxpayers and who play a critical role in sustainable development.

**Figure 3.1. The "Three Wave" model of CSR (Jones, 2003)**

| | First Wave | Second Wave | Third Wave |
|---|---|---|---|
| **Rationale** | Philanthropy | Strategic philanthropy | Community/investment |
| **Management** | Ad-hoc | Systematic manager | Entrepreneur/consultant |
| **Approach** | Passive | Responsive | Building capacity |

*Source: Jones (2003).*

In a paper by Haslam (2004), the Caribbean was ranked lowest ("stalled") within the western hemisphere in exhibiting CSR practices, with a huge gap between CSR practice in North America and the rest of the Americas.[75] When analysing the two biggest economies of the region, Jamaica and Trinidad and Tobago, the author found an almost non-existent participation of the private sector, a lack of government advocacy and promotion and general public awareness. The conclusion of the paper is that CSR in Latin America and the Caribbean seem to be heavily influenced by international NGOs, guidelines from multinational headquarters, and multilateral institutions, suggesting a lack of local ownership of CSR initiatives.

Peinado-Vara (2004) points out the minimal government involvement in the practice of CSR. For example, differently from countries such as Brazil and Chile, in the Caribbean region there are no tax incentives for companies to encourage corporate donations for developmental goals.

A recent study by UNDP (2005), on the contribution of the private sector to the MDGs in the region, concluded that the majority of the existing "developed-oriented business practices" (DOBs) did not seem to be "sufficiently driven by business profitability to be considered sustainable".[76]

[75] This study is based on an analysis of the number of hits that the search engine returned when using the tern CSR. Evidently, this type of methodology is biased towards countries with a heavy use of the internet.

[76] The study highlights a number of initiatives by private companies in the region that generated significant benefits, both for the company in terms of increased profits and for the country. However, these initiatives were limited to the areas of tertiary education, supply-chains management, health

Finally, Dick-Forde (2006) explored the CSR practices of three leading financial institutions in the Caribbean (Bank Ltd., FirstCaribbean International Bank, and Citicorp Inc), with a view to determining their social impact and sustainability.[77] The findings of the study indicated that little attention was paid to the issues of environment and sustainable development. They also revealed an absence of Caribbean signatories to the United Nations Environment Programme's Finance Initiative (UNEPFI) and a lack of participation by countries in many of the international standards related to sustainable development. Finally, there was a significant gap between the CSR practices of MNCs and their subsidiaries in the Caribbean, which can be seen as the difference between the rhetoric and the reality of CSR.

## 3.2. CSR Practices in selected Caribbean countries

### 3.2.1. Trinidad & Tobago

Trinidad and Tobago experienced a strong economic growth in the last decade, mainly driven by the buoyancy on natural resources (oil and gas) and the subsequent high level of FDI. For this reason, the economy of the country depends heavily on the energy and related industries as its main income-earner, accounting for over 45% of GDP in 2006, while other key sectors of the economy are the manufacturing, construction and financial.

Despite being classified as a country with a high level of *human development* according to the Human Development Index (HDI) published every year in the UN Human Development Report (HDR) 2006, the country still faces a wide range of socio-

and safety practices and "green products", while the report highlights the lack of evidence of similar initiatives in other areas such as poverty reduction, environmental management and development and distribution of products for the poor.

[77] The criteria used to analyse the social impact of these programmes included a combination of social theory, the Global Reporting Initiative (GRI) guidelines for the financial services sector on social performance, and UNEPFI.

economic challenges. These include, among others, high levels of poverty, social exclusion, income inequality and crime among others.[78]

The government adopted a National Development Plan in 2004, Vision 2020, which identifies five key pillars to achieve national development: (i) Developing Innovative People, (ii) Nurturing a Caring Society, (iii) Governing Effectively, (iv) Enabling Competitive Businesses and (v) Investing in Sound Infrastructure and Environment. The booming private sector in the country has a great potential to contribute towards the achievement of the national development goals, and while there is widespread evidence of several initiatives in the area, until recently no systematic study had been undertaken on the practice of CSR in the country.

The data presented refers to the period 2001-2006. The sample is composed of 90 companies from all major sectors of the economy, including large companies and SMEs, foreign owned companies as well as local, both public and privately owned. The study was conducted by means of a questionnaire. The companies in the sample were selected on the basis of the GDP and employment contribution of each sector.[79]

A first element to be highlighted is the general reluctance of the companies to respond to the initiative. In fact, it was necessary to contact almost 200 companies in order to achieve the final sample of 90.[80] A possible explanation is a lack of awareness of CSR, which was prevalent among local companies and SMEs at the time of the survey. The lack of transparency with respect to companies' CSR practices was another important limitation to study: only 20 companies out of 90 produce some sort

[78] According to the HDI, the level of poverty in Trinidad and Tobago is still very high (17% of the population) compared to the economic situation. The income distribution shows a high level of disparity between the richest and the lowest tiers of the population, with the richest 20% of the population accounting for almost 50% of the total consumption (which is a more reliable indicator of wealth in the Caribbean) and the poorest 20% for a mere 5%. While females usually attain a higher level of education than men, the average income is less than half than the one of men, with similar job positions. Access to quality housing is another important issue: a survey by the Ministry of Housing showed that almost 40% of the applicants did not afford even the lowest cost homes currently under construction (see Human Development Report, 2006).

[79] This joint criterion was identified to avoid over-representing sectors such as the Energy and Related industries, which provide a huge contribution in terms of GDP (over 45% in 2006) but limited in terms of employment (3.5%).

[80] This element might lead to some selection bias, as we expect the companies that are already undertaking CSR to be the one more keen to respond to the interview. However because the purpose of the research was to have a qualitative analysis and not to do statistical inference, this was not taken into consideration in the analysis of the results.

CSR report/brochure for their stakeholders and 22 did not reveal how much money they actually spent on social and environmental programmes.[81]

The main result of the study is that companies from the Energy and Related industries sector play the leading role as a contributor to the socio-economic development of the country, accounting for almost half of the total money spent.[82] Apart for a few exceptions, this sector comprises mainly subsidiaries of large MNCs. Another key sector is the Financial and Real Estate, which has shown an increasing engagement and effectiveness of its CSR programmes, setting specific departments devoted to CSR. On the contrary, the Tourism sector shows a surprisingly limited engagement, both in terms of the human and financial resources.

With respect to external CSR programmes, the geographical distribution of the social and environmental programmes mirrors the areas where companies generate their revenue, because companies, and particularly those from the Energy and related industries sector, tend to engage in CSR projects within their fence-line communities. On the contrary, companies from the Financial and Real Estate sector and the Fast Food seem to engage more in programmes at the national level, and in some cases even at the Caribbean level.

As regards the thematic areas of investment, activities with a high PR value, particularly in the areas of sport and social activities, attract the majority of the investment, often diverting resources from the real development needs. Other areas of interest for the companies were education, followed by health, art and culture and community programmes, and finally environment. While some important initiatives have been undertaken by large MNCs in the areas of supply-chains management and local content development, these are mainly stand-alone initiatives (for example recently an initiative to increase the local-content in the energy sector has been

[81] Interestingly, the percentage of companies that disclosed this information is higher among SMEs (90%) than large companies (slightly less than 80%), highlighting that the major problem with respect to transparency seem to regard large companies and not SMEs. The main reason adducted by large companies in particular was that it was an information key to their strategic plans and revealing it would have given an advantage to their competitors.

[82] Companies from the Energy and related sectors account for around $29 of the $54 million spent on external CSR activities by all the companies included in the sample, accounting for over 55%. However the sample included one company that belong to the Government of Trinidad and Tobago (The National Gas Company of Trinidad and Tobago Ltd.), reducing the actual contribution of foreign companies from this sector to around $24 million.

introduced by the government, but so far it has not achieved significant results). Finally, with respect to the monies spent through third party organization, which was more relevant among large enterprises, companies show a general reluctance due to the limited information available on CSOs, to assess their reliability and the sustainability of their projects.[83]

Considering the benefits identified by the companies from their social engagement, it is clear that the majority of these activities are more of a philanthropic nature rather than true CSR. This was particularly evident among SMEs: only 50% of SMEs promote CSR programmes that are aligned with their core business (against a 90% amongst large companies) and close to 60% do not identify any business benefits from these programmes.

In addition, the funds allocated to CSR are very limited regardless of the sector, revealing that SMEs still view these as unproductive expenditure rather than a strategic investment or diversification strategy.

Among larger companies, while companies from the Energy and Related industries and Financial sector seemed to take into great consideration the strategic implications of CSR, those from Manufacturing and Construction were still concentrating their social involvement mainly in the area of philanthropy/charity.

With respect to the programme planning, senior management is always involved in the decision-making process, in some cases with the inclusion of other stakeholders – usually employees, communities, shareholders and contractors. For MNCs the guidelines by headquarters provided the key framework for the programme planning.[84] Around 60% of the companies had a pre-assigned yearly budget for these activities but this percentage drops to approximately 35% amongst SMEs, revealing a prevalence of ad-hoc allocation of funds. In addition, this allocation of funds was mainly demand-driven without undertaking any need assessment.

[83] The existing CSOs registries are not updated on a regular base, providing information from the financial books and on the sustainability of the projects undertaken. While there are several government initiatives currently underway, among which the most relevant is the 2006 NGO scan by the Ministry of Social Development, tangible results are visible only in the long run.

[84] In addition, through these guidelines and codes of conducts some of the foreign contractors introduced standards of quality, health and safety practices to which also local suppliers have to abide, which had a great impact on the development of CSR practices among local companies. This driver of CSR will be increasingly important with the introduction of the ISO 26000 Standard in 2008/2009.

In a few cases the direct engagement of the employees was used by some companies as a device to increase the ownership of the social and environmental projects undertaken but also to cut the costs.

Publicly traded companies scored higher than privately owned, both with respect to reporting the CSR activities undertaken - 40% of the publicly traded companies produced some form of report on CSR, compared to 15% of the private ones - and with respect to the inclusion of other stakeholders in the decision-making process – the senior management decides without consulting any other stakeholders in one-third of publicly traded companies compared with almost two thirds of the privately owned.

Regarding the internal aspects of CSR, companies are increasingly compliant with the local regulations for health and safety (OSHA)[85] and human resource policies. However, there is still a significant gap between large companies and SMEs, and the Construction sector in particular registered a low level of compliance with HSE polices, despite the high incidence of work-related accidents. All companies provide a wide range of programmes to train their employees. The provision of employee benefits varies a lot across sectors[86], with a striking difference between large companies and SMEs.

From the interviews, there is evidence that the high level of labour standards and training provided to the workforce is one of the key elements - together with the high salaries - which explain the capacity of companies from the Energy sector to attract and retain the highest-skilled employees. As a confirmation of this, the attractiveness of the Financial and Related services sector as employer-of-choice has been enhanced by the recent introduction of innovative internal CSR practices such as flexi-time and performance targets.

Finally, there is an overall low regard towards environmental issues such as reduction of emissions, waste management, promotion of environment-friendly

[85] The Occupational Health and Safety Act (OSHA) was officially introduced by the government in 2004, however up to 2007 when the research was conducted only some parts of it have actually been implemented.

[86] The main benefits provided by companies to their employees were entertainment/gym, maternity and in some cases paternity leave, assistance with tuition and education, transportation housing and travel allowances and finally investment plans and low interest loans, which were more prevalent in the Financial and Real estate sector.

production techniques, with the exception of the Energy and related industries sector. Only around 60% of companies educated their employees on the impact of their activities on the environment, revealing that the companies' policies and values in the area of environment were not communicated to the level of the employees. The monitoring and compliance with environmental laws seemed to be particularly low within local companies in the Construction sector. Only few companies had Environmental Management Systems (EMS) in place, and most of these are foreign companies from the Energy sector. Finally, more than half of the companies in the Tourism sector did not implement any type –formal or informal– of environmental policy and only one was in the process of achieving international environmental certification.[87]

In conclusion, it can be stated that, while the private sector already plays a relevant role in the development debate of the country[88], there are still a number of challenges that hinders the capacity of CSR to be an effective tool for national development.

Among these, the most important seem to be the lack of coordination and alignment of the programmes with the national development goals, the limited role and the involvement of the Government in the practice of CSR,[89] the lack of evidence-based planning and the limited number of impact assessments undertaken.

[87] Despite the existence of a development plan for Tobago which is centred on the concept of eco-tourism as a key instrument for the diversification of the economy, so far no concrete strategy has been identified to promote it among the private sector, for example establishing a local environmental certification, which has been done in other countries (e.g. Costa Rica) that pursued a similar development strategy.

[88] The money spent by these 68 companies on social and environmental programmes represents, on a yearly average, from 2% to 4% of the Government's allocation for the programme development of the Social Ministries. According to the Social Sector Investment Program 2007, the total budgeted allocation for the program development of the Core Social Sector Ministries for the fiscal year 2005/2006 was $1,508 million. As mentioned, the total expenditure in external CSR alone from the companies in the sample was $54 million, corresponding to close to 4% of this amount.

[89] The Local Content Development Policy, recently introduced by the Ministry of Energy and the Energy Industries, has not yet been able to deliver the expected results. One of the other initiatives is the "Wear and Tear" allowance for companies providing day care facilities or homework centres for the children of their employees. This allowance will be extended according to the 2008 Budget proposal.

### 3.2.2. Jamaica

The economy of Jamaica is largely dependent on tourism as its main income source. Bauxite, agriculture and light manufacturing play smaller but important roles. In the last decade Jamaica experienced sluggish economic growth, annual single or low double digit inflation since 1997 – down from a high of 77% in 1992, declining real revenues and a rapidly growing public spending, largely internal, with debt servicing accounting now for over 60% of total budgetary expenditures.

Classified in the latest HDR 2005 as a middle level developing country (ranking 99th in the HDR 2005, between Turkmenistan and Iraq), it is affected by a number of social challenges which include: increasing level of poverty, particularly in rural communities, high unemployment rates, particularly among the youth,[90] gender inequality,[91] and finally high levels of crime and violence.[92]

The country is currently in the process of developing its National Development Plan, and, given declining resources, there is an opportunity to engage civil society, NGOs, the church and especially the private sector in being part of the solution. While the contribution of individual private sector firms has been noted, usually in the press and in Annual Reports of publicly traded companies, there is no compilation of these data.

The companies in the sample represent all sectors of the economy, both in urban and rural settings. One major limitation of this review is the reluctance of many

[90] The unemployment rate is constant at approximately 16%. Almost half of teenagers (46%) are unemployed, with the highest rates being for those who did not complete their secondary education. It should be highlighted that teenagers who are out of school and out-of-work have few skills are often illiterate and therefore more vulnerable to antisocial behaviour, violence and drug abuse. See Statistical Institute of Jamaica, Labour Force Survey, 2004.

[91] Female unemployment is twice that of male unemployment, despite the higher education attainment of females. In addition, women usually earn less than men, partially because they are concentrated in low paying sectors and partly because the same type of jobs offer different pays for men and women (Planning Institute of Jamaica, Labour Market Information Newsletter, No. 28, 1998).

[92] The three main areas of violence are: domestic violence, including rape and sexual assault, abuse and murder and that associated with drug and gang activity and these are heavily concentrated in low income urban areas (28% of all murders take place in Kingston). Crime and violence is a youthful phenomenon in Jamaica, (in 1999 55% of all crimes were committed by persons 26 and under, and 40% of murder victims were between the ages of 13 and 25 years). Despite the decline in recent years, the murder rate is extremely high (34 per 100000). See ESSJ, 2005.

companies to state the financial contribution for the activities and so the magnitude of the contributions of the private sector cannot be determined.

All companies engage is some CSR activities, at least making donations to worthwhile causes when asked (i.e. philanthropy). However, around 80% of the companies would like to give more, but are constrained by a lack of awareness of national needs and priorities and lack of knowledge on the reliability of the NGOs and CBOs that made requests.[93]

While all companies make charitable donations, less than a third does that through a structured mechanism such as a foundation or dedicated member of staff. Sixty percent of companies reported that they have a pre-approved CSR budget, often in the Marketing or PR budget, but only less than 10% indicate they have a giving plan that is linked to, and supportive of their business strategy.

Publicly traded companies are more likely to have a formal structure, or be considering putting in a structure, usually in the form of a non-profit Foundation, guided by a board of directors. On the contrary, in large privately held companies, the decision is taken at the level of the CEO and other management. Similarly, smaller companies tend to give based on the manager/owner discretion. Less than 20% of the companies indicated that staff contributed to the decision about CSR priorities.

However, 80% of the companies consider the community in which they are located as a priority for support, while also supporting national initiatives and other demand-driven initiatives. Donations to NGOs are more prevalent in larger companies, while smaller companies tend to support community initiatives and local projects. Large companies are also more likely to support projects specific to certain themes, such as a number of early childhood education project, or donations that strengthened environmental awareness and clean-up projects. The main areas of support overall are education, health, youth development and finally crime and violence. Companies also support sports projects through sponsorship and donations as well as environmental education and clean-up activities. A few companies reported that they sponsor advocacy programmes, especially around children and youth issues.

[93] As a matter of fact, all companies reported that they had at one time refused to support a project because they were unaware of the NGO and/or uncertain if the project was a good one to fund.

Looking at the internal aspects of CSR, Jamaican companies show a strong degree of compliance with local and international standards of Occupational Health and Safety (OHS). This is due in part to initiatives in the Ministry of Labour that pushed for the development of a national health and safety policy that called for local firms to develop and then implement corporate strategies. In addition, in response to the introduction of National HIV polices, that examine confidentiality, counselling and testing as well as management of all chronic diseases in the workplace, the Private Sector, especially larger companies and branches of multinational corporations, developed firm policies on OHS, HIV and other chronic diseases. This culminated in the formation of the Business Council on HIV/AIDS - a coalition of private sector firms that seeks to strengthen the corporate response to the HIV pandemic. With respect to a sector-specific analysis, the Mining, Manufacturing and Food service sectors show particularly high compliance with the occupation standards, and the Food service and Financial and related services sectors put in place HIV awareness and prevention programmes.

Staff training and the provision of benefits to the employees at all levels is consistently well developed in both publicly traded companies and private enterprises.[94] However, in less than 25% of the companies this training is developed in context of a planned career development, and these tend to be the larger firms, which have formal staff assessments linked to benefits and promotion.

Finally, in general the HRD practices of the firms are in keeping with the national policy and regulation framework in this area and the island benefits from a number of unions and sophisticated bargaining and dispute resolution mechanism, including labour, management and government partners.

With respect to the regulation and compliance of environmental aspects of CSR, environmental best practices varies widely depending on sector, and the status of

[94] Employee benefits range from annual performance based bonuses, discretionary bonuses, life and health insurance, uniform, car, housing, and pension, and these varied widely by sector, size of company and number of employees. Larger companies (more than 50 staff) tended to offer a wider range of benefits, with uniform, health insurance and pension for all staff with management levels also benefiting from car, access to loans, and housing allowances. Financial and other service companies were more likely to have benefits that included access to loans, clothing and car allowances as well as formal pension and Employee Assistance programmes.

a company.[95] Bauxite mining companies, as branches of international organizations have a robust framework and guidelines, monitored by the Jamaica Bauxite Institute, that include conservation of natural and built resources as well as reclamation of lands to original or useful states once mining is complete. On the contrary, the smaller local companies that predominate in provision of aggregate for construction tended to not have a formal environmental policy and monitoring is weak and sporadic. The companies in the Construction sector follow environmental guidelines but, with the exclusion of one company, they do not monitor the practices of their suppliers.

Finally, most companies in the Tourism sector undertake activities designed to raise awareness of environmental issues, reduce waste water, recycle water and conserve energy.[96] In the large companies the involvement of the staff is often crucial to determine the success of the initiative, while in the small ones these tend to be driven and owned by the manager or owner.

In conclusion, in Jamaica the private sector is increasingly being called to participate in and support development initiatives but, while the scan shows that many companies are choosing to listen to the call and act, there is a wide variation in the nature of the activities and the ways they are implemented. Most companies seem display rigor in internal staff development programmes but limited activities in environmental best practices. However, philanthropy remains the dominant form of social expenditure, and these activities are often linked to Marketing and PR departments rather than through the corporate offices and integrated in business plans. The companies that move towards this more strategic approach have an awareness of the value of CSR as a tool for company growth as well as contributing to community and national development.

[95] The Government, through the Environmental Ministry and the Cabinet Office, has developed protocols for Environmental and Strategic Impact Assessments that are part of approval processes for building and infrastructure development. However, since not all activities require approval for implementation, the environmental practices may vary from sector to sector or type of activity.

[96] These included highlighting local flora and fauna on property, education materials that culminates in requesting guests to reuse towels to reduce laundry, and to be energy conscious, and using brown water for landscaping irrigation. One group of hotels also included in their mandate educating suppliers in good environmental practice, and exposed their suppliers – known as 'partners' – to a wide range of environmentally friendly activities such as organic farming, terracing, use and disposal of fertilizers and pesticides and water recycling techniques.

### 3.2.3. Barbados

The Barbadian economy recorded high levels of growth (4.1% in 2005 and 3.9% in 2006), mainly driven by the performance of the non-traded sector which included electricity, gas and water, construction, transport, storage and communication and wholesale and retail. In the traded sector, despite sluggish growth rates, tourism and manufacturing still performed better than sugar and non-sugar agriculture which experienced relative declines.

Barbados ranked 31st out of 175 countries on the HDR 2006, the highest ranking within all Caribbean countries. However, it still faces a number of social challenges such as the stigma associated with HIV/AIDS at the workplace, an ageing population, and an epidemic of chronic non-communicable diseases. Since 1991 Barbados practices Social Partnership as a tripartite consultative and negotiating mechanism for policy-making and economic development including government, employers and labour. Its wider goal is to promote social dialogue towards building national consensus for socially acceptable public policy. Although there is consensus that the social partnership has served Barbados quite well, recently there has been a call for greater social inclusion in the decision-making process and concerns about the increasingly diverging interest of the parties.

The state of CSR practice and the real impact that CSR activities have in overcoming social challenges in Barbados remains relatively underdeveloped.

The data presented come from a sample of 22 business corporations, including 5 Social Business Enterprises (SBEs), and was collected during July 2007.[97]

The methodology for this study includes quantitative and qualitative research methods based on a variety of techniques such as browsing relevant websites, e-mail

[97] The business corporations in which direct interviews were conducted included Republic Bank of Canada (Barbados), Cable & Wireless (Barbados) Ltd., Ernst & Young (Barbados), FirstCaribbean Int.Bank (Bank), KPMG (Barbados), Republic Bank of T&T, Barbados Ice Co. Ltd., Barbados Salvation Army, Lashley & Waithe Fish Processors Inc., Soroptimist Int. of Barbados, Barbados Red Cross, the Barbados Cricket Association, and the Barbados Cricket League. Those businesses that were engaged in telephone surveys included Chickmont Ltd. Guardian General, Butterfield Bank, Fujitsu (Barbados) Ltd., Banks Holdings (Barbados) Ltd. and Williams Industries. The email surveys included Arawak Cement Ltd., Caribbean Money Market Brokers, Royal Bank of Canada, and Sagicor.

surveys, telephone surveys, and direct interviews with representatives from selected business corporations and (SBEs).

The response rate was relatively high with 18 organisations out of 22 responding positively and only four failing to respond. Of the 18 responses, five do not practice CSR and three are not familiar with the concept, suggesting that the awareness of the concept and practice of CSR is still relatively new.

For the most part, 20 of the 22 business corporations surveyed operate on the basic principle of "giving back to the community and making a positive impact as a corporate citizen".

The findings also indicated that CSR practice in Barbados was predominantly philanthropic and based on the charity principle. This philanthropic approach was not limited to any one sector but evenly spread across the various sectors.[98] Both these results are in line with the findings of earlier researches by Jones (2003) and Dick-Forde (2006).

Among the companies interviewed there appears to be a keen sense of awareness of the potential benefits to be derived from effective and sustainable CSR practice. This was ably demonstrated by strong leadership commitment towards improving the CSR practice through advocating social change, sponsoring varied and numerous community activities, preparing annual CSR reports and becoming increasingly aware of their organisations' impact on society.

If we compare these results with the three-wave model of CSR by Jones (2003) presented in the first chapter of the thesis, and the five stage corporate citizenship model by Mirvis and Googins (2006) presented below, some interesting elements can be highlighted.

[98] An overview of the social programmes undertaken by the companies is presented in ANNEX II.

**Figure 3.2. Corporate Citizenship Model**

| | Stage 1. Elementary | Stage 2. Engaged | Stage 3. Innovative | Stage 4. Integrated | Stage 5. Transforming |
|---|---|---|---|---|---|
| Citizenship Concept | Jobs, Profits, and Taxes | Philanthropy, Environmental Protection | Stakeholder Management | Sustainability or Triple Bottom Line | Change the Game |
| Strategic Intent | Legal Compliance | License to Operate | Business Case | Value Proposition | Market Creation or Social Change |
| Leadership | Lip Service, Out of Touch | Supporter, in the Loop | Steward, On Top of It | Champion, in Front of It | Visionary, Ahead of the Pack |
| Structure | Marginal: Staff Driven | Functional Ownership | Cross-Functional Coordination | Organizational Alignment | Mainstream: Business Driven |
| Issues Management | Defensive | Reactive, Policies | Responsive, Programs | Pro-Active, Systems | Defining |
| Stakeholder Relationships | Unilateral | Interactitve | Mutual Influence | Partnership | Multi-Organization Alliances |
| Transparency | Flank Protection | Public Relations | Public Reporting | Assurance | Full Disclosure |

*Source: Mirvis and Googins, 2006.*

In particular, it is important to make a distinction between actual CSR (i.e. the adoption and practice of CSR principles with a view to actively creating social value) and the rhetoric of 'corporate responsibility', which simply translates into relativities (such as minimising risk and acting in conformity with prevailing social norms).

A comparative analysis of the business corporations using the Corporate Citizenship Model, outlined in the table above (*Table 2*), seem to suggest that most of the companies interviewed operate at stage two of this model and therefore have a long way to go before they can achieve the goal of achieving the 'Transforming' stage.

In conclusion, these findings from the research imply that there is a significant need for further marketing, stakeholder sensitization, vigorous research, wider application and strategic incorporation of CSR practice into the daily management practices of companies. Some organisations speak about a policy of corporate

responsibility rather than CSR with the general belief that it is one and the same; projects are viewed as sustainable as a result of the longevity of sponsorship rather than the ability to make a difference in the lives of people and communities. This will have a great impact on the ability of CSR to affect social change.

### 3.2.4. General conclusions

The findings in the three countries show some interesting similarities and differences. Firstly, CSR seems to be mainly foreign driven, while there is little awareness locally of CSR and of its potential to strengthen and support the core business of a company.

In Jamaica only 10% of the companies interviewed indicated that their CSR strategy which was supportive of the business model, while in Trinidad and Tobago half of the SMEs interviewed declared not to expect/achieve any business-related benefit from their social programmes.[99]

Secondly, while the overwhelming majority of the companies interviewed undertake some sort of social programme, showing a growing interest by the Private Sector in the practice of SCR, it was evident that the majority of them are engaged more in philanthropic types of activities rather than CSR. While this philanthropic approach was quite widespread across sectors in the case of Barbados, in Trinidad and Tobago it was evident that some sectors were moving away from this approach, mainly those that were exposed to international competition (such as for example the Trans-Caribbean corporations which are based in one of the three countries).

Thirdly, there is a general lack of transparency on CSR, both with respect to publicly available information on a company's CSR activities and the disclosure of financial information on the programmes. Both the studies in Trinidad and Tobago and Jamaica show that being publicly traded partially reduces this lack of transparency, facilitating the inclusion of more stakeholders in the decision-making process and increasing the publication CSR-related information.

[99] In Barbados there seems to be a greater awareness of the benefits associated with the practice of CSR, however no assessment on the actual achievement of these benefits was made in the research exercise.

Fourthly, donations are often demand driven with a lack of needs assessment and the decision often relies in the hands on the senior management alone. In addition, both in Jamaica and in Trinidad and Tobago there is a widespread lack of trust and collaboration between the private companies and CSOs, due to lack of available information on the their financial books and projects.

Fifthly, companies only rarely undertake formal impact assessments of their CSR programmes. This hinders the possibility to assess the real benefits for the communities and also the Return on Investment (ROI) for the companies, towards increasing the sustainability of these programmes.

Sixthly, the role of the Government in promoting the practice of CSR is still limited. There are no fiscal or regulatory incentives for CSR apart from the recently introduced regulations on health and safety practices.[100] In addition, while all three countries developed National Development Plans, the specific role of the private sector in the achievement of these plans has not been explored in detail.

Seventhly, with respect to internal CSR, despite an increasing compliance with labour laws and regulations and the provision of a wide range of training programmes for the workforce, companies often do not go beyond the requirements of the law to reap maximum benefits from internal CSR practices, such as reducing absenteeism and increasing the ability to attract and retain workers, or assess these practices towards increasing their effectiveness and business returns.

Finally, the study revealed a limited interest by the private sector in the area of environment, both with respect to reducing the environmental footprint and engaging in the production of "green" products and services. Contradictory trends were found in the Tourism sector, with a significantly higher engagement on environmental aspects in Jamaica than in Trinidad and Tobago.[101]

[100] Both Trinidad and Tobago and Jamaica recently introduced policies for Occupational Health and Safety (OHS).

[101] This might be explained on the basis of the higher presence of foreign companies in the tourism sector in Jamaica than in Trinidad and Tobago. This would confirm the evidence highlighted from the study in Trinidad and Tobago that foreign companies are leading the way in the practice of CSR, being more aware of the potential benefits.

Conclusively, the findings show that that the findings of Haslam (2002), which ranked the Caribbean region as "stalled" in the practice of CSR underestimate the current state of play, at least with respect to Trinidad and Tobago, Jamaica and Barbados. What has been missing so far is not the involvement in social programmes, but the local ownership of CSR activities, both in terms of promoting CSR among local companies and localizing the CSR practices of MNCs, which in most of the cases are directed from abroad, to address regional needs.

## 3.3. Extending the conclusions to the Caribbean region, assessing the links with the theory and main policy implications

There are two key elements that induce us to think that these results are valid also for the Caribbean region as a whole. First of all, these three countries considered in the analysis represent an important size of the Caribbean economy, contributing in 2002 to approximately 75% of the GDP of Caricom.[102]

Second of all, the findings are quite consistent across these countries, despite different economic profiles, suggesting that they might be common to the entire region.

In Trinidad and Tobago the main contributors to the country's GDP are the Energy and related industries sector, accounting for over 45% of the country's GDP in 2006, while the other key sectors of the booming economy are the Manufacturing, followed by Distribution Services, Finance, Insurance and Real Estate. In Barbados the main drivers of the economy are the Wholesale and Retail Trade, followed by Business and General Services, Tourism, Finance and Transport, Storage and Communication. Finally, in Jamaica the industries contributing significantly to GDP are Tourism,

[102] 39% Trinidad and Tobago, 27% Jamaica and 9% Barbados (see Caricom statistics, www.caricomstats.org). Note that Caricom includes 15 countries of the Caribbean region: Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago. Therefore, the two major economies of the Caribbean region, excluding Port Rico, are not members of Caricom (Dominican Republic and Cuba).

Distributive Trade, followed by Transport, Communication and Storage and Manufacturing. However, when transposing the conclusions at the regional level, some caveats have to be bore in mind.

One could be the fact that subsidiaries of large MNCs play the leading role in the provision of CSR programmes in Trinidad and Tobago might be not applicable for countries that do not experience a similar buoyancy of natural resources. In fact, FDI from outside the Caribbean region are concentrated in a few countries[103] and this might limit the potential for the development of the CSR in countries that do not experience a high level of FDI.

In addition to that, distinctions should also be made with respect to the different types of sectors where foreign companies are involved: for example the study conducted in Trinidad and Tobago showed that the extent of involvement of the Energy and the Tourism sector is very different. In fact, considering the total expenditure in social and environmental programmes among the companies in the sample, the 16 companies in the Energy and related industries that disclosed data on their yearly expenditure in these programmes contributed for over 50% of the total amount, while the 10 from the Tourism sector contributed for less than 2%.

Another important caveat is that, even though the differences across the three countries analysed are marginal, the economic profile still plays a role in shaping the potential for the development of CSR in a country.

In fact, the strategic implications of CSR are different from sector to sector (see McWilliams and Siegler, 2002) and the three country-studies confirmed this hypothesis only to a limited extent. As highlighted before, the findings were quite consistent across the three countries but the limited awareness by companies of the strategic implications of CSR might have reduced the degree of heterogeneity of CSR practices across different sectors. However some differences ought to be noted: for example, in Trinidad and Tobago, the Financial sector tended to be engaged more at the national level rather than within the local communities, while the contrary was

[103] Extra-regional FDI is concentrated in a small number of countries. Over 80% of the FDI in Caricom member states were made in only three countries (the Bahamas, Jamaica and Trinidad and Tobago in ascending order of importance) Energy-related industries, minerals and tourism are significant sectors for extra-regional FDI. For example countries such as Bahamas, Barbados, Dominican Republic and Jamaica attract an important amount of extra-regional FDI in the tourism sector. See Caribbean Trade and Investment Report, 2005.

true for the Manufacturing sector. Less straightforward seemed to be the CSR trends in sectors such as Tourism, which depends on a high degree on the perception of the business opportunities related to Eco-Tourism, and of sectors such as Distribution, Shipping and Dealership, for which the perceived demand for CSR plays a key role.

However, countries with different economics profiles might offer different landscapes with respect to the actual and potential development of the practice of CSR.[104] This has important implications in terms of an evidence-based policy planning to increase the effectiveness of CSR for national development. In addition, the agricultural sector still plays an important role in several countries of the region[105] and while none of the three studies allowed assess the practice of CSR in the agricultural sector, due the marginal contribution to the GDP of the countries, it provides a wide range of possible implementation areas for CSR, ranging from labour standards to bio-products.

Finally, one recent trend opened the way for a new era of regional CSR programmes: the surge of Trans-Caribbean Corporations (TCCs). These companies are more and more common in the financial sector (banking and insurance) followed by other sectors such as tourism, distribution and manufacturing, food and beverage, cement, airline and finally shipping transport.[106] The study conducted in Trinidad and Tobago showed that TCCs, both in the financial, fast food and distribution sector, are

[104] In the Caribbean region there are several countries that developed a local industrial base: apart from Trinidad and Tobago these are Guyana and Suriname, which both have a mining industry, Puerto Rico (pharmaceutical industry), the Dominican Republic, and Jamaica. Other countries developed a strong Financial sector, such as the Cayman islands, Barbados among others.

[105] In the region there are at least two countries which have a predominantly agriculture-based economy (Guyana and Haiti) while agriculture represents an important contributor to GDP also in Guatemala, Belize and Dominica.

[106] Intra-regional investment accounted for around 10% of total FDI inflows to CARICOM Member States Trinidad and Tobago is by far the leading regional investor country, followed by Barbados and Jamaica, while the main destination countries have been Jamaica, Barbados, the OECS and Belize, Guyana and Suriname. The headquarters of the trans-Caribbean corporations are mainly in Trinidad and Tobago and, to a lesser extent, Barbados (shipping) and Jamaica (predominantly hotels and tourism). With respect to non-equity investment, construction companies out of Trinidad and Tobago are engaged in providing services to the region and some firms in the areas of law, architecture, and accounting also provide cross-border services. Finally, certain fast food firms from Barbados and Trinidad and Tobago use their brand name to franchise operations in other Caribbean countries.

among the largest contributors in CSR terms and, while previously focused mainly in the home country, they recently started a regional CSR programme.

Some of the conclusions above can be linked to the theoretical models presented in the previous chapters of the thesis.

For example, the view of CSR as a differentiation strategy justifies the fact that the "ethical preferences" of the firms are determined by the relevant stakeholders of the firm. In the case of the Caribbean region, where there are many multinational companies, the CSR priorities will often be are often determined by customers and investors who are located in other parts of the world, which is what the study found out. The consequence is that there might be a a misalignment between the CSR priorities of the firms and the real development need of the region itself, which is an important element when we look at the policy implications.

Another interest element is the fact that firms, particularly large multinationals but increasingly more also small local firms, do not undertake CSR as a result of stakeholders' demands, but rather to promote a more efficient utilisation of the resources.

Hence, it seems that the existing economic literature on CSR, focusing exclusively on the view of CSR as a differentiation strategy, is missing out another important element which determines firm's engagement, which is what we referred to in the first chapter of the thesis as CSR as *efficient resource management*.

This consideration will be expanded at the heart of the model developed in the sixth chapter if the thesis, which looks at the dynamic optimization of firms' production decisions.

Finally, the study also revealed that there is a general reluctance of the developing countries to adopt international standards of CSR. This issue will be at the centre of the fourth chapter of the thesis, which develops a theoretical model of CSR – still viewed as a differentiation strategy, and location choice.

Let's now consider some of the potential policy implication fro the study. To overcome the lack of local ownership and the existing gaps in the practice of CSR in the region which have been highlighted in the paper, three *Strategic Drivers of CSR in*

*the Caribbean* should be considered: (i) *Enabling elements,* (ii) *Structural elements* and (iii) *Making the Business Case for CSR.*

The *enabling elements* are elements which can increase the level and effectiveness of CSR. The first of the *enabling elements* is the involvement of Public Agencies.

Ward (2004) identifies four key roles of the public sector in underpinning CSR: (i) mandating (i.e. establishment and implementation of minimum environmental and social standards and other laws, regulations and penalties), (ii) facilitating (i.e. incentives, setting clear overall policy frameworks and positions to guide business investment in CSR, regulations on transparency and disclosure, advocacy), (iii) partnering (i.e. public-private partnerships to leverage complementary skills and resources to tackle issues within the CSR agenda) and finally (iv) endorsing (i.e. showing public political support for particular kinds of CSR practice, promoting specific award schemes and the adoption of guidelines and standards; and leading by example, such as through public procurement practices).

In a time when numerous countries in the Caribbean are adopting innovative development policies, Governments have the opportunity to engage the private sector to align CSR practices with domestic priorities and to localize CSR policies from large MNCs so that they are rooted in local sustainable development concerns and not imposed from above by distant stakeholders. Fiscal incentives and regulations should also be explored as tool to increase the companies' engagement in CSR. We will come back on the theoretical implication of a fiscal incentive for CSR in the fifth chapter of the thesis.

The second *enabling element* includes all the CSR tools, guidelines and standards, which provide an essential support for the companies in the planning and implementation of CSR. The access and awareness of these instruments by the local companies should be increased.[107] In addition, the integration of these international CSR principles in local standards and certifications could push local companies to

[107] For example, the UN Global Compact (UNGC) can be used as an overarching international framework that enables business corporations and social business enterprises to move beyond voluntary compliance with CSR practices. The fact that in Argentina the number of companies that are signatories to the 10 principles of the UNGC increased from 1 organization to 222 during the official launching of the initiative (Peinado-Vara, 2004) shows how the UNGC can exert a great attractiveness to companies, ensuring greater local ownership and participation.

upgrade their CSR practices to gain access to licences, funding, new markets and foreign contractors. It should also be highlighted that the issue of the ISO 26000 social responsibility standard in 2008 will make the implementations of certain CSR practices almost a requirement for these companies that want to access certain types of markets, consumers or contractors.

The third *enabling element* is the local demand for CSR. There is a need to improve peoples' awareness of the ethical practices associated with products on the market, an issue that is often overlooked in many developing countries because of a lack of consumer advocacy and the general absence of consumer associations.[108] The presence of a contractors' demand for ethical products and services and ethical funds also exerts attractiveness for companies to integrate CSR in their practices.

The last enabling element is the Civil Society. The civil society plays a key role in the CSR process, both as a partner and as a watchdog of private companies. With respect to the first aspect, there is the need to create and share spaces and opportunities for the private sector to work with and contribute to community and civil society driven projects and strengthen civil society to liaise with the private sector in partnership opportunities.[109] With respect to the second aspect, with their presence on the ground CSOs should strengthen their capacity for monitoring and evaluating projects, in order to reduce the asymmetry of information between what private companies market and what they actually do.

The *structural elements* are elements which are specific of the Caribbean basin and which should be adequately capitalized to increase their impact in the development of the practice of CSR.

First of all, this study showed that large MNCs are leading the way in CSR in several countries of the region but their contribution to national development could be further enhanced through practices such as supply-chains development, local

[108] In recent times, some countries such as Trinidad and Tobago, Barbados, and Jamaica have established Fair Trading Commissions and appropriate consumer legislation to correct these deficiencies.

[109] For example a regional database for CSOs could provide an excellent exchange market for CSOs and the private sector. The inclusion of financial information on the projects undertaken would increase the reliability of these organizations as possible counterparts, addressing the current lack of trust highlighted among the conclusions.

content development policies and expanding their areas of intervention beyond the fence-line communities to include areas such as disaster recovery and alternative energies.[110] In addition, the international standards practiced by these companies can affect the CSR practices of local suppliers and contractors, provided that the same standards are applied to the headquarters and the subsidiaries. [111] However, while the contribution of MNCs to the development of CSR is evident for some countries, there is still an open mark on its possible role at the regional level.

The second *structural element* is the increasing number of Trans-Caribbean Corporations (TCCs). Differently from large MNCs, these companies are concentrated in the countries endowed with some specific resources, but are quite spread over the entire region. Therefore, countries should capitalize on the increasing engagement of TCCs in CSR programmes at the regional level, as highlighted in Trinidad and Tobago, directing these efforts to regional development priorities. With the provision of an adequate framework and incentives, this trend could be lead to a progressive alignment in the CSR practices across different countries of the region, overcoming the existing differences due to country-specific elements. Other institutions could play a key role to facilitate this process, such as the Caribbean Association of Industry and Commerce (CAIC), providing a forum for the discussion and implementation of common CSR standards, or regional umbrella organizations for CSOs, establishing common registration requirements across different countries.

Finally, the third *structural element* is the presence of many SMEs. The issue of SME needs some further consideration, because of the great importance of them in the Caribbean economies. CSR as such is often seen as the natural territory of medium and large enterprises, while SMEs' social investment is more targeted towards sponsorship and charity contributions, and the study in Trinidad and Tobago

[110] The government has a key role in setting standards for MNCs, providing guidance on possible areas of interventions. This role of the Government is well accepted in the economic doctrine. For example Boone (1995) clarifies that: "a country which imports all the products of the markets concerned has an incentive to raise its minimum quality standards as long as both firms enter the market in the country because their consumers can realize a higher surplus whereas the diminished profits leave the country anyway".

[111] A survey conducted in 2002 by the National American Manufacturers (www.nam.org) showed that the direct positive impact of these companies on labour and environmental standards in the broader policy context can be more effective than punitive actions, for example trade sanctions, against developing country governments.

confirmed these trends. However, while it is true that SMEs experience various constraints that limit their capacity to engage in CSR, a recent study by the European Commission pointed out that "attitudinal barriers are more important in explaining the inactivity of SMEs in socially responsible activities than lack of resources - lack of money/time" (European Commission, 2004).

Removing these barriers would be of crucial importance taken into account that, due to the high labour-content of these firms, also a minimal improvement in the internal CSR practices, such as work-life balance, gender issues, provision of facilities for the children, could have a relevant impact on the living condition of the populations without necessarily affecting their competitiveness.

This leads us to the final element, *Making the Business Case for CSR*. This means essentially raising the awareness of the value and benefits of good corporate social behaviours and strengthening the capacity of firms to include CSR in their business planning on strategic lines.[112] The research has revealed that companies that are more aware of the strategic implication of CSR and of its capacity to strengthen the business plan increase the level and effectiveness of their CSR. In addition, it has also a positive impact on the long-term sustainability of the programmes undertaken (UNDP, 2005). Therefore promoting a better understanding of the strategic implications of CSR on a company's profitability must be a priority among industry associations and other organizations, as a key element towards increasing the engagement of local companies, including SMEs, in CSR and ensuring local ownership of programmes.

[112] Porter and Kramer (2002) highlighted the key contributions that CSR can add to the profitability of a company, improving its 'competitive context', which consists of four interrelated elements that affects the company's profitability: (i) factor conditions, (ii) demand conditions, (iii) context for strategy and rivalry and (iv) related and supporting industries. Focusing on these elements, CSR can become truly strategic, delivering both economic benefits for the company and social benefits for the country as a whole.

# ANNEXES

## ANNEX I. Main results from the study "Mapping CSR in Trinidad and Tobago"

**Figure 3.3. External CSR and programme planning in Trinidad & Tobago**

| ***Questions*** | | ***All*** | ***Excluding Energy*** | ***SMEs*** |
|---|---|---|---|---|
| *Companies involved in social and environmental programmes* | | *98%* | *97%* | *98%* |
| *Classification of programmes from a budgetary perspective* | *Marketing and PR* | *20%* | *26%* | *14%* |
| | *Charity/Donations and Sponsorships* | *42%* | *56%* | *62%* |
| | *Corporate Social Responsibility* | *12%* | *6%* | *0%* |
| | *Community development* | *20%* | *15%* | *17%* |
| | *Miscellaneous/Non specified expenditure* | *8%* | *11%* | *14%* |
| *Pre-assigned annual allocation for these programmes* | | *60%* | *49%* | *36%* |
| *Company has identified its stakeholders* | | *92%* | *90%* | *87%* |
| *Stakeholders have been consulted to assess the development priorities and areas of intervention* | | *58%* | *52%* | *50%* |
| *Consideration local needs in the planning process* | | *76%* | *73%* | *60%* |
| *Feedbacks from identified stakeholders are taken into consideration* | | *59%* | *54%* | *51%* |
| *Social and environmental programmes are aligned with ongoing company policies and* | | *72%* | *66%* | *55%* |

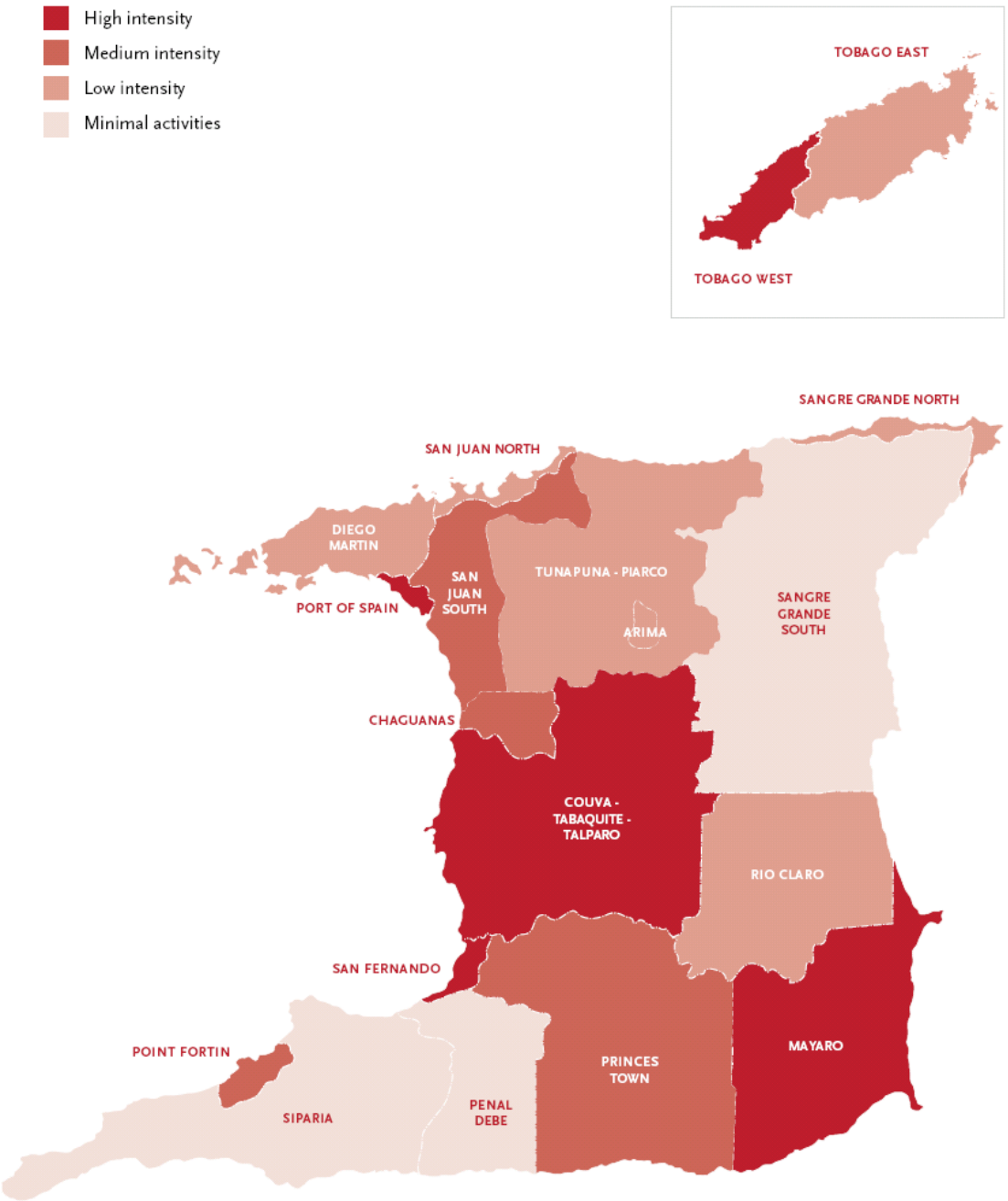
| | | | | |
|---|---|---|---|---|
| *products* | | | | |
| *Company engaged in partnerships* | | *71%* | *66%* | *55%* |
| *Company undertakes formal impact assessments of social and environmental programmes* | | *18%* | *8%* | *7%* |
| *Benefits derived from the social and environmental programmes undertaken* | *Improve branding and image* | *51%* | *43%* | *47%* |
| | *Increase sales/market share/access to capital* | *20%* | *19%* | *21%* |
| | *Licence to operate* | *5%* | *0%* | *0%* |
| | *Long term relationship with stakeholders* | *20%* | *10%* | *15%* |
| | *Increase employee loyalty/potential labour pool* | *19%* | *2%* | *11%* |
| | *Goodwill and corporate citizenship* | *24%* | *24%* | *25%* |
| | *None* | *19%* | *24%* | *33%* |

**Figure 3.4. Internal CSR practices in Trinidad & Tobago**

| ***CSR practices with the workforce*** | ***All*** | ***Excluding Energy*** | ***SMEs*** |
|---|---|---|---|
| *Monitor compliance with labour laws* | *94%* | *93%* | *92%* |
| *Health and Safety policy in place* | *82%* | *77%* | *72%* |
| *Health and Safety policy enforced* | *91%* | *90%* | *90%* |
| *Provision of programmes for employee/management training and development* | *91%* | *89%* | *85%* |
| *Provision of employee programmes for succession planning* | *60%* | *54%* | *37%* |
| *Provision of employee programmes for work life balance* | *52%* | *43%* | *25%* |
| *Provision of programmes for ethics training* | *52%* | *44%* | *42%* |

| | | | |
|---|---|---|---|
| *Employee assessment programmes* | *72%-82%* | *69%-77%* | *67%-72%* |
| *Provision of Employee Assistance Programmes (EAP)* | *67%* | *62%* | *55%* |
| | | | |
| ***CSR practices in the area of environment*** | ***All*** | ***Excluding Energy*** | ***SMEs*** |
| *Monitor environmental laws* | *74%* | *64%* | *67%* |
| *Adoption of a precautionary approach to environmental challenges* | *81%* | *76%* | *72%* |
| *Educating employees on the potential impact of their activites on the environment* | *60%* | *49%* | *44%* |
| *Adoption of initiatives to promote greater environmental awareness and preservation* | *66%* | *55%* | *54%* |
| *Implementation of waste reduction programmes* | *50%* | *52%* | *45%* |
| *Environmental Management Systems (formal/informal)* | *56%* | *43%* | *37%* |
| *Achievement of international environmental certification* | *24%* | *11%* | *15%* |
| *Company believe that environmental certification could bring competitive advantage* | *70%* | *64%* | *62%* |

**Figure 3.5. CSR practices in different areas of Trinidad & Tobago**



# ANNEX II. CSR Study in Barbados (UWI Cave Hill)

## Figure 3.6. Profile of CSR Projects in Barbados

| *Corporation* | *CSR Projects* | *Reports* |
|---|---|---|
| *RBC (Barbados)* | *Donations to culture, apprenticeship programmes, sport* | *2006* |
| *C&W (Barbados) Ltd.* | *Donations to projects in education, health, sports (18 yrs cricket), community development (15yrs NIFCA)* | |
| *E&Y (Barbados)* | *Community outreach (Optimist Club/2000), Internship awards, sponsorships and donations* | |
| *FirstCaribbean Int.* | *Scholarship programmes, UWI partnership programme, adopt-a-cause programme, Unsung Heroes programme (2003), community and entrepreneurship programme* | |
| *KPMG (Barbados)* | *Barbados Jazz Festival, UWI annual scholarships, Adopt-a-school programme, Make a Difference Day Initiative, donations of cash to less fortunate citizens, internship programmes at UWI and SJPP.* | |
| *RBTT* | *Arts and culture, adopt-a-school programme, Peace and Love in Schools (J'ca), sport, environment, community outreach (NGOs, CBOS)* | |
| *Barbados Ice Co. Ltd.* | *Charity* | |
| *Barbados Salvation Army* | *Spiritual upliftment, feeding programmes, men's hostels, shelter for disaster victims, thrift shop, League of Mercy, Youth Education Centre, prison ministry* | |
| *L&W Fish Processors Inc.* | *Charities* | |
| *Soroptimist Int. of Barbados* | *Social activities* | |
| *Barbados Red Cross* | *Meals on wheels programme, HIV/AIDS prevention programme, ambulance service, youth commission & youth links* | |
| *BCA/BCL* | *Cricket training* | |

# SECTION II: Theoretical Innovations

## Chapter 4: CSR and Location Choice[113]

In this chapter we develop a model of CSR as in a two-country setting. The consumers exhibit a preference for a more 'ethical' behaviour by the firms, to which firm finds it optima to respond undertaking CSR as a differentiation strategy.

For the reasons explained in Chapter 2, a framework of vertical differentiation will be adopted. Our main reference is the model of duopoly differentiated by quality developed by Motta (1993), which will then be adapted to the issue of CSR. This framework has already been applied by Amacher, Koskela and Ollikainen (2004) to a similar context (i.e. environmental quality competition and eco-labelling).

The main innovation with respect to the traditional literature on CSR, is the introduction of a two country setting, in which different costs of production and different costs of undertaking CSR and making it 'visible' to the consumers, might prevail.

### 4.1. Summary of the main conclusions by Motta (1993) on vertical differentiation.

Before introducing our model, it is useful to quickly recall the main features and conclusions of the model developed by Motta (1993).

In Motta's Framework the consumers present different tastes for quality and are uniformly distributed with unit density. There is no a priori upper bound to the level of quality, but there is lower bound to it, which could be interpreted as a

[113] This section is drawn from the paper: "A Duopoly Model of Corporate Social Responsibility and Location Choice", published as Working Paper N. 641 of the University of Bologna, which I co-authored with Alberto Balboni

minimum legal requirement. A further assumption is that the market is not covered, i.e. some consumers do not buy the differentiated good at all.[114]

The model comprises a two-stage game in which firms first decide the level of quality of the differentiated good and then compete on the market. They can compete either on prices (i.e. Bertand-Nash equilibrium) or on quantities (i.e. Cournot-Nash equilibrium). Four different cases are studied in the model, assuming either fixed or variable costs of quality improvement.

For the reasons that will become clearer later, the most interesting case form modelling CSR is the Bertrand-Nash equilibrium (i.e. firms choose prices at the second stage of the game) with fixed costs of quality improvement and no variable costs.

In this case Motta (1993) shows that at equilibrium the two firms choose different quality locations. This confirms the results of the paper by Shaked and Sutton (1982), in which firms choose to differentiate their products even when costs of quality are zero, in order to relax price competition on the market.

However in Shaked and Sutton (1982), with neither variable nor fixed costs of quality, one firm chooses the maximum quality possible and the other a level strictly higher than the minimum (i.e. the maximum differentiation equilibrium emerges). Conversely in Motta (1993), with fixed costs of quality, both firms choose a level of quality internal to the interval of possible qualities.

Motta (1993) also shows that if one removes the assumption that the market is not covered, then it becomes optimal for the firm which offers the lower quality to offer a quality equal the minimum quality requirement. This result corresponds to the one by Tirole (1988).

The Cournot-Nash equilibrium (i.e. firms choose quantities at the second stage of the game) yield less quality differentiation than the Bertrand-Nash one. In the latter case, firms have a higher incentive to choose more distant quality specifications due to the fiercer competition at the marketing stage of the game. While in Bonanno (1986) firms choose not to differentiate when fixed costs of quality improvement do not exist, in Motta (1993) there is always quality differentiation at equilibrium, even if not maximum.

[114] This assumption is made because, with full market coverage, the demand function cannot be inverted and the Cournot-Nash equilibrium cannot be analyzed.

In conclusion, the main result of Motta's paper is that product differentiation always arises in the equilibrium. Therefore, a pure framework of vertical differentiation might not be optimal to study CSR in certain sectors, where the empirical evidence seems to suggest that there is a convergence of the firms on the highest possible level of CSR.

However, Motta (1993) shows that in equilibrium there will be no differentiation if one introduces an upper bound to quality choice and assumed that, when computed at this highest level, marginal costs of quality were not as high as the marginal revenues.

One possibility to explain an equilibrium in which all firms undertake the highest level of CSR would be the case in which at the highest extreme of the ethical differentiation segment the marginal costs are not as high as the marginal revenues. This could be the case for CSR, which is a relatively recent phenomenon, and the most of the benefits from differentiation are still unexplored, thus yielding to high marginal returns from innovation. In fact, it is worth highlighting that the key difference between a result of minimum differentiation and one of maximum differentiation is given by the difference between marginal revenues and costs (the "price premium") at the upper extreme of the differentiation segment.

## 4.2. The model

We consider a duopolistic market with two firms (1 and 2) producing a differentiated good. The goods produced by the two firms can differ in their CSR content i.e. the CSR activities undertaken by the firms and perceived by its customers. The CSR content of the good produced by firm $i$, with $i = 1,2$, is denoted by $s_i$, and I assume, without loss of generality, that $s_1 \geq s_2$.

Following Tirole (1988) and Motta (1993), we suppose that consumers have the same (indirect) utility function, $U = \upsilon s - p$, if they buy one unit of the differentiated good and zero utility if they do not buy it. In this expression, $s$ and $p$ are respectively the CSR content and the price of the differentiated good. We suppose that consumers differ in their tastes with respect to the CSR content of the

differentiated good. The term $\upsilon$ is the consumer's taste parameter, which can be interpreted as each consumer's marginal willingness to pay for CSR. Parameters $\upsilon$ are distributed with unit density over the interval $[\upsilon_B, \upsilon_H]$, such that $\upsilon_B = \upsilon_H - 1$.

Similarly to Motta (1993), we assume that there is no upper bound to the level of CSR, but there is a lower bound to it.[115] This can be interpreted as a minimum legal requirement for CSR (e.g. a CSR standard) valid all over the world, which I denote $s_0$.[116] This minimum level of CSR could require the firm, for example, to employ someone to monitor and report on the firm's activities. If the standard becomes more stringent, it might then require setting a whole department to monitor these interventions.

The fact of having a minimum international level of CSR which is mandatory for every firm is not ad odds with the fact the CSR remains a voluntary intervention. In fact the standard sets a minimum amount of effort that the companies have to put in order to make their CSR 'visible', and it might not even require do actually undertake any CSR. After, the actual amount of CSR that the firms will decide to undertake as a differentiation strategy remains completely voluntary.

Differently from Motta (1993), we assume that the market is covered at the equilibrium, which means that all consumers buy one unit of the differentiated good. This assumption is done for simplicity of the calculus, and could be removed in a follow-up paper.

Given our utility function, we can define $\upsilon_{12}$ as the taste parameter of the individual which is indifferent between buying the higher quality good and the lower

[115] Several authors, following McWilliams and Siegel (2002) argue that there is an upper bound to the level of CSR which can be undertaken by a firm. This level corresponds to the point when one additional "unit" of CSR does not bring any additional benefit to the society because of saturation. However for simplicity I prefer to follow the original framework used by Motta (1993).

[116] An example of this minimum global standard for CSR could be UN Global Compact, the world's largest CSR framework, The UN Global Compact comprises ten principles drawn from declarations which have been adopted by the majority of countries in the world (the 1948 Universal Declaration of Human Rights, the 1998 ILO Declaration on Fundamental Principles and Rights at Work, or the 1992 Rio Declaration on The Environment and Sustainability).

quality one. For this individual $\upsilon_{12}s_1 - p_1 = \upsilon_{12}s_2 - p_2$, from which we determine: $\upsilon_{12} = \dfrac{p_1 - p_2}{s_1 - s_2}$.

Then we define $\upsilon_{02}$ the taste parameter of the individual which is indifferent between buying the lower quality good and nothing. Hence $\upsilon_{02}s_2 - p_2 = 0$. From this we can find $\upsilon_{02} = p_2/s_2$ and derive the aggregate demand functions for goods 1 and 2:

$$\begin{aligned} q_1 &= \upsilon_H - \frac{p_1 - p_2}{s_1 - s_2} \\ q_2 &= \frac{p_1 - p_2}{s_1 - s_2} - \frac{p_2}{s_2} \end{aligned} \tag{0.37}$$

If $\upsilon_B > p_2/s_2$, then I can affirm that the market is covered because all the consumers with $\upsilon \in [\upsilon_{12}, \upsilon_B]$ will buy good 2. In order to ensure that positive demands for the two goods exist, we must assume that the condition $p_2/s_2 < \upsilon_B < (p_1 - p_2)/(s_1 - s_2) < \upsilon_H$ holds at equilibrium.

With covered market, the demand functions for goods 1 and 2 are:

$$\begin{aligned} q_1 &= \upsilon_H - \frac{p_1 - p_2}{s_1 - s_2} \\ q_2 &= \frac{p_1 - p_2}{s_1 - s_2} - \upsilon_B \end{aligned} \tag{0.38}$$

These functions are easier to use than those with uncovered marked (0.37) but, as previously said, they have the drawback that they can't be inverted in order to study the Cournot-Nash equilibrium. Therefore, only the Bertrand-Nash equilibrium will be studied.

The decision process of the two firms can be represented as a three-stage game. At the first stage, firms choose their location, in country A ("North") or in country B ("South"). At the second stage, firms choose the level of CSR ($s_i$) simultaneously. Finally, at the third stage, a competitive process occurs and firms choose prices simultaneously, determining indirectly the equilibrium quantities of the two goods. The game is solved by backward induction.

We make the following assumptions concerning the possible values of the parameters $\upsilon_H$ and $\upsilon_B$:

**Assumption 1**: $\upsilon_H \geq 2\upsilon_B$. This ensures that there is a sufficient degree of heterogeneity among consumers (cf. Tirole [1988]). Note that, since $\upsilon_B = \upsilon_H - 1$ (cf. page 6), we must have $0 < \upsilon_B < 1$ and $1 < \upsilon_H < 2$.

**Assumption 2**: $\left(\upsilon_H - 2\upsilon_B\right)\left(s_1^* - s_2^*\right)/3 < \upsilon_B s_2^*$. This ensures that the market is covered at equilibrium.

**Assumption 3**: $s_1^* \geq s_2^*$.[117] Following Tirole (1988) and Motta (1993), we have assumed, for simplicity and without loss of generality, that $s_1 \geq s_2$ (cf. above). This implies that Assumption 3 holds at equilibrium.

### 4.2.1. Marketing stage

Using backward induction, we first study the last stage of the game, in which firms choose prices subject to their previous choices of CSR and location.

We assume that there are only fixed costs of CSR and no variable costs. In other words, variable costs of production do not depend on the level of CSR ($s_i$), whereas fixed costs depend on it.

The reasons why seeing CSR as a fixed costs instead of a variable cost have been clarified in Chapter 2. To summarize them we can say the in most cases these are set-up costs, while only a small part of the costs actually depend on the scale of production.

Hence, at the last stage of the game, the costs of CSR have already been sunk and there are only constant marginal costs of production. Without loss of generality, we assume these costs being equal to zero. The study of the sub-game perfect Nash equilibrium at this stage gives the following results.

[117] In the expressions here above, $s_1^*$ and $s_2^*$ are the levels of CSR chosen by, respectively, firm 1 and firm 2, at the second stage of the game. These are determined as a function of the exogenous variables in the following sub-section (cf. Proposition 2). Appendix 1 defines the values of the exogenous variables that are authorized in our model, in order to respect Assumption 2 and Assumption 3.

**Proposition 1.** *At the third stage of the game, firm 1 sets a higher price and produces a larger output than firm 2. Hence, at equilibrium there is an "ethical" firm that sells to "ethical" consumers charging a higher price than the other firm (the "neutral" firm), which sells to the rest of consumers.*

**Proof.** *The expressions for the two firms' profits are:*

$$\begin{aligned} \pi_1 &= p_1\left(\upsilon_H - \frac{p_1 - p_2}{s_1 - s_2}\right) \\ \pi_2 &= p_2\left(\frac{p_1 - p_2}{s_1 - s_2} - \upsilon_B\right) \end{aligned} \tag{0.39}$$

*In which marginal costs of production are taken to be zero. Firms maximize their profits with respect to prices. In order to determine the First Order Conditions (FOCs) for maximization we compute the derivatives of profits with respect to prices and set them equal to zero:*

$$\begin{aligned} \upsilon_H + \frac{2p_1 - p_2}{s_2 - s_1} &= 0 \\ \frac{2p_1 - p_2}{s_2 - s_1} - \upsilon_B &= 0 \end{aligned} \tag{0.40}$$

*Solving these expressions for the prices, we obtain the reaction functions of the two firms:*

$$\begin{aligned} p_1 &= \frac{p_2 - \upsilon_H\left(s_1 - s_2\right)}{2} \\ p_2 &= \frac{p_1 + \upsilon_B\left(s_1 - s_2\right)}{2} \end{aligned} \tag{0.41}$$

*As expected, these reaction functions show that the prices of the two goods are strategic complements, since each price is an increasing function of the other: an increase in* $p_2$ *makes it more profitable for firm 1 to increase its price (cf. Varian, 1992).*

*After verifying that also the Second Order Conditions are respected, we solve the system of the reaction functions of the two firms and we find the level of the two prices in the Bertrand-Nash equilibrium:*

$$p_1^* = \frac{(s_1 - s_2)(2\upsilon_H - \upsilon_B)}{3}$$
$$p_2^* = \frac{(s_1 - s_2)(\upsilon_H - 2\upsilon_B)}{3} \quad (0.42)$$

*Hence, at the last stage of the game, firms set prices at values given above. Since* $\upsilon_B = \upsilon_H - 1$ *and* $1 < \upsilon_H < 2$ *(cf. Assumption 1), it follows* $2\upsilon_H - \upsilon_B > \upsilon_H - 2\upsilon_B$. *Hence,* $p_1^* > p_2^*$ *and both prices are positive at equilibrium.*

*Since quantities are given by the demand functions* (0.38) *it is useful to calculate* $p_1^* - p_2^*$ *at the equilibrium:*

$$p_1^* - p_2^* = \frac{(s_1 - s_2)(\upsilon_H + \upsilon_B)}{3} \quad (0.43)$$

*Hence, at equilibrium prices, the outputs of goods 1 and 2 are, respectively:*

$$q_1^* = \frac{2\upsilon_H - \upsilon_B}{3} \; ; \; q_2^* = \frac{\upsilon_H - 2\upsilon_B}{3} \quad (0.44)$$

*Once again, since* $\upsilon_B = \upsilon_H - 1$ *and* $1 < \upsilon_H < 2$, *I have* $2\upsilon_H - \upsilon_B > \upsilon_H - 2\upsilon_B$, *and thus* $q_1^* > q_2^*$. *Assumption 1 (*$\upsilon_H \geq 2\upsilon_B$*) ensures that the output of firm 2 is positive.*

*Finally, it is important to note from expressions (0.44) that the outputs of the two firms at the Bertrand-Nash equilibrium depend only on the distribution of consumers and not on the levels of CSR decided at the second stage of the game.*

### 4.2.2. The choice of CSR levels

Now we can study the second stage of the game, i.e. the choice of the level of CSR which will be embedded in the good sold. Firms maximize their profits subject to their previous choice of location. Profits are given by revenues, computed at the Bertrand-Nash equilibrium, less costs and can be written as follows:

$$\pi_i = p_i^* q_i^* - S_i - \frac{F_i}{2} s_i^2 \text{ with } i = 1, 2 \quad (0.45)$$

We have previously assumed that variable costs of production are null. All costs are fixed, and come from two different sources.

The first component is given by $S_i$, which corresponds to the costs of compliance with the labour standards and the environmental regulations existing in the country where the firm is located. Hence, $S_i$ depends only on the choice of the country of location by the firm; at this stage of the game $S_i$ is taken as given since the location is chosen in the first stage.

The second component is given by $(F_i/2)s_i^2$. These costs depend on the level of CSR undertaken by the firm and can be considered as fixed costs with respect to the quantity of the good sold by the firm. For these costs I assume a quadratic form, as often made in the literature on vertical differentiation (D'Aspremont et al., 1979). This seems a realistic assumption in the context of CSR. In fact, the first "units" of CSR are the least costly because a firm can direct its efforts to the easily-achievable targets (the "low-hanging fruits"). Afterwards, the costs of additional interventions increase, until the firm comes to a point when additional "units" of CSR becomes extremely expensive.[118]

It is important to note that these costs should be interpreted as the costs of making CSR 'visible' to the consumers and not only as the costs of "doing" CSR. In fact, CSR has to be somehow 'visible' in order for the parameter $s_i$ (i.e. the "units" of CSR)[119] to enter in the consumers' utility function and induce the consumers to pay a higher price for the good. Hence, we can refer to $s_i$ as the 'evident' CSR, and by reflection $(F_i/2)s_i^2$ will be the costs of making it 'visible' to consumers.[120] From the study of the second stage of the game we can conclude the following.

[118] For more details see McWilliams and Siegel (2002), Husted and Salazar (2006).

[119] It should be noted that $s_i$ are "units" of CSR and not monetary costs for the firm, differently from $S_i$.

[120] In practical terms, we can identify these costs as the costs of implementation plus the costs of advertising and promoting CSR towards the external environment. The second components have often been set to zero in the existing literature since, for large firm in particular, they are not very significant (see, for example, Manasakis, Mitrokostas and Petrakis [2007]). However in our paper we cannot set them to zero because one of our objectives is to see what happens when these costs differ from one country to another.

**Proposition 2.** *At the second stage the game, the "ethical" firm undertakes a level of CSR equal to* $s_1^* = \frac{(2\upsilon_H - \upsilon_B)^2}{9F_1}$*, while the "neutral" one sets its level of CSR to the minimum required by international standards, such that* $s_2^* = s_0$*. Hence, the "ethical" firm sets a higher level of CSR than the "neutral" firm, i.e. there is differentiation at equilibrium*[121]*.*

**Proof.** *Using the expressions of the prices and quantities at the Bertrand-Nash equilibrium, we can write the profits of the two firms:*

$$\begin{aligned} \pi_1 &= \frac{(s_1 - s_2)(2\upsilon_H - \upsilon_B)^2}{9} - \frac{F_1}{2}s_1^2 - S_1 \\ \pi_2 &= \frac{(s_1 - s_2)(\upsilon_H - 2\upsilon_B)^2}{9} - \frac{F_2}{2}s_2^2 - S_2 \end{aligned} \tag{0.46}$$

*These need to be maximized with respect to the level of CSR.*

*As regards firm 2, we can easily see that* $\pi_2$ *decreases monotonically in* $s_2$*. Hence, firm 2 will always set CSR at the minimum level allowed,* $s_2^* = s_0$*.*[122]

*As regards firm 1, the FOC to maximize* $\pi_1$ *is* $\left(\frac{2\upsilon_H - \upsilon_B}{3}\right)^2 - F_1 s_1 = 0$*, from which we can derive the optimal level of CSR:* $s_1^* = \frac{(2\upsilon_H - \upsilon_B)^2}{9F_1}$*.*

*Since* $s_1^* \geq s_2^*$ *(cf. Assumption 3), the level of CRS set by firm 1 at equilibrium is higher than that chosen by firm 2 (i.e. the equilibrium with differentiation emerges), for*

[121] It should be noted that there is only one case in which the equilibrium with differentiation does not occur. When the minimum international standard $s_0$ (which is fixed exogenously in our model) is equal to $(2\upsilon_H - \upsilon_B)^2 / 9F_1$, the two firms choose the same level of CSR, equal to the minimum standard. When this is the case, the equilibrium with no differentiation emerges, i.e. both firms set the level of CSR equal to the minimum international standard $s_0$. Even through this equilibrium is possible, it has to be considered as very unlikely, since it only occurs at very particular values of the exogenous variables.

[122] Of course this result would be different if we did not make the assumption that the market is covered. In fact when the market is covered consumers always buy the good and, since there are costs attached to CSR, the optimal strategy for the second firm is always to set CSR equal to the minimum level required by law.

*the greatest part of the parameters' values authorized by Assumption 3 (see Appendix 1 and note 13).*

It is interesting to note that the optimal level of CSR for the "ethical" firm decreases in the costs of making CSR 'visible' to the consumers ($F_1$). These costs depend on the firm's location choice, which is made in the first stage of the game. On the other hand, the optimal level of CSR for the "neutral" firm does not depend on its location choice, since it is always set at the minimum level allowed. Hence, the lower the costs of making CSR 'visible' to the consumers for the "ethical" firm and the lower the minimum international standard, the higher will be the degree of differentiation emerging at equilibrium as regards the provision of CSR by the two firms.

Finally, it's worth noting that the degree of differentiation emerging at equilibrium (for the greatest part of the allowed values of the parameters), is not the maximum possible, since we have assumed that there is no upper boundary for CSR and that the fixed costs of CSR are quadratic.

### 4.2.3. The choice of location

Let's now turn to the first stage of the game, i.e. the choice of location of the two firms. There are two countries in which firms can locate, denoted as A and B. We assume that the costs of compliance with local norms and regulations and the costs of making CSR 'visible' to the consumers depend on the choice of location in one country or the other, such that:

$S_i = S_A$ and $F_i = F_A$ if the firm $i$ is located in country A;
$S_i = S_B$ and $F_i = F_B$ if the firm $i$ is located in country B.

$S_i$ depends on the country of location, since it represents the cost of compliance with country-specific norms and regulations. We assume that also $F_i$ depends on the country of location, and in particular that there is a link between $S_i$

and $F_i$ across countries. In fact, a firm that produces in a country with very low labour and environmental standards (low $S_i$) will probably incur high costs of making a given level of CSR 'visible' to its customers (high $F_i$) because of the lack of transparency, infrastructure, accountable Civil Society Organizations (CSOs) to partner with and so on.

In particular, these costs will be higher than those that the same firm would face in a country characterized by high labour and environmental standards. There a firm could easily and credibly commit on certain CSR activities and could partner with other entities on CSR projects, exploiting the existing social network. We assume that the costs of compliance with local norms and regulations are higher in country A than in B ($S_A > S_B$), while the costs of making CSR 'visible' to the consumers are lower in A then in B ($F_A < F_B$). According to these assumptions, we will refer to country A as "North" and to country B as "South".

In our model we also assume that there is no heterogeneity across countries as regards the distribution of consumers' tastes for CSR, and no transport costs. This could represent a situation in which firms 1 and 2 are constrained to produce in country A or B, but sell their products all over the world (to an arena of 'international' customers), and the demand for their products coming from the rest of the world is overwhelming with respect to the demand coming from countries A and B.[123] This assumption was made because the main objective of our paper is to study how the costs of CSR in different countries influence the choice of location of firms, in the simplest framework as possible. A further paper could investigate these issues in a more sophisticated context, introducing transport costs and heterogeneity in the distribution of consumers' tastes across countries.

From the study of the third stage of the game we can conclude the following.

**Proposition 3.** *The profits of firm 2 (i.e. the "neutral" firm) are always higher when firm 1 (i.e. the "ethical" firm) settles in the country where the costs of making CSR 'visible' ($F$) are lower (i.e. country A). The profits of the "ethical" firm are unaffected*

[123] An example of this could be the oil market, in which firms are constrained to produce in certain countries where the oil is present, but often sell only a small part of their products in this countries.

*from the choice of location of firm 2, since it anticipates that the "neutral" firm will always undertake a level of CSR equal to the minimum international requirement* $s_0$.

**Proof.** *If we substitute the optimal levels of CSR in the expressions of the profits at the second stage equilibrium (0.46), I obtain:*

$$\pi_1 = \frac{(2\upsilon_H - \upsilon_B)^2}{9}\left[\frac{(2\upsilon_H - \upsilon_B)^2}{9F_1} - s_0\right] - \frac{(2\upsilon_H - \upsilon_B)^4}{162F_1} - S_1 \qquad (0.47)$$

$$\pi_2 = \frac{(\upsilon_H - 2\upsilon_B)^2}{9}\left[\frac{(2\upsilon_H - \upsilon_B)^2}{9F_1} - s_0\right] - \frac{F_2}{2}s_0^2 - S_2 \qquad (0.48)$$

*From the expression above it is evident that the profits of firm 2 (the "neutral" firm) depend on the choice of location of firm 1 (since they depend negatively on* $F_1$*). Note that in every case, firm 2 prefers that firms 1 settles in country A, where* $F_1$ *are smaller. This leads the "ethical" firm to undertake a higher level of CSR and charge a higher price for good 1. This, in turn, relaxes the competition at the marketing stage of the game, allowing the "neutral" firm to charge a higher price for good 2 too.*

*The profits of the "ethical" firm do not depend on the choice of location of the firm 2, since the former anticipates that firm 2 will always undertake a level of CSR equal to the minimum international requirement* $s_0$.

**Proposition 4.** *The choice of location of the "ethical" firm depends on the costs of compliance with local norms and regulations (* $S$ *) and the costs of making CSR 'visible' (* $F$ *) in the two countries, and on the distribution of consumers' tastes for CSR. The choice of location of the "neutral" firm depends on the level of* $F$ *and* $L$ *in the two countries and on the level of the minimum international standard for CSR (* $s_0$ *).*

**Proof.** *We define* $\pi_{ij}$*, with* $i = 1,2$ *and* $j = A,B$*, as the profits attained by firm* $i$ *in country* $j$*. These depend on the level of the values of* $S$ *and* $F$ *in each country. Each firm will settle in the country where it achieves higher profits. For example, firm 2 will settle in country B when:*

$$\pi_{2B} > \pi_{2A} \qquad (0.49)$$

*Firm 1 will settle in country B when:*

$$\pi_{1B} > \pi_{1A} \tag{0.50}$$

*Let's study the choice of the "neutral" firm first. As previously said the profits of firm 2 depend on the choice of location of firm 1 (since they depend on* $F_1$*, see condition (0.48)). However, when firms interact strategically to choose their location, the choice of firm 2 is not affected by the choice of firm 1. In particular, we can derive from condition (0.49) that, for any location of firm 1, firm 2 will settle in country "South" if:*

$$S_A - S_B > \frac{s_0^2}{2}\left(F_B - F_A\right) \tag{0.51}$$

*As regards the "ethical" firm, we can derive from condition (0.50) that firm 1 will settle in country "South" if:*

$$S_A - S_B > \frac{\left(2\upsilon_H - \upsilon_B\right)^4}{162 F_B F_A}\left(F_B - F_A\right) \tag{0.52}$$

It is interesting to analyze more in detail conditions (0.51) and (0.52). Condition (0.51) implies that, when the difference in the costs of compliance with local regulations ($S_A - S_B$) is large enough, the "neutral" firm will settle in country B ("South"). This means that the "neutral" firm will decide to settle in the country with stricter regulations (i.e. country A) only if the difference in the costs of compliance with local regulations is more than compensated by the lower costs of undertaking a level of CSR equal to the minimum international standard level ($s_0$).

From expression (0.51) it is evident that the lower the minimum international CSR standard $s_0$, the more likely firm 2 will settle in country B ("South"). In fact even a small difference in the costs of compliance with local norms will induce the firm to settle there.

This allows us to make some considerations with respect to the general reluctance of developing countries to set and adopt strict international CSR standards. These countries often benefit from large amounts of FDIs from developed economies. One of the reasons of the attractiveness of developing countries is that they are usually characterized by looser norms and regulations in the areas of labor and the environment then developed ones. Condition (0.51) tells us that an increase in the

international CSR standards would reduce the incentives of all the "neutral" firms to locate their production in the countries characterized by looser norms.

Condition (0.51) suggests that there would be other possible ways for developing countries to attract FDIs. One is to reduce $F_B$ - the costs of making CSR 'visible' to consumers - in order to cut the difference between $F_B$ and $F_A$. To achieve that, some possible interventions could be the promotion of Public and Private Partnerships (PPPs), social networks prone to CSR interventions, and systems increasing the reliability of CSOs, such as the Civil Society Information System (CSIS) recently introduced in USA, Germany, and other countries.[124]

As regards the "ethical" firm, condition (0.52) implies that firm 1 will settle in country B ("South") if the difference in the costs of implementing local norms ( $S_A - S_B$ ) is large enough to counteract the higher costs of making CSR 'visible' to the consumers than in country A. This condition is different from condition (0.51): $s_0$ does not enter inequality (0.52), implying that the minimum international CSR standard does not affect the choice of location of the "ethical" firm[125], and there is a tem, $\frac{(2\upsilon_H - \upsilon_B)^4}{162F_BF_A}$, which depends from consumers' preferences for CSR.

Since we assumed that consumers are distributed uniformly with unity density, $\upsilon_B$ is equal to $\upsilon_H - 1$ (see page 6) so $(2\upsilon_H - \upsilon_B)^4$ can be written as $(\upsilon_H + 1)^4$, which depend on $\upsilon_H$ alone. Hence, the higher $\upsilon_H$, the larger must be the difference in local regulations ( $S_A - S_B$ ) in order for the "ethical" firm to settle in the country with looser local regulations.

[124] Looking at condition (0.51), there is of course another strategy to attract FDIs, which is to reduce further local norms and regulation in the areas of labor and the environment ( $S_B$ ). Leaving aside the ethical considerations, it should be noted that in any case the firms present in a country have to comply with the minimum international CSR standard. Thus this constitutes a sort of lower bound for the countries, limiting their possibilities of loosening labor and environmental legislation in order to attract FDIs.

[125] This case can be somehow compared to the case of an innocuous minimum standard (see Garella [2007]). In the literature on CSR, the case of a standard set at a lower level than the CSR which the firms are already undertaking has been incidentally analyzed by Besley and Gathak (2007) and Brekke and Nyborg (2004).

The parameter $\upsilon_H$ has different interpretations. First of all, it can be interpreted as the average consumers' "preference" for CSR: the higher $\upsilon_H$, the more ethical are on average the consumers.[126] Secondly, this parameter also captures the heterogeneity in the "ethical preferences" of the consumers.

This can be shown easily. The ratio $\frac{\upsilon_H}{\upsilon_B} = \frac{\upsilon_H}{\upsilon_H - 1}$ measures the heterogeneity in consumers' preferences for CSR. Since $0 < \upsilon_B < 1$ and $1 < \upsilon_H < 2$ (cf. Assumption 1), the ratio $\upsilon_H / (\upsilon_H - 1)$ is a monotonically decreasing function of $\upsilon_H$.[127] Hence, the higher $\upsilon_H$, the more homogenous are consumers' preferences for CSR. Let's turn now to some considerations of comparative statics.

## 4.3. Comparative statics

We start from an initial situation where both firms are located in country A ("North"), which implies that the following conditions are verified:

$$S_A - S_B < \frac{s_0^2}{2}\left(F_B - F_A\right) \tag{0.53}$$

$$S_A - S_B < \frac{\left(\upsilon_H + 1\right)^4}{162 F_B F_A}\left(F_B - F_A\right) \tag{0.54}$$

Conditions (0.53) and (0.54) determine that, respectively, firm 2 (i.e. the "neutral" firm) and firm 1 (i.e. the "ethical" firm) settle in country A (i.e. country "North"). Now we want to analyse the effects of possible variations in the level of the minimum international standard for CSR ($s_0$) and in consumers' preferences for CSR ($\upsilon_H$).

[126] Since $\upsilon_H$ and $\upsilon_B$ are linked one to the other by a deterministic relationship, when $\upsilon_H$ increases, $\upsilon_B$ increases too.

[127] In fact, $\frac{\upsilon_H}{\upsilon_H - 1} = \frac{1}{\frac{\upsilon_H - 1}{\upsilon_H}} = \frac{1}{1 - \frac{1}{\upsilon_H}}$.

Firstly we analyse the effects of an exogenous variation of $s_0$. An increase of $s_0$ will have no impact on the "neutral" firm's profits (hence it will not affect its choice of location) and it will make it even more profitable for the "ethical" firm to stay in country "North". Hence, the overall effect of an increase of $s_0$ on the location of firms will be the *status quo* (i.e. the two firms will remain in country A).

A reduction in $s_0$ - large enough to invert the sign of inequality (0.53) - will determine that for the firm 2 (the "neutral" firm) it will become more profitable to settle in country B. Similarly as before, nothing will change for the "ethical" firm. Therefore, the overall effect of a reduction of the international minimum CSR standard ($s_0$) on the location of firms could be - if that reduction is large enough - that the "neutral" firm will relocate its production in country "South".

Then, we analyse the effects of an exogenous variation of $\upsilon_H$. An increase (decrease) of $\upsilon_H$ indicates an increase (decrease) of the average consumers' "preference" for CSR, and also a reduction (augmentation) of the heterogeneity of these preferences (see before).

Let's assume we have initial situation in which only a few consumers, concentrated in a few areas of the world, care about the fact that firms undertake CSR, while the majority does not care or is simply unaware of the issue. An increase of $\upsilon_H$ would depict the evolution towards a situation in which more people are aware of CSR and care about it when choosing where to shop.

According to the model, such an increase of $\upsilon_H$ will have no impact on the "neutral" firm's profits (hence it will not affect its choice of location) and it will make it even more profitable for the "ethical" firm to stay in country A. Hence, the effect of an increase of $\upsilon_H$ is the *status quo* (i.e. both firms stay in country "North").

Conversely, a reduction of $\upsilon_H$ could result from the increased buying power of consumers from developing countries, which are usually less concerned about ethical issues when choosing where to shop. This will reduce the average "preference" for CSR worldwide and increase the heterogeneity of consumers' preferences.

According to the model a reduction of $\upsilon_H$ will not affect the profits of the "neutral" firm (hence firm 2 will stay in country A) while, if it is large enough to change the sign of the inequality (0.54), the "ethical" firm will find it more profitable

to relocate its production in country "South". Therefore the effect of a reduction of the average consumers' preference for CSR and of the increased heterogeneity in their preferences could be, if this is large enough, that the "ethical" firm relocates its production in the country with the loosest labour and environmental norms. Interestingly, the "neutral" firm remains in country "North" despite the stricter regulations.

We can repeat this exercise starting with different initial situations. For example one would be when the "ethical" firm is initially located in country "North" while the "neutral" firm is in country "South".[128] According to the model, this occurs when the two following condition are verified:

$$S_A - S_B > \frac{s_0^2}{2}\left(F_B - F_A\right) \tag{0.55}$$

$$S_A - S_B < \frac{\left(\upsilon_H + 1\right)^4}{162 F_B F_A}\left(F_B - F_A\right) \tag{0.56}$$

Conditions (0.55) and (0.56) determine that, respectively, firm 2 (i.e. the "neutral" firm) settles in country B (i.e. country "South") and firm 1 (i.e. the "ethical" firm) settles in country A (i.e. country "North").

Moving from this initial situation, a significant increase in the minimum international standard for CSR ( $s_0$ ) could determine a relocation of the "neutral" firm to country "North", while it will not affect the profits (and hence the choice of location) of the "ethical" firm. In fact, following the increase in $s_0$, it might become too expensive for firm 2 to undertake the minimum level of CSR required by the international standard in country B, where the costs of making CSR 'visible' are higher.

[128] This is a situation which we often observe in reality, and could be determined by some elements which we did not take into consideration in our model: the possible heterogeneity of consumers' preferences for CSR across countries and the existence of transport costs. In fact, if the average consumers' preferences for CSR are different across countries and there are transport costs, the two firms might find it more profitable to serve prevalently the local market, undertaking a level of CSR which reflects the average preferences of their local customers. For example, companies in developing countries, where consumers are usually less concerned about CSR, could decide to undertake a lower level of CSR than firms located in developed countries, where consumers are more concerned. This is what typically happens to the small and medium enterprises in the developing countries, which, unless they are part of the supply-chain of large multinational companies, produce goods that are sold locally and thus are not affected by the preferences of consumers in other areas of the world.

A variation in $\upsilon_H$ has no effect on the profits (and hence the choice of location) of the "neutral" firm, while it affects firm 1: an increase of $\upsilon_H$ will make it more profitable for the "ethical" firm to stay in country "North", while a decrease of $\upsilon_H$, if it is large enough, could determine a relocation of this firm to country "South".

## 4.4. Conclusions and main limits

In this chapter we developed a model of CSR as a differentiation strategy for the firms, adapting Motta's model of vertical differentiation to the issue of CSR (Motta, 1993).

In the market there are two firms and a group of global consumers, which exhibit a 'preference' for CSR uniformly distributed with unit density. We introduced quadratic costs of CSR, which can be interpreted as the costs of undertaking CSR and making it 'visible' to the consumers. Other costs for the firms are the costs of compliance with country-specific labour and environmental regulations. All these costs are fixed with respect to the level of the outputs. Finally, there is an exogenous minimum international CSR standard, which is applied worldwide regardless of the country of location of the firms.

In this context we were able to show that, when the market is covered and firms compete à la Bertrand, the two firms choose different level of CSR. One firm (the "ethical" one), targeting the more ethical consumers, undertakes a positive level of CSR, which depends negatively on the costs of CSR. The other (the "neutral" firm) undertakes a level of CSR equal to the minimum international requirement. The "ethical" firm sells at a higher price than the "neutral" one and produces a larger output.

Then, we introduced the possibility for the firms of choosing between two countries of location. One country (i.e. country "North") has stricter labour and environmental regulations than the other (i.e. country "South"), which translate in higher fixed costs of production for the firms. However in county "North" the costs of undertaking CSR and making it 'visible' to consumers are lower than in country "South". We showed that the profits of the "neutral" firm are always higher when the

"ethical" one settles in country "North". Nonetheless, the choice of location of the "neutral" firm does not depend on the location of the "ethical" one.

Finally, starting from different initial locations of the two firms, we analyzed the effects of a change of the minimum international CSR standard and in consumers' preferences for CSR. We showed that a variation of the international CSR standard has an impact on the profits of the "neutral" firm, while a change of consumers' preferences for CSR (i.e. a variation of the average “preference” for CSR of the global consumers and of the heterogeneity of these preferences) affects only the profits of the "ethical" one. If the variations are large enough, an increase (decrease) of the international CSR standard could determine the relocation of the "neutral" firm from country "South" to country "North" (from country "North" to country "South"), and an increase of the average preference for CSR could determine the relocation of the "ethical" firm from country "South" to country "North" (from country "North" to country "South").

In conclusion we would like to point out some of the limits of our approach. First, in our paper we did not address the issue of the CSR "neutrality" on profits (McWilliams and Siegel, 2002) since we could not solve the equation for a unique range of the parameters.

Second, as previously mentioned, in our model we assumed that there is a generic arena of global consumers, without taking into consideration transport costs and the possible cross-country heterogeneity of the distribution of consumer’s tastes for CSR. This assumption was justified because our main focus was to analyse the effects of having different costs of undertaking CSR in different countries. However, further research could analyze the effect of different hypotheses: such as the presence of different average preferences for CSR in the two countries with positive transport costs. These could lead the firms to sell most of their products locally. For this reason, this paper can be considered as the starting point for future research, introducing transport costs and different preferences of the consumers in the two countries, with the objective of studying the trade patterns between them.

## APPENDIX. Restrictions on the parameters' values allowed in the model.

The following conditions can be derived, substituting the Assumptions 2 and 3 in the equilibrium values of $s_1^*$ and $s_2^*$ determined in Proposition 2.

$$s_0 > \frac{(2\upsilon_H - \upsilon_B)^2 (\upsilon_H - 2\upsilon_B)}{9F_1(\upsilon_H + \upsilon_B)} \tag{0.57}$$

$$s_0 \leq \frac{(2\upsilon_H - \upsilon_B)^2}{9F_1} \tag{0.58}$$

From conditions (0.57) and (0.58), one can deduce that the CSR minimum standard ($s_0$) must respect the following condition with respect to the values of the other exogenous variables:

$$\frac{(2\upsilon_H - \upsilon_B)^2 (\upsilon_H - 2\upsilon_B)}{9F_1(\upsilon_H + \upsilon_B)} < s_0 \leq \frac{(2\upsilon_H - \upsilon_B)^2}{9F_1} \tag{0.59}$$

It has to be noted that in this expression $F_1$ is an endogenous variable intervening in the fixed costs of making the CSR 'visible' to the consumers for firm 1 (that are $F_1 s_1^2 / 2$). The equilibrium value of this variable depends on the location choice of firm 1, and it is higher (lower) when firm 1 settles in country B (A), since I have assumed $F_A < F_B$ (cf. page 12). Since at equilibrium firm 1 can settle either in country A or in country B, condition (0.59) must hold in both cases (i.e with $F_1 = F_A$ and $F_1 = F_B$).

Finally, one should note that a necessary condition for this inequality to hold is the following: $\upsilon_H - 2\upsilon_B \leq \upsilon_H + \upsilon_B$. Since $\upsilon_H = \upsilon_B + 1$, that is equivalent to: $\upsilon_H \geq 1$.

# Chapter 5: A Unifying Approach: *Symmetric* vs. *Asymmetric* Equilibrium Configurations

One issue which remained unresolved from the literature review on *CSR as differentiation strategy* is whether we expect the market to converge to a *symmetric equilibrium* - where either all firms, or none, undertake CSR - or an *asymmetric* one – where some firms do it while the others do not.

This chapter provides an attempt to answer this key question. In order to do that elements from the view of CSR as a *differentiation strategy*, as well from the view of CSR as *efficient resource management* will be considered.

The broader objective of the chapter is to provide a solid theoretical background – which can later be tested against reality – which allows us to identify the key factors leading to the differences in firms' engagement in CSR across different industries, sectors and countries.

## 5.1. A simple model of CSR and market interaction

For simplicity we assume that undertaking CSR is a binary choice, i.e. firms can either undertake it or not. In light of this, it is important to highlight from the beginning that the model will not be able to determine the optimal level of CSR in equilibrium for each firm, but only how many firms will undertake CSR or not. Other limitations from this type of approach will be highlighted at the end.

Undertaking CSR incurs a cost for the firm. This is a fixed cost (see Chapter 2 for a justification of this choice) and equal to $F$, where we assume that $0<F<1$.

Our starting point is an oligopoly model with product differentiation. In the case in which no firm is undertaking CSR, all firms will achieve the level of profits $\hat{\Pi}$, which we will refer to as the 'normal' level of profits.

The crucial element of our model will be to understand how CSR affects the profits. From the previous chapters of this thesis we know that undertaking CSR

affects both the firm's own profits, as well as the profits of all the other competitors in the same sector/industry (i.e. the *relevant* market), both the ones which are undertaking CSR and those which are not.

If we exclude the actual costs of undertaking CSR - which are already captured in the model by the fixed cost $F$ - then CSR should allows the firm which undertakes it to obtain *extra-profits* in addition to the normal level. These extra-profits can derive from increasing revenues and/or a reduction in the costs of production. Among the elements which determine the extra-profits, a distinction can be made between the ones which refer to the view of CSR as *differentiation strategy*, and those which refer to the view as *efficient resource management* (see Chapter 1).

If we consider the view of CSR as differentiation strategy, these elements include a higher willingness to pay by consumers, an improved relationship with the stakeholders, a greater ability to attract more 'ethical' investors and so on. Otherwise, looking at CSR as efficient resource management, some of the key factors are an increased efficiency of the production process, a reduction of the wastage, a higher productivity of the factors of production.

All these elements affect in a different way the relationship between the extra profits of the firm which decides to undertake CSR, and the number of firms in the same market which are already undertaking CSR. Different assumptions on the shape of this relationship will change the model's outcome in terms of how many firms adopt CSR in equilibrium.

In addition to the distinction between CSR as differentiation strategy and CSR as efficient resource management, the relationship between the extra-profits and the number of firms undertaking CSR will assume different shapes depending on the specific characteristics of each sector/industry, and in some cases also countries.

As previously mentioned, the firm's choice on whether to undertake CSR or not also depends on what happens to the normal level of the profits in case it does not undertake it, but other firms of the same market do. Again, this depends on which elements of CSR we take into greater consideration, for example whether it is the elements from the view of CSR as differentiation strategy, or the one as efficient resource management.

First we will analyse the profit function of a firm which decides to undertake CSR, $\Pi_S$. This function has three components: the first is the normal level of the profits in an oligopoly with product differentiation ($\hat{\Pi}$), the second are the extra-profits obtained by the firm undertaking CSR, and finally the fixed costs of undertaking CSR.

From the literature on CSR, we know that that there can be many different relationships between the extra-profits component and the number of firms in the market which are already undertaking it. We will only focus on the three main ones:

1. By adopting CSR, a firm obtains extra-profits which are independent of what other firms do.[129] This reflects mainly elements which belong to the view of CSR as efficient resource management, capturing these situations in which there are immediate gains which can be obtained from the own firm's production process (the 'low-hanging fruits'). In the CSR literature, these situations are referred to as "win win" situations (Porter and Kramer, 2002). We will refer to this case as *independence* of the $\Pi_S$ function;
2. The extra-profits from undertaking CSR are very high when there are no other firms doing it, but then decrease rapidly as more firms start adopting it. This case reflects mainly the view of CSR as differentiation strategy, according to which extra-profits of the firm which undertakes CSR should be higher the more it 'stands-out' among the other competitors. If the consumers exhibit a very high willingness to pay for 'ethical' products, the extra-profits could be very large when the firm is the only one in the market undertaking CSR.[130] On

[129] It should be highlighted that in a strategic context, when we look at the view of CSR as efficient resource management, the profits are never fully independent of what the other firms do. If a firm achieves a certain level of extra-profits by undertaking CSR when no one else is doing it, as the other firms start undertaking it, its extra-profits will decline marginally. In fact CSR as efficient resource management can be approximated to a reduction in costs. When the firms compete on output, we expect that the firm which undertakes CSE will produce more output, and then progressively reduce it as more firms starts undertaking CSR. If the choice variable is prices, the strategic effect should be very high when there is only one firm (with no product differentiation the first firm which undertakes CSR would become monopolistic), and then decrease as more firms enter this market. However for the purposes of this chapter we will disregard this strategic effect, isolating only the effects of CSR on the profits. The reason why this can be done is that the same applies to the profit function of a firm which does not undertake CSR (see later).

[130] In any case we assume that the extra-profits of the first firm which undertake CSR are higher than the fixed costs. This will have important implications in terms of the equilibrium configurations which we can expect. This assumptions implies that there is a strong-enough willingness to pay for CSR by the consumers (or the stakeholders in general) which of course might not be true in all the sectors. However in these other cases CSR can be hardly considered a differentiation strategy.

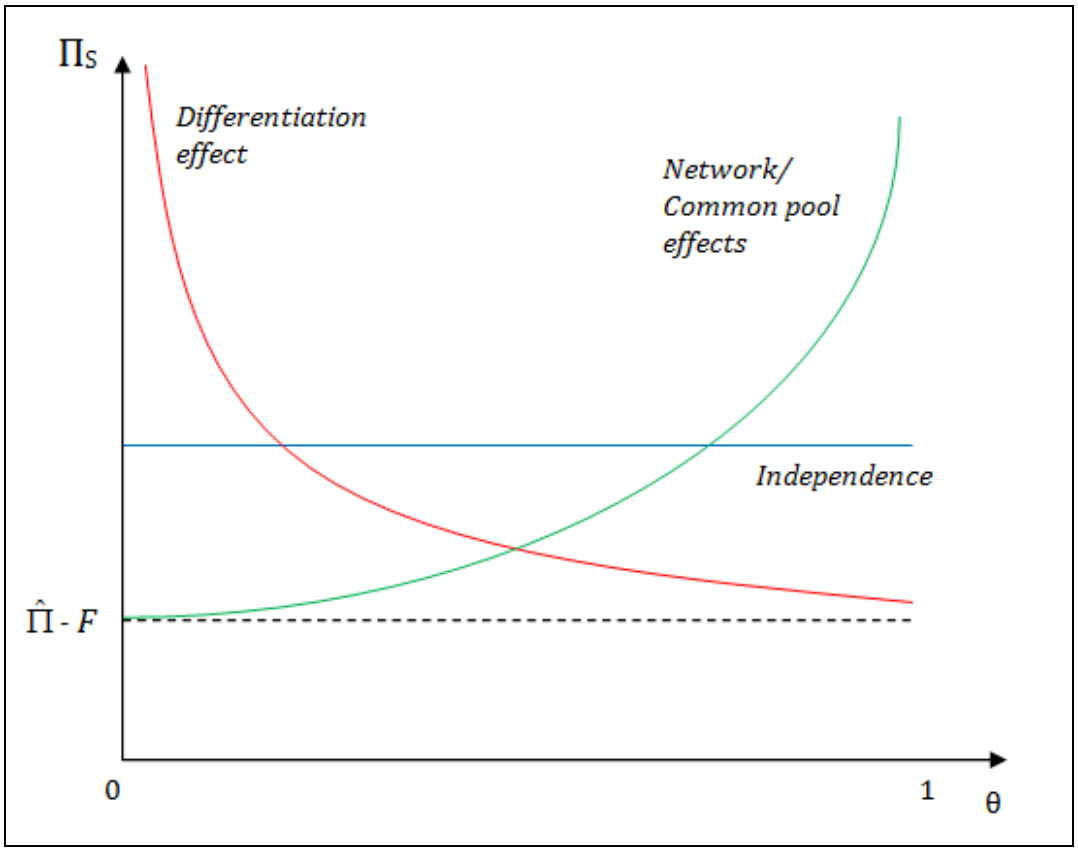
the contrary, when all of them are doing it, the extra-profits should settle down to a level very close to the normal level (but firms still have to pay the fixed costs of CSR).[131] We will refer to this case as *differentiation effect*;

3. The last case is when the extra-profits that a firm obtains from undertaking CSR increase, the more firms are doing it. This case could come both from the view of CSR as a differentiation strategy, as well as efficient resource management. In the first case, one example is when consumers are initially unaware of the benefits of CSR, but then their willingness to pay for 'ethical' goods increase the more firms are doing it. A reference in the literature is Becchetti and Rosati (2004). In the latter case, the most common cases is when either the CSR practices have large network effects, or the firms which do not undertake CSR cannot be excluded from these benefits (i.e. there are free-riding opportunities), so that the gains will be spread across all the firms in the market and not only the ones which are doing CSR. The bottom line is that the gains which can potentially be achieved from undertaking CSR will not be obtained in full unless the majority of firms are doing it. In Chapter 6 we will present these cases more in detail, referring to the literature on the "tragedy of the commons". Here we will refer to this case as *network/common pool effects*.

The following figure (*Figure 5.1.*) represents the three cases above, where $\theta$ is the share of the firms in the market which are already undertaking CSR ($0<\theta<1$).

[131] In the case in which CSR is purely a differentiation strategy, when all firms undertake CSR the level of profits will be equal to the normalpa level, minus the fixed costs. This is because CSR does not increase the consumers' willingness to pay when all firms are doing it. However we will assume that consumers' are willing to pay slightly more for an 'ethical' product, even if all the firms undertake CSR.

**Figure 5.1. Possible shapes of the $\Pi_S$ function for an individual firm.**




The $\Pi_S$ function with *network /common-pool* effects is assumed to be convex, reflecting the fact that the benefits from undertaking CSR are small when few firms are undertaking it, but then increase at an increasing pace, the more firms are doing CSR, because the spillovers increase more than proportionally and/or the firms which do not undertake CSR become more isolated (so that the opportunities for free riding are less).

Also the $\Pi_S$ function with *differentiation* effect is assumed to be convex, reflecting the fact that the gains are very high if few firms in the same market are doing CSR, but then decrease dramatically the more firms do it, until they eventually almost flatten out, This happens when the firms that are still not undertaking CSR are too marginal to affect the consumer's willingness to pay for the ones which are doing it.

In an empirical context, we can expect different shapes of the $\Pi_S$ function prevailing in different types of CSR practices, as well as different sectors or industries

and even countries. For example, practices which are more targeted towards the consumers should see the *differentiation* element prevail, while others more targeted towards the cost-side of the production will more likely reveal an *independent* or *network-effect* element.

This also translates to the impact on the different sectors. For example in some sectors (e.g. food, clothing) consumers' demand is the ultimate element which determines a firm's profitability, and CSR has a great potential to increase the consumers' willingness to pay. In this case it is very likely that the *differentiation* element will dominate. In other sectors (e.g. construction, transport) the elements on the costs side might be more important to determine firms' profitability; hence the elements from the view of CSR as efficient resource management will be more important. In this case the *independent* or the *network/common pool effects* component might prevail.

While each of the possible cases will be analysed separately in this chapter, it is important to keep in mind that in reality there is often an overlap of the different effects on the extra-profit function. One example could be if the *differentiation* element is very strong when a limited number of firms are doing CSR; however, as more firms undertake CSR and become increasingly aware of things like how to achieve the efficiency gains and develop CSR partnerships with other firms, the *network effects* start to kick-in. We will come back on these joint cases later on in the chapter.

We will now move to the other side of the problem, which is what happens to the firm's profits – with respect to the normal level $\hat{\Pi}$ - when it does not undertake any CSR, but other firms in the market do. We will refer to this profit function as $\Pi_N$.

Again, this function can depend in many different ways on the number of firms which are already undertaking CSR. For simplicity, we assume that this relationship can have three forms:

1. The profits from not undertaking CSR are independent of what other firms do, and are always equal to the normal level. [132] This hypothesis comes

[132] As we mentioned previously for the $\Pi_N$ function, in a strategic context it is not possible that one firm's profits are completely independent of what other firms do. In particular, when CSR is seen as a strategy to increase the efficiency of production (i.e. reduce the costs), in a strategic context we expect the profits on the non-CSR firms to decline as the number of firms in the market which

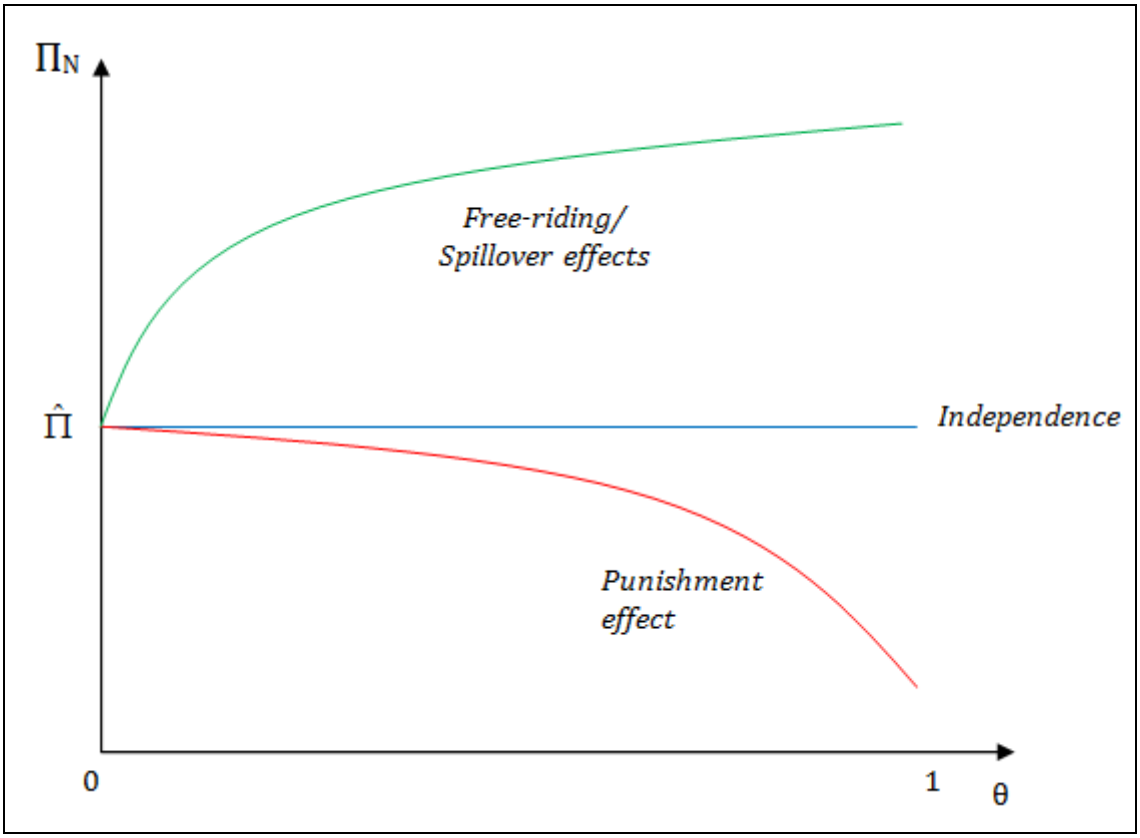
from a view of CSR as efficient resource management, in all the cases in which the CSR practices affect mainly the firm's internal production process. We will refer to this case as *independence*;

2. The profits from not undertaking CSR increase - with respect to the normal level – as the number firms in the same market undertaking CSR increase. This hypothesis can come both from the view of CSR as differentiation strategy and as efficient resource management. In the former case, one example is when it is difficult for the relevant stakeholders (e.g. consumers, investors) to identify exactly which firm is undertaking CSR, or to assess the credibility of firms' promises, which allows the firms which are not doing CSR to 'pretend' to be doing it. In the latter case, the classic example is when it is not possible for the firms which undertake CSR to exclude those which are not from the benefits (e.g. improving the level of education of neighbouring communities). This is the other side of the coin as the network effect/common good case in the $\Pi_N$. We will refer to these cases as *Free-riding/spillover effects*;
3. Finally, $\Pi_N$ could decrease – compared to the normal level of profits – as the number of firms undertaking CSR increases. This comes from the differentiation strategy view of CSR, in all the cases in which it is possible for the relevant stakeholders to 'punish' the firms which are not doing CSR (for example, in the case of consumers, not buying the products of the 'unethical' firms). We will refer to this final case as *punishment effects*.

These three relationships have been depicted in the following figure (*Figure 5.2*).

undertakes CSR increases. However, we will assume this effect away, as for the purposes of our analysis it should cancel out with the symmetric effect on the $\Pi_S$ function, we will need to compare these functions to obtain out solutions for the equilibrium market configuration.

**Figure 5.2. Possible shapes of the $\Pi_N$ function for an individual firm**




The concavity of the $\Pi_N$ function with *punishment* effects reflects the fact that the ability of the stakeholder to punish a firm which is not undertaking CSR is much higher when there are a very few firms in the market which are not doing it.

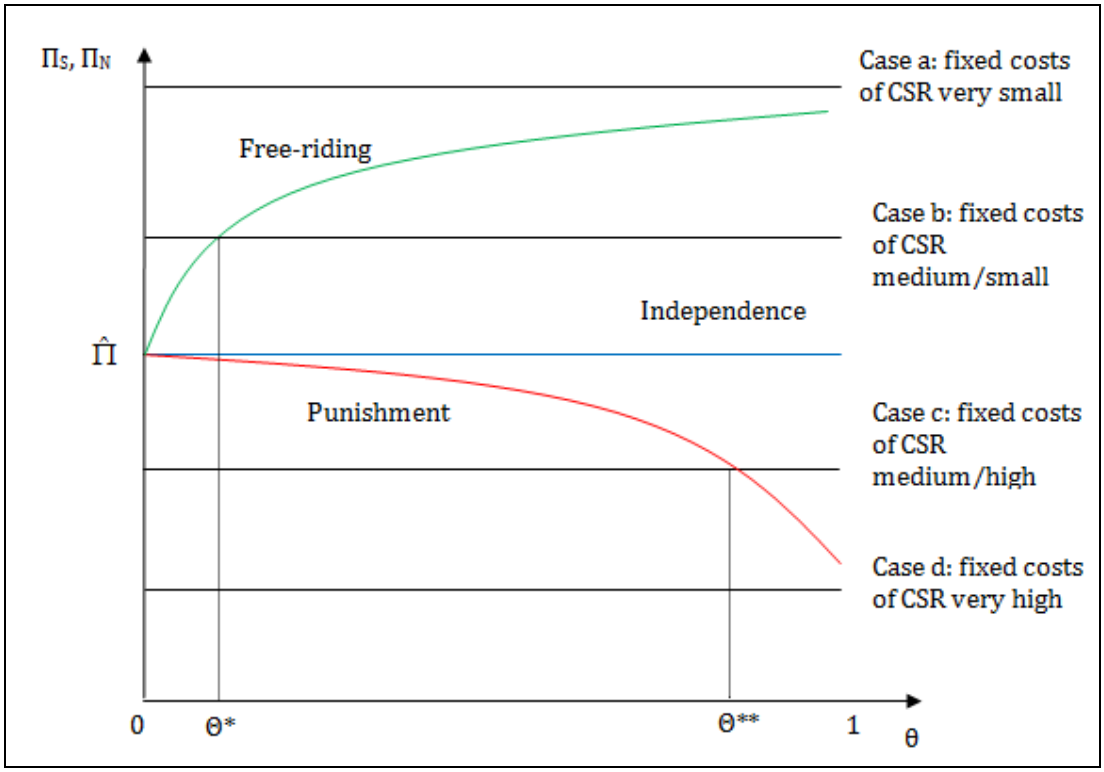
The $\Pi_N$ function with *free-riding/spillover* effects is also concave, as the possibilities to exploit the spillovers and the free-riding opportunities are likely to increase at lower rate marginally, as the number of firms undertaking CSR increases and the ones which do not do it become more isolated.

Given the two profit functions presented above, a firm will decide to undertake CSR if the $\Pi_S$ function lies above the $\Pi_N$. We can now analyze the market equilibrium considering the possible combinations of $\Pi_S$ and the $\Pi_N$ function under each case. First of all, we will present a graphical analysis of all the results. Afterwards we will present some possible functional forms for the $\Pi_S$ and the $\Pi_N$ function, which capture all the effects mentioned, with a view to obtain numerical results.

### 5.1.1. Equilibria when $\Pi_S$ reveals *independence*

The first case that will be taken into consideration is when the $\Pi_S$ function reveals *independence*. This case is very straightforward. To analyze it, we will define four possible values of the fixed costs of CSR: (a) very small, (b) small, (c) medium, (d) large.

**Figure 5.3. $\Pi_S$ reveals *independence.***




In case *a*, no matter which is the shape of the $\Pi_N$ function, all firms will undertake CSR.

In case *b*, if the $\Pi_N$ function shows *independence* or *punishment* effects, all firms would still undertake CSR. Otherwise, if there are free-riding opportunities or positive spillovers, we will observe that in equilibrium there will be a share $\theta^*$ of the firms

which will undertake CSR. After this share is reached, the other firms would find it optimal not to undertake it and benefit from the fact that other firms are doing it.[133]

Case *c* is more complicated. No matter what is the shape of the $\Pi_N$ function, tin equilibrium there will be no firms undertaking CSR in the market, the reason being is that for the first firm which gets to choose (i.e. when no one else is already doing CSR) it is never profitable to undertake CSR.

It is interesting to note that, in the case of $\Pi_N$ function with *punishment*, if a firm would face a situation in which a share $\Theta^{**}$ of firms is already doing CSR, then it will find optimal to do it as well, and the market would more to a situation in which all firms do CSR. However, because the first firm will never choose to undertake CSR, the market left alone will never be in a situation in which there is a share $\Theta^{**}$ of firms doing CSR.

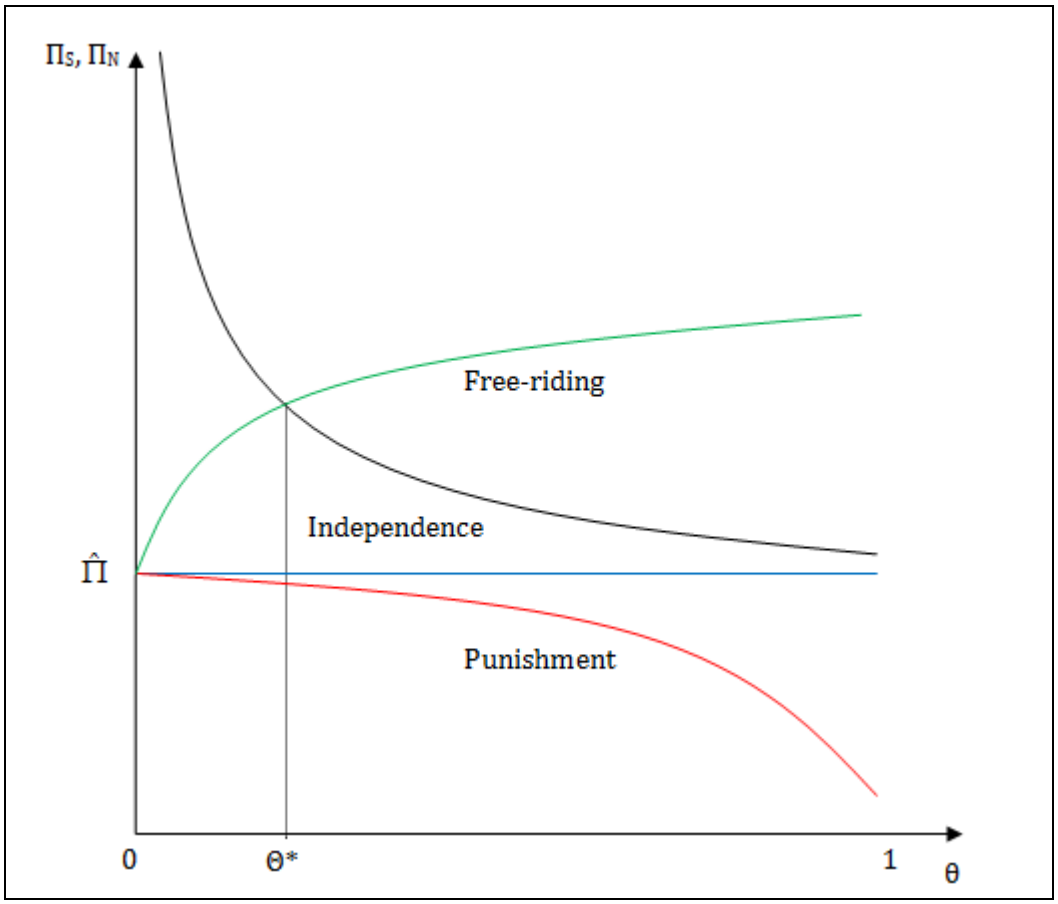
Finally, in case *d* no firm will ever find it optimal to undertake CSR, no matter how many other firms are doing it.

### 5.1.2. Equilibria when $\Pi_S$ reveals *differentiation effects*

The second case that will be assessed is when the $\Pi_S$ function reveals *differentiation effect*. Again we will define three possible levels of the fixed costs *F*: (a) small fixed costs, (b) intermediate fixed costs and finally (c) large fixed costs. In this case, which is more complex, we will analyze the possible combinations with the $\Pi_N$ function for each level of the fixed costs in a separate graph. Let's consider first case *a* (Figure 5.4a).

[133] This could be a non-stable equilibrium, if after a while the stakeholders identify the firm and start to punish it.

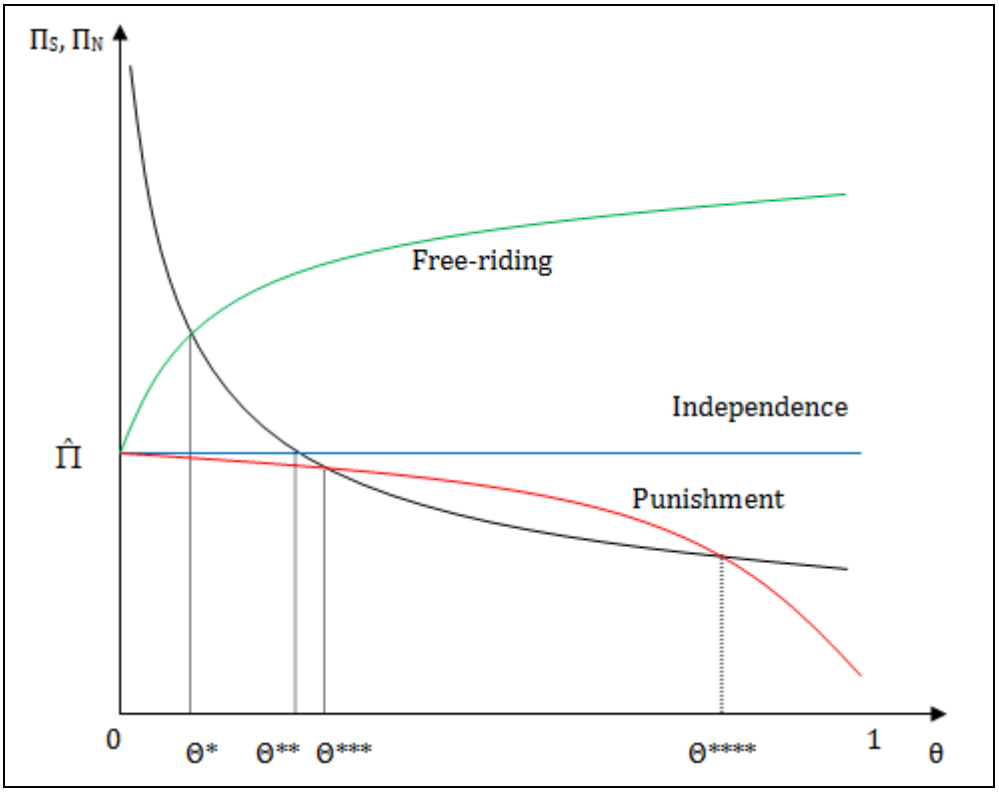
**Figure 5.4*a*. Low fixed costs *F***




When the $\Pi_N$ function reveals *free riding/spillover effects*, in equilibrium there will be a share $\Theta^*$ of firms which undertake CSR. In fact, the first firm which gets to choose will find it optimal to undertake it, and so will the second, until the share $\Theta^*$ is attained. Afterwards, the next firm will find it more profitable not to undertake CSR, exploiting the free-riding opportunities of the fact that other firms are doing it.

In the other two cases (*independence* and *punishment*) in equilibrium all the firms will undertake CSR. Let's consider now the case *b* (Figure 5.4b).

**Figure 5.4b. Intermediate fixed costs *F***



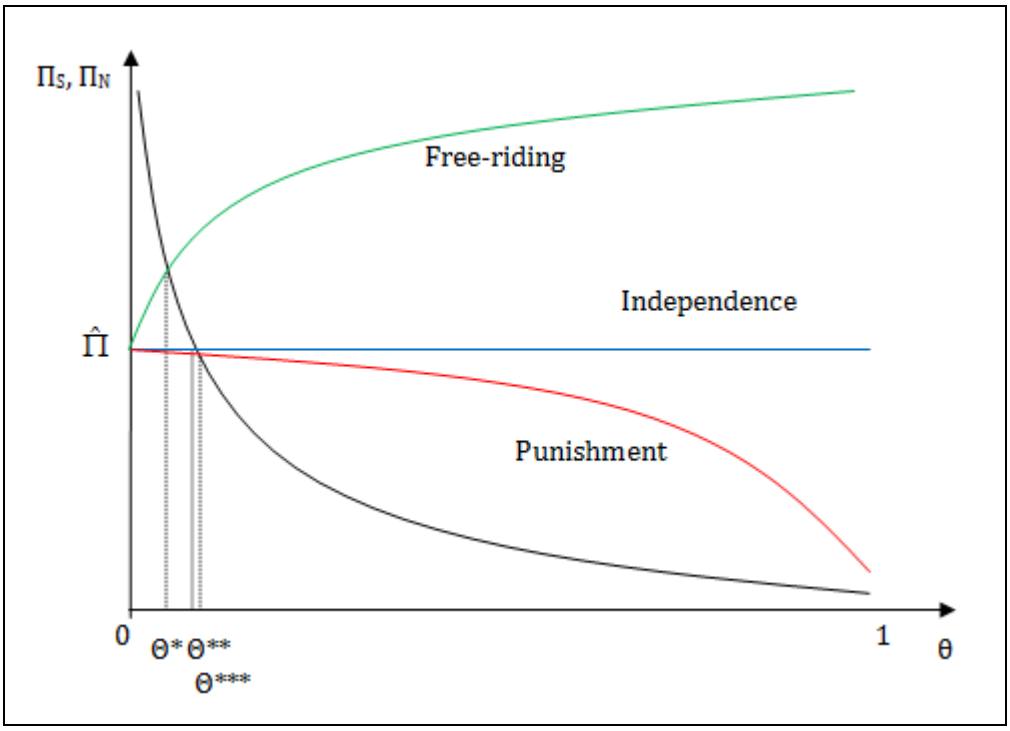

This case is slightly more complex. When the $\Pi_N$ function reveals *punishment*, there are two possible configurations which can be sustained as an equilibrium (multiple equilibria), however only one will be achieved by the market without any outside intervention.

Clearly, when there no firm in the market is undertaking CSR, any firm will have the incentive to do so, because the $\Pi_S$ function lies above the $\Pi_N$. This will hold until a share $\theta^{***}$ of firms undertakes CSR, at which point the firms which are still not undertaking CSR will no longer find it more profitable to undertake it. Therefore, $\theta^{***}$ is the equilibrium configuration.

However it is interesting to note that, if there was already a share $\Theta^{****}$ of firms already undertaking CSR, anyone else would find it profitable as well and the market will move automatically to an equilibrium in which all firms adopt CSR. However, in the absence of interventions from outside the market (e.g. subsidies, incentives, etc.), this equilibrium configuration will never be attained.

When the $\Pi_N$ reveals *independence*, then there is only one equilibrium, in which a share $\Theta^{**}$ of the firms undertakes CSR. Finally, when there are *free-riding effects*, the share of firms undertaking CSR will be equal to $\Theta^*$ in equilibrium. Finally, let's consider case *c* (*Figure 4c*).

**Figure 5.4*c*. Large fixed costs *F*.**



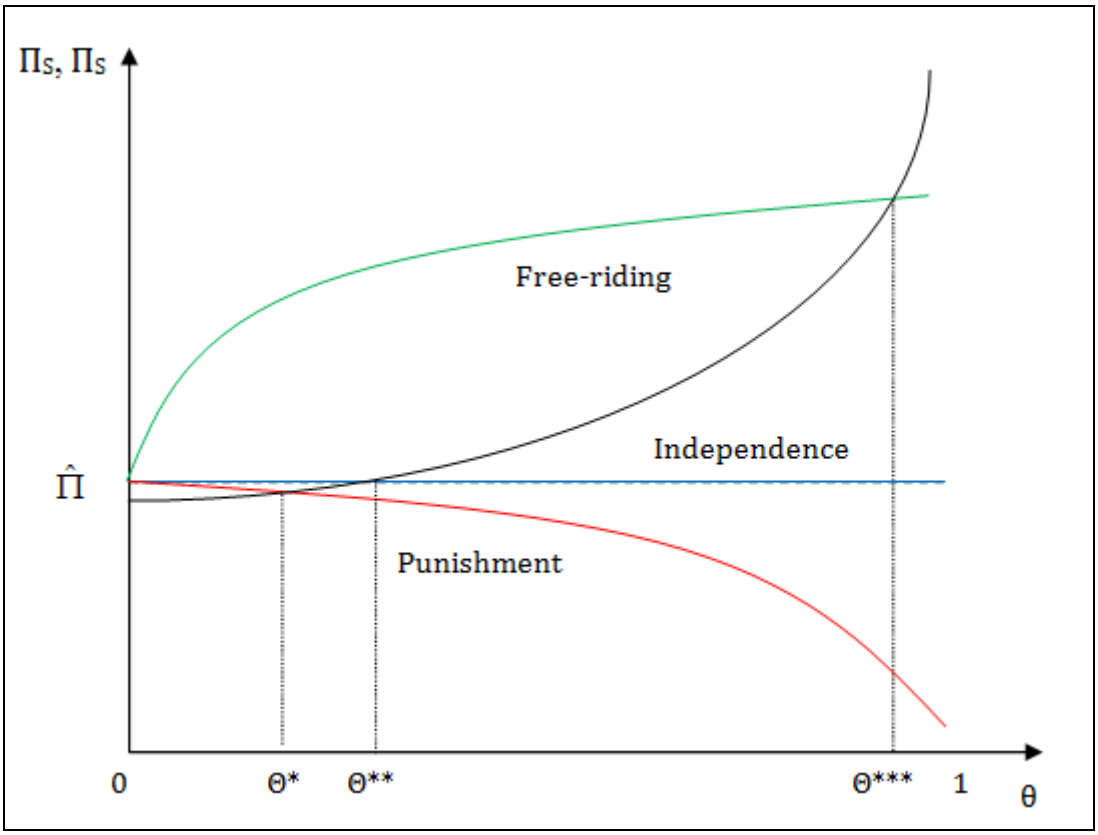

Case *c* is straightforward. In this case there will be only one market equilibrium for each of the three situations, in which only some of the firms undertake CSR. Again, we observe that the share of firms which will undertake CSR in equilibrium will be larger when there is *punishment* in the $\Pi_N$ function, and smaller when this function exhibits *free-riding/spillover effects*.

In conclusion, we can say that when CSR is a differentiation strategy we always expect a positive number of firms undertaking CSR. The following relationship on the equilibrium share of firms undertaking CSR will also hold: $\Theta^{***}>\Theta^{**}>\Theta^*$. Unsurprisingly, this implies that we will see the largest share of firms engaging in CSR when the $\Pi_N$ function reveals *punishment* effects.

### 5.1.3. Equilibria when $\Pi_S$ shows *network/common pool effects*

Finally, we will analyze the case in which the $\Pi_S$ function exhibits *network/common pool effects*. In this case we will need only to define two levels of the fixed costs *F* of CSR: (a) small and (b) large. Again we will analyze the possible combinations of the $\Pi_S$ function and $\Pi_N$ function for each level of the fixed costs in separate graphs, starting from the case *a* (see *Figure 5.5a*).

**Figure 5.5*a*. Small fixed costs *F*.**




In this case, when the $\Pi_N$ function reveals either *independence* or *punishment*, there will be no firm in equilibrium undertaking CSR. The reason is that when no firm

in the market is undertaking CSR, the $\Pi_N$ function is above the $\Pi_S$, and so no firm would want to be the first to undertake it.[134]

Interestingly, if the same firm would face a situation in which a certain share $\Theta^*$ ($\Theta^{**}$ in the *independence* case) of firms is already doing CSR (and this share might be close to 0 if the fixed costs of CSR are very small), then it would find optimal to do it as well, and so will any other firm in the market. Therefore, we would have an equilibrium in which all the firms in the market will undertake CSR.

The case of *free riding/spillover effects* is slightly more complicated. The crucial element is that also in this case, as long as the fixed costs of CSR are greater than 0, the $\Pi_N$ function will be above the $\Pi_S$ when no firm in the market is undertaking CSR. Therefore, also here in equilibrium there will be no firm undertaking CSR.

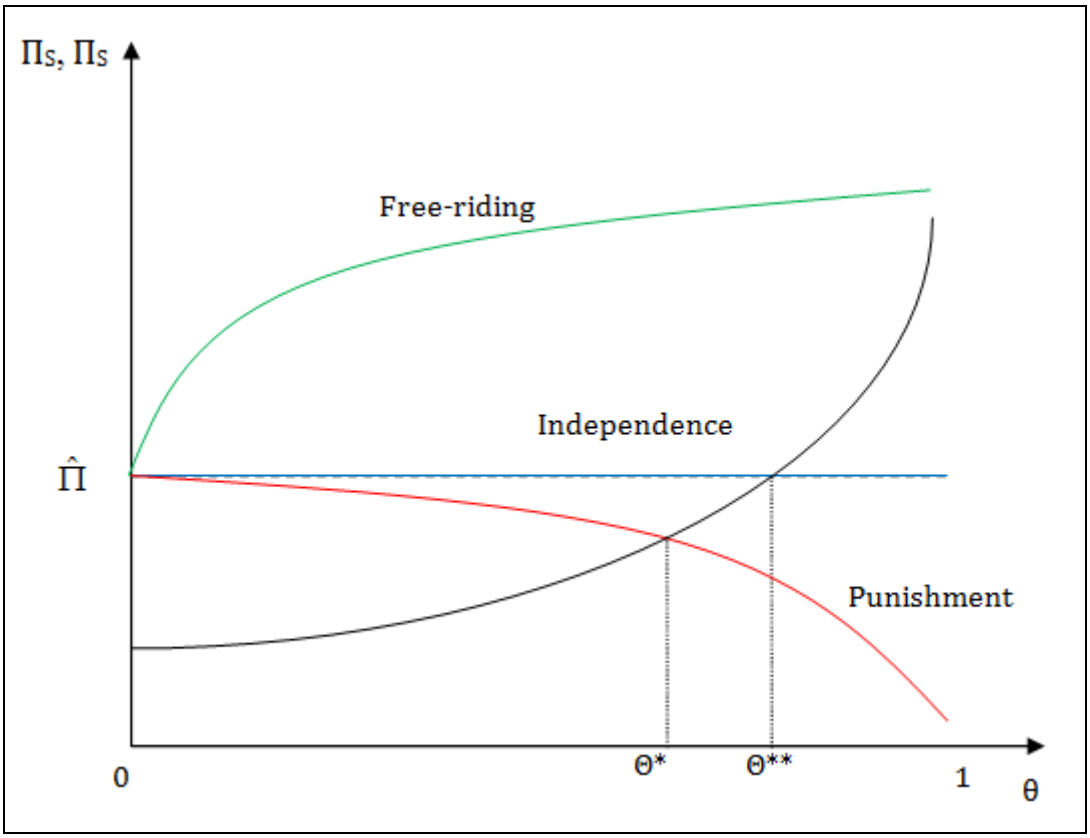
In the figure above, after there is a share $\theta^{***}$ of firms which undertakes CSR, the $\Pi_S$ function will be above the $\Pi_N$ function.[135] If this is the case then if a firm would face a situation in which such share $\Theta^{***}$ of firms is already doing CSR, then it will find it optimal to do it as well. However, the market alone will not be able to reach that point.

Let's now consider case *b* (*Figure 5.5b*).

[134] This will be true even if in the $\Pi_N$ we would add the negative strategic effect coming from the fact that when CSR reduces production costs then the firms undertaking CSR will likely increase their level of production. In fact the crucial element is what happens to the $\Pi_N$ function when NO other firm is undertaking CSR, because this will be the relevant term of comparison for the first firm which has to choose whether to do CSR or not.

[135] If the value of $\Pi_S$–$F$ is larger than $\Pi_N$ when $\Theta$=1 (i.e. all firms are doing CSR), then they necessarily have to cross. However there is nothing which guarantees that this will happen. The fact that they cross reflect a common wisdom that free riding benefits cannot be always higher than the actual benefits from undertaking CSR.

**Figure 5.5*b*. Large fixed costs *F***




Case b is very similar. The only difference is that if the $\Pi_N$ function reveals *free-riding* effects, the two functions will not cross anymore and so the $\Pi_S$ function will always be below the $\Pi_N$ function. Therefore, no firm will ever find it optimal to undertake it, no matter how many firms are already undertaking it.

### 5.1.4. More complex cases

Before moving to the numerical example, it is important to highlight that in reality the different elements in the $\Pi_S$ and $\Pi_N$ function might not come in isolation, but interact with each other.

The *independence* element is particularly relevant, because in the case of the $\Pi_S$ function it could act as a shifter for the $\Pi_S$ function, allowing the market for example to

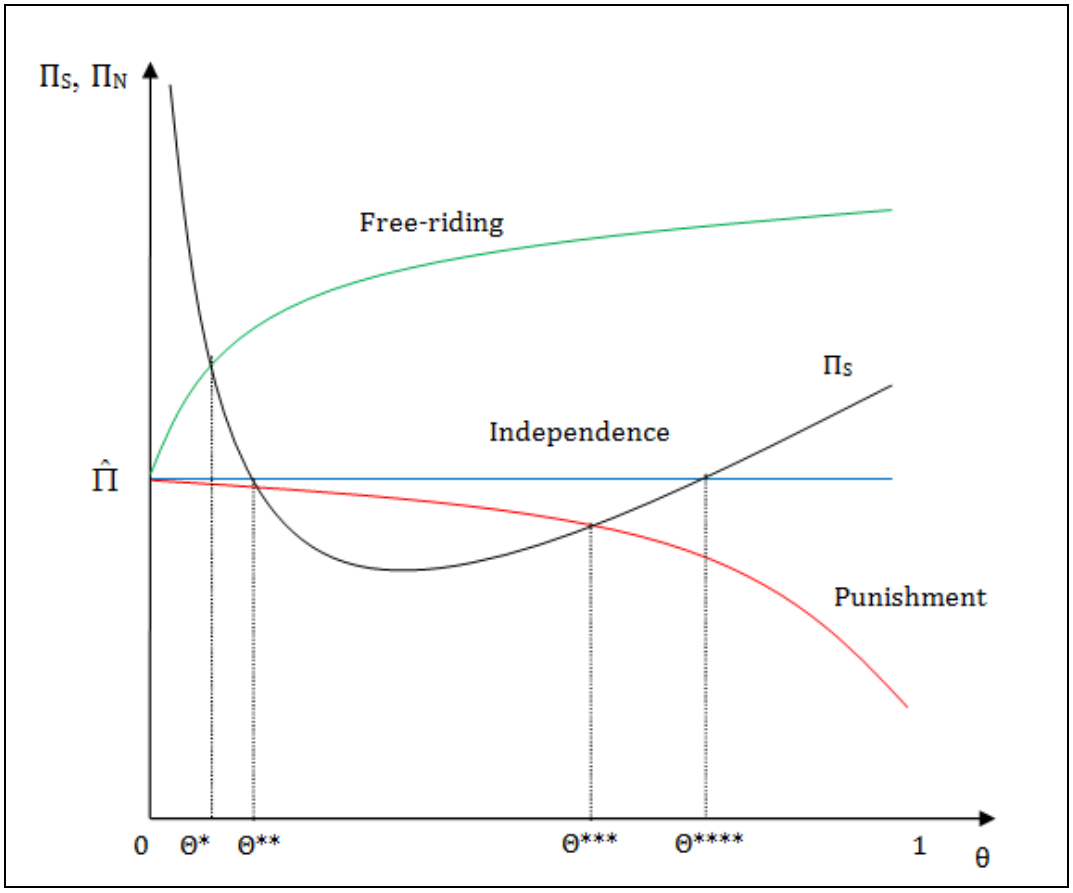
move from a situation in which no one firm undertakes CSR to one in which all do. This is true so long as the combination of *independence* and *network/common pool effects* makes CSR profitable for the first firm which gets to choose. If this holds for the first one, it will hold for the second and so on until the critical threshold at which the network effects are significant enough to ensure that all the firms will found it profitable to undertake CSR.[136]

Otherwise, the combination of *independent* effects with a *differentiation* element should not lead to a situation in which all firms undertake CSR (unless the extra-profits independent of what other firms are doing are very large), but this will still increase the number of firms which undertake CSR in equilibrium.

Other possible cases for the $\Pi_S$ function might involve the combination of the *differentiation* element with the *network/common pool effects*. One possibility would be when the former prevails for low levels of $\Theta$ and then, as the number of firms undertaking CSR increases, the network effects kick-in (see *Figure 5.6* in the following page). In this case, depending on when the network effects start to kick-in, we could have either all firms undertaking CSR in equilibrium, or only some of them. However in the second case this would only be one of the possible equilibria, and if it would be possible to reach a certain threshold of firms undertaking CSR, then it will become profitable for all of them to do so.

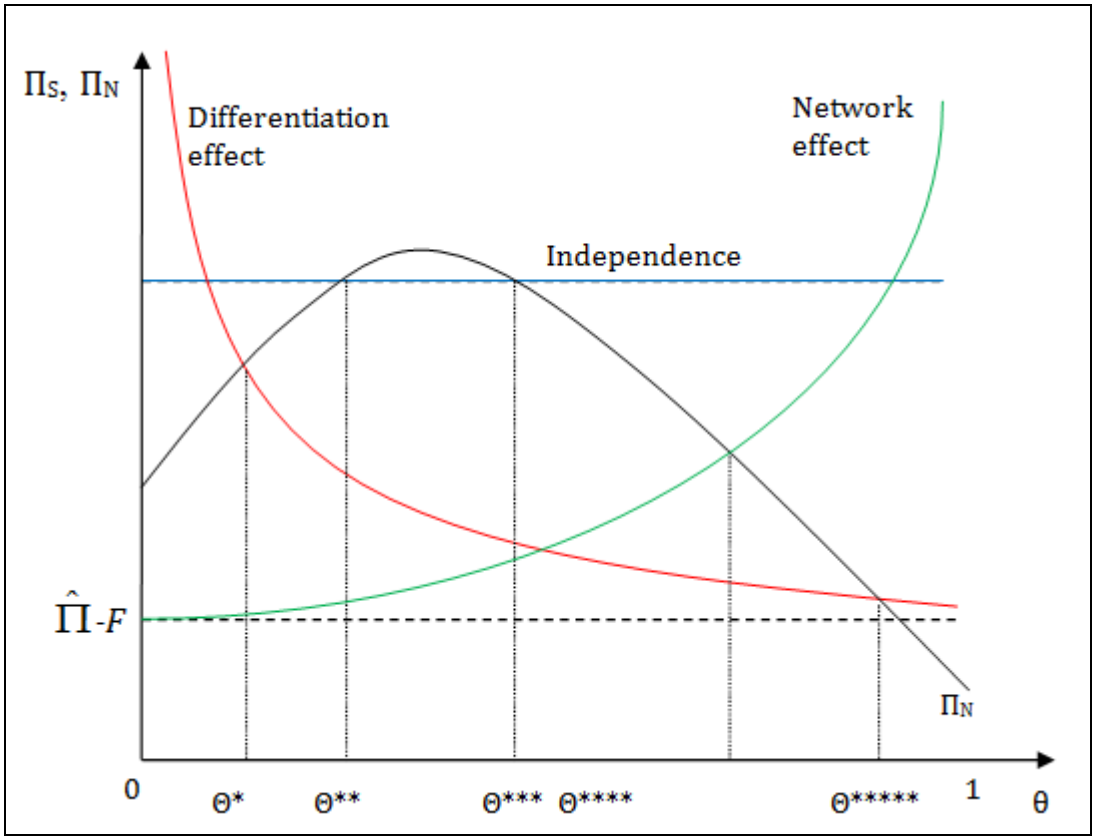
[136] The only case in which this might not be true is if in the profit-function from not undertaking CSR there are free-riding effects, and these are stronger than the network effects.

**Figure 5.6. Combination of a *differentiation* effect with *network/common pool effects* in the $\Pi_S$ function**



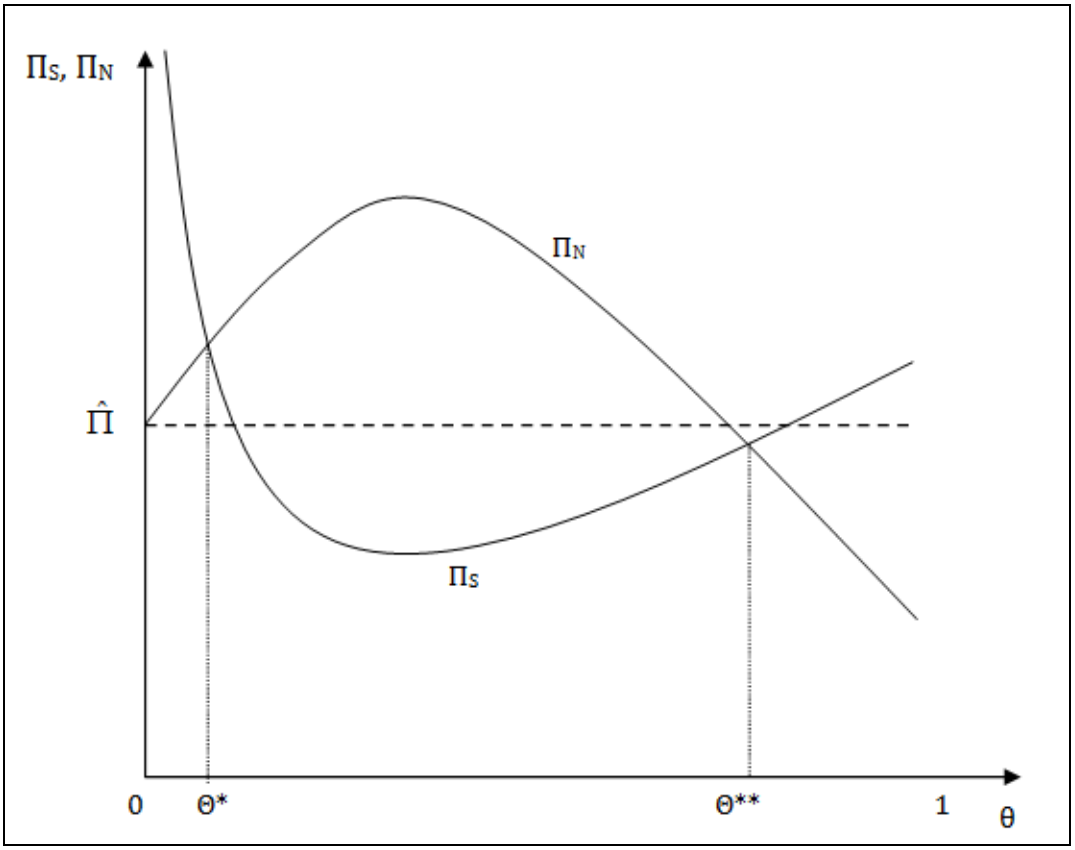

Other possible mixed cases regard the $\Pi_N$ function. For example, after a certain number of firms in the industry are undertaking CSR, the *punishment* effects will start to kick-in, as it becomes easier for the stakeholders to identify the firms which are not undertaking CSR. In this case we expect to have always multiple equilibria (see *Figure 5.7*), with the market - left to its own – stuck into the equilibrium configurations in which only none or some firms undertake CSR (θ*, θ** in the figure, depending on the different shapes of the $\Pi_S$ function) and unable to move to the equilibrium in which all firms undertake CSR. This would be achieved automatically if there was already a certain share of firms (θ***, θ****, θ***** in the figure, depending again on the different shapes of the $\Pi_S$ function) in the market which are already undertaking CSR.

**Figure 5.7. Combination of *free-riding/common pool* effects with *punishment* effects in the $\Pi_N$ function**




The different cases presented above could also arise simultaneously in the $\Pi_S$ and the $\Pi_N$ function (see *Figure 5.8*). This case is very interesting because it has many empirical applications, as we will see in the last part of the chapter.

**Figure 5.8. A possible combination**




Here again, in this case there would be multiple equilibria. The market alone would converge to a share θ* of firms undertaking CSR in equilibrium, but if there was already a share θ** of firms in the market undertaking CSR then the market would converge to the other equilibrium in which all firms undertake CSR.

Depending on the level of the costs and on the maximum level of extra-profits which can be achieved undertaking CSR, the two curves in *Figure 5.8* could intersect at different values of θ. However, only if the costs of CSR are very low and the *network/common pool* effects in the $\Pi_S$ function start to kick-in very early we will observe a situation in which there is only one equilibrium configuration where all firms undertake CSR. We will now move on to present a numerical example.

## 5.2. A numerical example

Let's define θ the share of firms which adopted CSR (where 0<θ<1). We can then find a functional form for $\Pi_S$ which is able to capture at least some of the cases previously identified. This could be the following:

$$\Pi_S = \hat{\Pi} + \frac{\theta^{\gamma}}{3-\gamma} - F \qquad (0.60)$$

In the function above, γ is the key parameter which captures the different characteristics of each industry/sector. We will consider three cases specifically: $\gamma = 0$ (i.e. *independence*), $\gamma = 2$ (i.e. *network-effects/common pool*), and $\gamma = -2$ (i.e. *differentiation strategy*).

Note that given the functional form, when every firm in the market is undertaking CSR, then the profits from network effects are higher than those from differentiation strategy, which reflects the theoretical presumptions which have been made above. A suitable functional form for the $\Pi_N$ function could be the following:

$$\Pi_N = \hat{\Pi} + (1-\sigma)\theta^{\sigma} \qquad (0.61)$$

In this case, we will consider specifically the three cases in which: $\sigma = 1$ (i.e. *independence*), $\sigma = -2$ (i.e. *punishment*), $\sigma = 1/2$ (i.e. *free-riding/spillover*).

We will now find the equilibrium level of θ in each of the nine possible combinations of the two functions.

1. $\Pi_S$ *independence* and $\Pi_N$ *independence*. This case is the most straightforward. We can have two equilibrium values of θ, depending on the value of the fixed costs of CSR:
   a. For $F < \frac{1}{3}$, the $\Pi_S$ function is always above the $\Pi_N$, in which case all firms will undertake CSR (i.e. in equilibrium θ*=1);
   b. For $F > \frac{1}{3}$, then the $\Pi_S$ function lies always below the $\Pi_N$, in which case no firm will undertake CSR (i.e. in equilibrium θ*=0).

2. $\Pi_S$ *independence* and $\Pi_N$ *punishment*. In the case we can have two cases:

   a. For $F < \frac{1}{3}$, the $\Pi_S$ function is always above the $\Pi_N$, in which case all firms will undertake CSR (i.e. in equilibrium $\theta^*=1$);

   b. For $F > \frac{1}{3}$, then the $\Pi_S$ function initially lies below the $\Pi_N$, in which case no firm will undertake CSR (i.e. in equilibrium $\theta^*=0$). However in this case there are multiple equilibria. In fact if there was a fraction $\theta^{**} = \left( F - \frac{1}{3} \right)^{\frac{1}{2}}$ of firms which are already undertaking CSR, than the market would move automatically to an equilibrium configuration in which all firms undertake CSR (i.e. $\theta^*=1$). Clearly, this value $\theta^{**}$ depends positively on the fixed costs of CSR: the higher the fixed costs, the higher the share of firms which have to undertake CSR before it becomes optimal for every firm to do so.

3. $\Pi_S$ *independence* and $\Pi_N$ *free-riding/spillover*.
   In this case there will be two possible configurations in equilibrium:

   a. For $F < \frac{1}{3}$, the $\Pi_S$ function is above the $\Pi_N$ for low values of $\theta$, which implies that there will be a positive number of firms undertaking CSR in the market. However, as more firms undertake CSR, the free-riding opportunities increase until the equilibrium value $\theta^*$ is reached, $\theta^* = 4\left( \frac{1}{3} - F \right)^2$. At this value firms will not find it optimal anymore to undertake CSR. This value is decreasing in the fixed costs of CSR, i.e. the higher the fixed costs, the smaller share of firms will undertake CSR in equilibrium;

   b. For $F > \frac{1}{3}$, then the $\Pi_S$ function lies always below the $\Pi_N$, in which case no firm will undertake CSR (i.e. in equilibrium $\theta^*=0$).

4. $\Pi_S$ *differentiation* and $\Pi_N$ *independence*. In this case we will always have a positive number of firms undertaking CSR in equilibrium. In particular: case of differentiation strategy we can have three cases, which depends on the value of the fixed costs of CSR:

   a. For $F < \frac{1}{5}$, the $\Pi_S$ function is always above the $\Pi_N$, in which case all firms will undertake CSR (i.e. in equilibrium $\theta^*=1$);

   b. For $F > \frac{1}{5}$, initially the $\Pi_S$ function is above the $\Pi_N$, which implies that there will be a positive number of firms undertaking CSR in equilibrium, However, the functions will cross before $\theta$ reaches a value of 1, and the equilibrium level will be $\theta^* = \left(\frac{1}{5F}\right)^{\frac{1}{2}}$, which is decreasing in F.

5. $\Pi_S$ *differentiation* and $\Pi_N$ *punishment*. In this case we have two cases depending again on the value of the fixed costs of CSR:

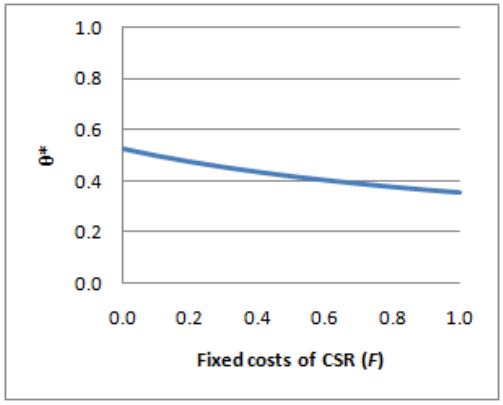
   a. For $F < \frac{2}{(5)^{\frac{1}{2}}}$, the $\Pi_S$ function is always above the $\Pi_N$, implying that the threat of being punished is strong enough that in equilibrium all firms will undertake CSR (i.e. $\theta^*=1$);

   b. For $F < \frac{2}{(5)^{\frac{1}{2}}}$, there will be two intersections between the $\Pi_S$ function and the $\Pi_N$, at the values of $\theta^* = \left[\frac{F - \left(F^2 - \frac{4}{3}\right)^{\frac{1}{2}}}{2}\right]^{\frac{1}{2}}$ and $\theta^{**} = \left[\frac{F + \left(F^2 - \frac{4}{3}\right)^{\frac{1}{2}}}{2}\right]^{\frac{1}{2}}$.

   $\Theta^*$ will be the equilibrium level for the share of firms undertaking CSR. However, if there were already $\theta^{**}$ firms undertaking it, then the market would move to a situation in which all firms will undertake CSR. To give an example, for the maximum value of the fixed costs, i.e. F=1, the two equilibrium levels of $\theta$ will be $\theta^* \approx 0.53$ and $\theta^{**} \approx 0.84$

6. $\Pi_S$ *differentiation* and $\Pi_N$ *free-riding/spillover*. This case is more complex, and we did not explicit the equilibrium level of θ in terms if F. Importantly, in equilibrium there will always be a positive level of CSR, but we will never observe a market configuration in which all firms undertake CSR, as when θ becomes too large the temptation to "free-ride" becomes too strong.
   Using numerical simulation, we were able to draw the following graph (*Figure 5.9*) which captures the relationship between the *F* and θ*, which shows that there is a negative relationship between the fixed costs of CSR and the equilibrium share of firms that will undertake CSR:

**Figure 5.9. Relationship between *F* and θ***



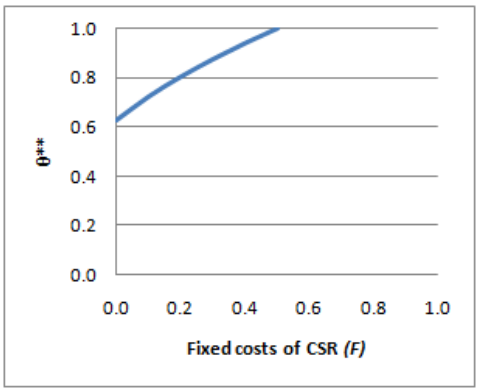

7. $\Pi_S$ *network effects/common pool* and $\Pi_N$ *independence*. In this case, for any value of F strictly greater than 0, we will have an equilibrium market configuration of θ*=0. However, if there were already $\theta^{**} = (F)^{\frac{1}{2}}$ firms undertaking CSR, than the market would move automatically to a situation in which all firms undertake CSR. Clearly, the value of θ** is increasing in the level of the fixed costs of CSR, *F*.

8. $\Pi_S$ *network/common pool* and $\Pi_N$ *punishment*. This case is similar to the one above. For any value of F strictly greater than 0, we will have an equilibrium market configuration of θ*=0. However, if there were already

$\theta^{**} = \left(\frac{F}{2}\right)^{\frac{1}{2}}$ firms undertaking CSR, than the market would move automatically to a situation in which all firms undertake CSR. Clearly, the value of θ** is increasing in the level of the fixed costs of CSR, *F*. The presence of *punishment* effects in the $\Pi_N$ function reduces the threshold level of θ**, with respect to the case (7), necessary for the market will move to a situation in which all firms undertake CSR.

9. Finally, $\Pi_S$ *network/common pool* and $\Pi_N$ *free-riding/spillover*. This case is again very complex and an explicit solution for θ as a function of the fixed costs of CSR *F* was not derived. In any case, for any value of F strictly greater than 0, we will have an equilibrium market configuration of θ*=0. In this case however we can distinguish two cases, which depend on the level of the fixed costs *F*:
   a. For $F > \frac{2}{5}$, $\Pi_S$ function is always below the $\Pi_N$, implying that the "free-riding" are strong enough so that the two functions will never cross;
   b. For $F < \frac{2}{5}$, the two functions cross for values of θ included between 0 and 1. This implies that, even if θ*=0, there will be a value of θ** after which the market will move automatically to a situation in which all firms will undertake CSR. Using numerical simulations, we were able to derive the form of the relationship between *F* and θ** (see *Figure 5.10)*, which highlights that the higher the fixed cost of CSR, the higher will be the threshold level of θ which will induce the market to move to a situation in which all firms will undertake CSR.

**Figure 5.10. Relationship between *F* and θ****




In the following table (*Table 5.1*) the equilibrium levels of θ (Θ*) are presented under each case , as well as the critical level of θ (Θ**) after which the market will move automatically to a situation in which all the firms undertake CSR. When the expressions was too complex, the symbols Θ* and Θ** were left.

**Table 5.1.**

| $\Pi_S$ / $\Pi_N$ | ***Punishment effect*** | ***Independence*** | ***Free-riding/ Spillover effects*** |
|---|---|---|---|
| ***Differentiation effect*** | For $F < 2/\sqrt{5}$, Θ*=1; For $F < 2/\sqrt{5}$, Θ*=Θ* {Θ**=Θ**} | For $F < 1/5$, Θ*=1; For $F > 1/5$, $\theta^* = \sqrt{1/5F}$ | Θ*= Θ* |
| ***Independence*** | For $F < 1/3$, Θ*=1; For $F > 1/3$, Θ*=0 {$\theta^{**} = \sqrt{F - 1/3}$} | For $F < 1/3$, Θ*=1; For $F > 1/3$, Θ*=0 | For $F < 1/3$, Θ*= $4\left(\frac{1}{3} - F\right)^2$; For $F > 1/3$, Θ*=0 |
| ***Network/ Common pool effects*** | Θ*=0 {$\theta^{**} = \sqrt{F/2}$} | Θ*=0 {$\theta^{**} = \sqrt{F}$} | Θ*=0 {for $F < 2/5$, Θ**=Θ**} |

Finally, the three following figures represent the equilibrium configurations for different levels of the fixed costs of CSR: *F=0.3*, *F=0.6*, *F=0.9*. Again, in all the figures θ* denotes the equilibrium share of firms that will actually undertake CSR, while θ** denotes the critical share after which the market will converge to the equilibrium in which all of them undertake CSR.

**Figure 5.11. Simulations for *F*=0.3**

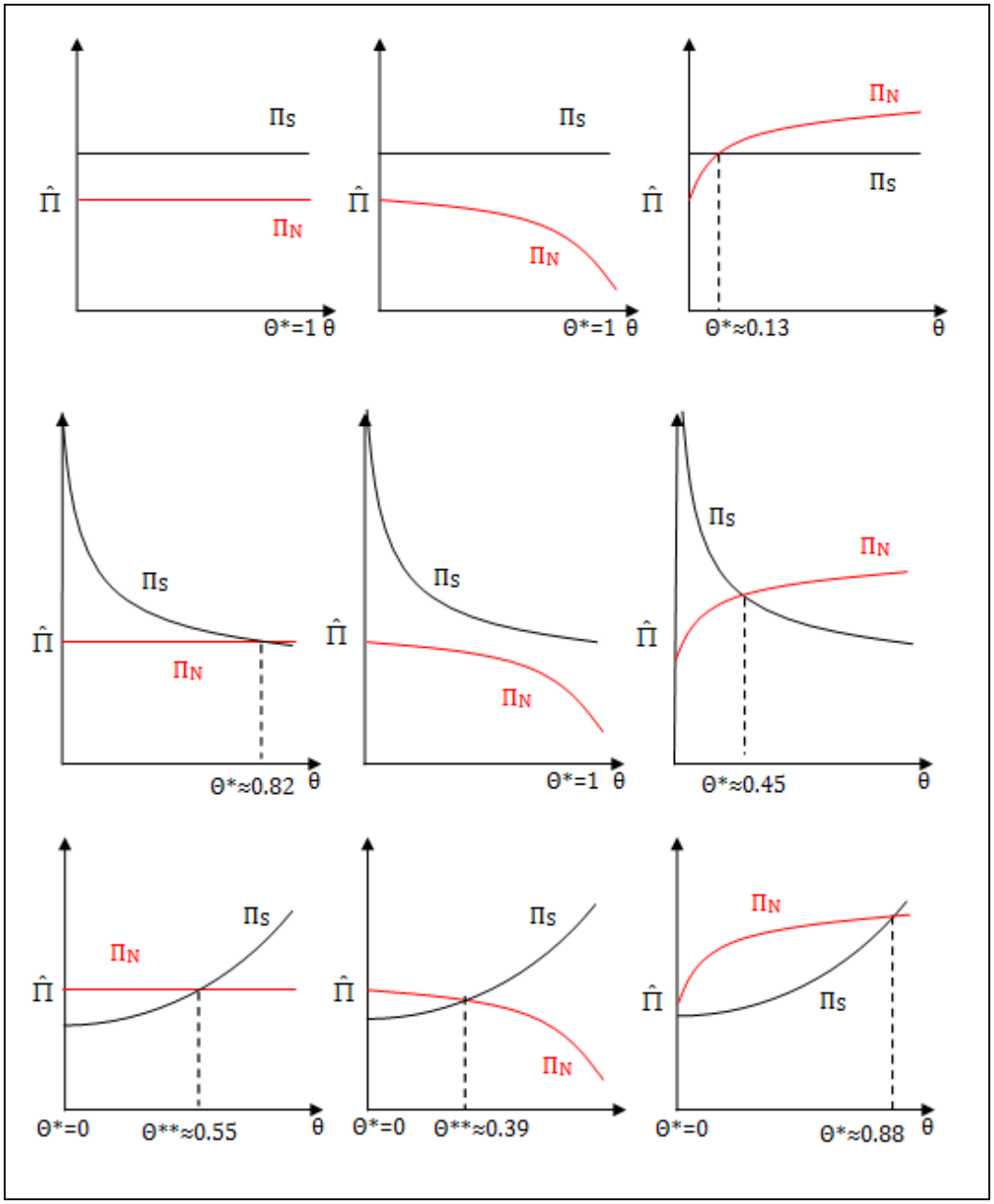


**Figure 5.12. Numerical simulations for *F*=0.6**

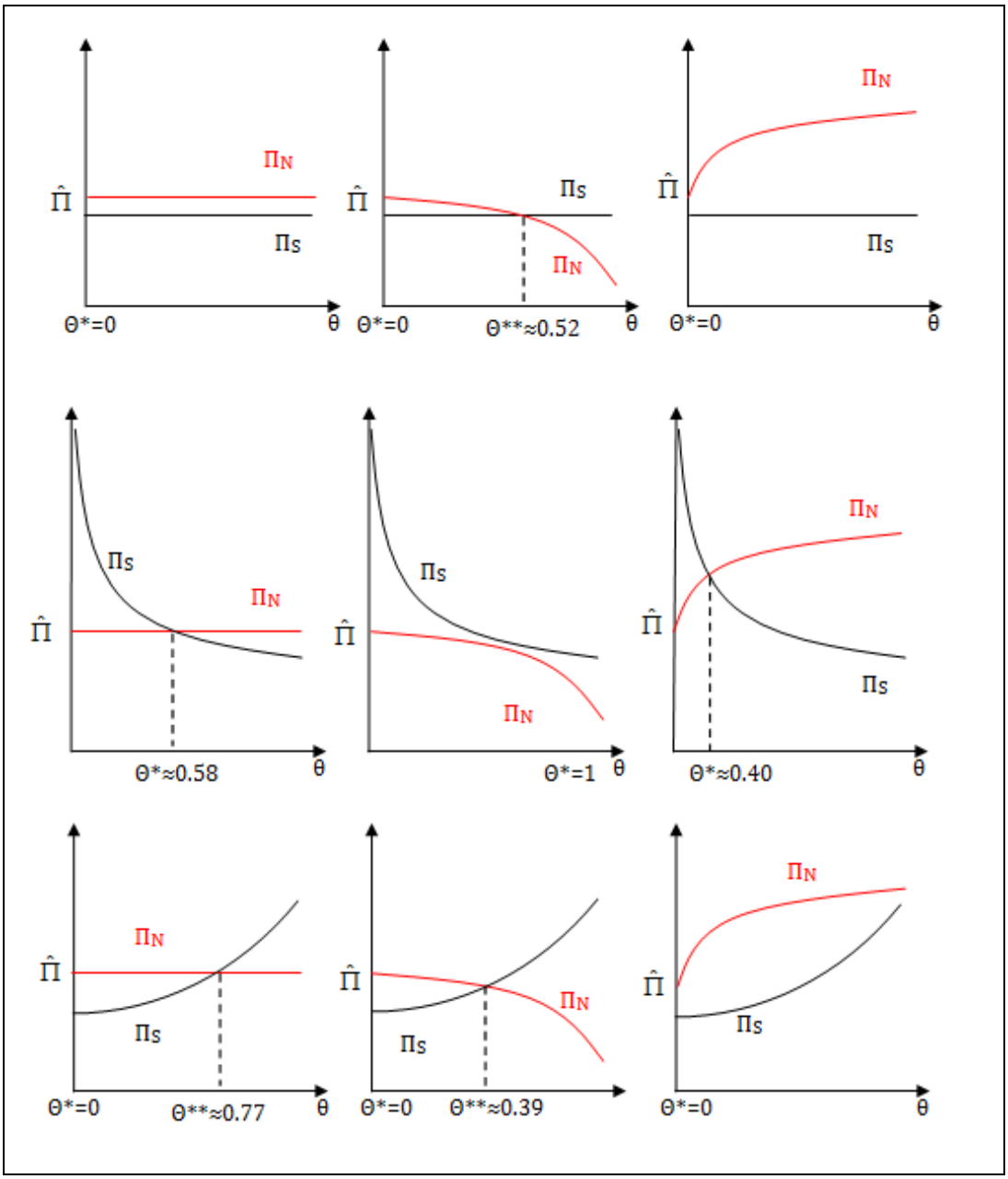
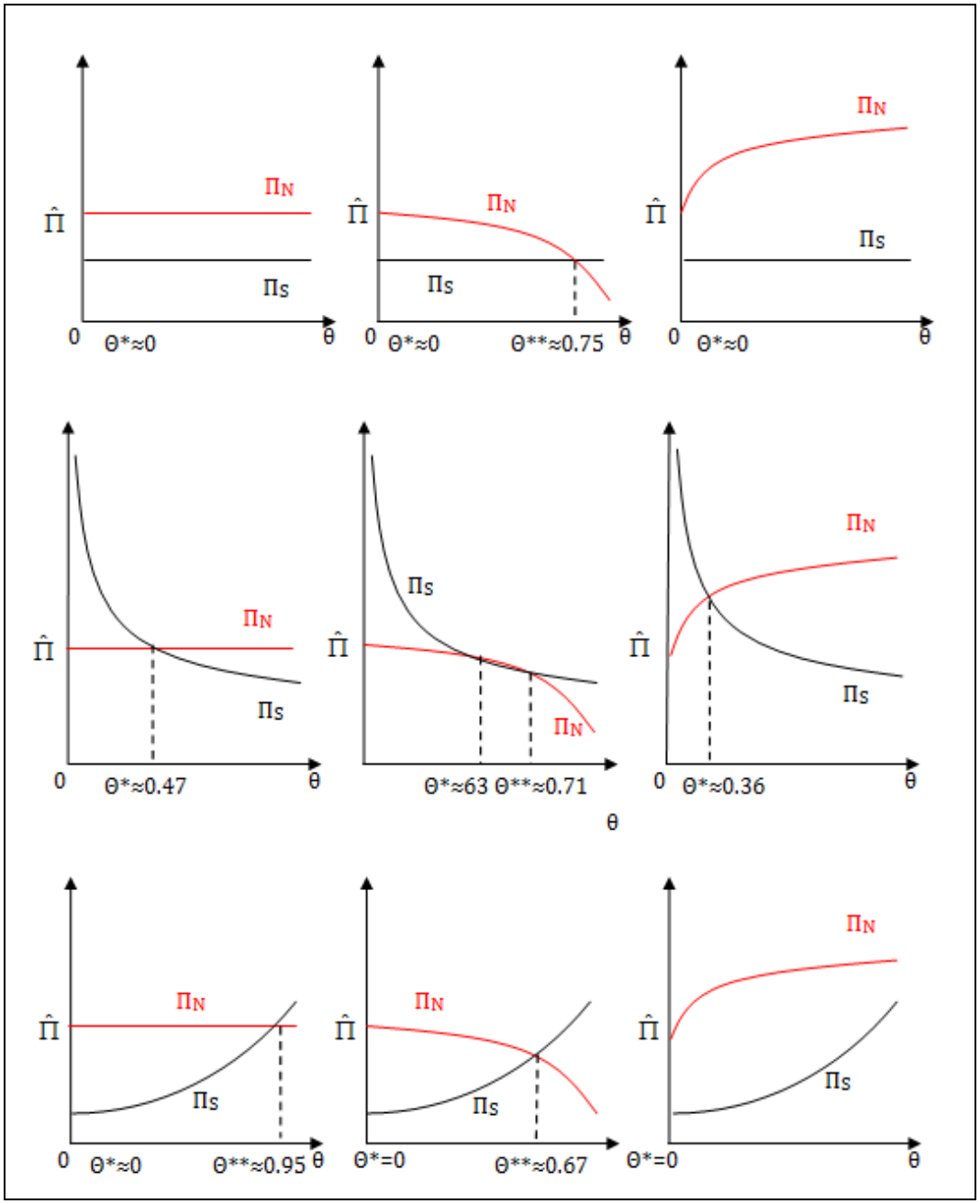


**Figure 5.13. Numerical simulation for *F*=0.9**



## 5.3. Conclusions, main limits and empirical relevance

In this chapter we analysed the issue of *symmetric* vs. *asymmetric* equilibrium configurations - with respect to the number of firms in the market undertaking CSR – modelling CSR as a differentiation strategy as well as efficient resource management. The starting point of our analysis was that a firm's choice on whether to undertake CSR or not is not taken in isolation, but depends on what the other firms in the same market are doing. A market can be seen as the firm's sector or industry, and it is where its competitors are.

In particular, we assumed the choice will be based on the comparison between the profits $\Pi_S$ which the firm will achieve by undertaking CSR, and the profits from not undertaking it ($\Pi_N$). Both profits are modelled as differential with respect to the 'normal' level of the profits in an oligopoly with products differentiation. The $\Pi_S$ function includes also a fixed cost *F* of CSR.

We considered different types of relationships between the $\Pi_S$ and $\Pi_N$ functions and the number of competitors in the same market which are already undertaking CSR. We assumed that the $\Pi_S$ function can be (i) independent of what other firms do (*independence*),[137] increasing as the number of firms undertaking CSR increases (*network/common pool effects*) and finally (iii) very high at the beginning and then decreasing as the number of firms undertaking CSR increase (*differentiation effect*).

On the other hand, the $\Pi_N$ could be (i) always equal to the normal level of the profits, independently of what other firms do (*independence*), decrease with respect to the normal level, as more competitors start undertaking CSR (*punishment effects*) and finally (iii) increasing with respect the 'normal' level, as more firms in the same market adopt CSR (*free-riding/spillover effects*).

[137] See relevant parts in the chapter on the fact that independence is a simplification with respect to what happens in reality, where there are also strategic effects which need to be taken into consideration. However, as mentioned in the text, these strategic effects works in the same direction on the $\Pi_S$ and the $\Pi_N$ function, so assuming these away will not affect the final results in term of equilibrium configurations.

Some of the elements above derive from the view of CSR as differentiation strategy while others from the view as efficient resource management. From the view of CSR as differentiation strategy, we would expect:

- As regards the $\Pi_S$ function, the presence of *differentiation* effects in the majority if situations, or *network-effects* in the cases where the stakeholders' awareness is of CSR is very limited but there is potential for habit formation;
- As regards the $\Pi_N$ function, the presence of *punishment* when firms are easily identifiable within a certain sector/industry, or *free-riding* when they are not, which implies when a few firms undertake CSR all the sector will will benefit from an increased reputation.

Conversely, looking at the view of CSR as efficient resource management, the types of relationship that we would expect are:

- As regards the $\Pi_S$ function, the presence of *independence* when most of the efficiency gains are achieved within the firm ('win win' situations), or *common-pool* when the gains from CSR can be achieved only when the majority of the firms in the same market also undertakes it;
- As regards the $\Pi_N$ function, the presence of *spillovers* when it is not possible to exclude the firms which do not undertake CSR form the benefits of CSR; and *independence* in all the other cases.

The objective of our analysis was to find, given the particular characteristics of the $\Pi_N$ and the $\Pi_N$ function, the equilibrium configurations in terms of the share $\theta$ of firms in a certain market that will undertake CSR. The configurations that we were particularly interested in were three: no firms undertake CSR ($\Theta=0$), all firms undertake it ($\Theta=1$) and finally some firms, but not all, undertake it ($\theta=\theta^*$).

One of the most important results from our analysis was to be able to exclude the configurations which will never arise in equilibrium. The configurations which are feasible have been summarized in the following table (*Table 5.2*). When there is more than one entry in each box of the table, the realization of one market configuration or the other as equilibrium will then depend mainly on two elements: the level of fixed costs of CSR ($F$) and the maximum level of the extra-profits (for each characteristic of

the $\Pi_N$ function) which can be achieved by the firms which undertake CSR. Finally, the cells highlighted in yellow are the ones in which there are multiple equilbria: left alone, the market will converge to the equilibrium configuration $\Theta^*$; however, if a certain critical threshold of firms undertaking CSR were reached, then it will move automatically to an equilibrium configuration in which all firms will undertake CSR.

**Table 5.2.**

| $\Pi_S$ / $\Pi_N$ | **Punishment** | **Independence** | **Free-riding Spillover effects** |
|---|---|---|---|
| **Differentiation strategy** | $\Theta = \Theta^*$<br>$\Theta=1$ | $\Theta = \Theta^*$<br>$\Theta=1$ | $\Theta = \Theta^*$<br>$\Theta=1$ |
| **Independence** | $\Theta=1$<br>$\Theta=0$ | $\Theta=1$<br>$\Theta=0$ | $\Theta=1$<br>$\Theta = \Theta^*$<br>$\Theta=0$ |
| **Network effects / Common pool** | $\Theta=0$ | $\Theta=0$ | $\Theta=0$ |

Summarizing, when CSR is a differentiation strategy for the firms, we expect that there either some or all the firms will undertake CSR in equilibrium.[138] However, unless the fixed costs of CSR are negligible, or there is a strong element of *punishment* in the $\Pi_N$ function (i.e. the stakeholders can identify and 'punish' the firms which do not undertake CSR), we can exclude the configuration in which all firms undertake CSR as a possible equilibrium. In light of this, the most likely equilibrium outcome is that there will be a positive share of firms undertaking CSR, but not all of them.

Conversely, when we look at the view of CSR as efficient resource management, and we consider in particular the typical elements of the "common pool" problem (*network effects/common pool* in the $\Pi_S$ function, *free-riding/spillover* in the $\Pi_N$,), in equilibrium we will most likely observe that no one firm will undertake CSR. Clearly, this equilibrium is not efficient, because there are potentially huge gains from

[138] With *differentiation* effects, also $\Theta=0$ could be an equilibrium, if the extra-profits obtainable by the first firm in the market which undertakes CSR are larger than the fixed costs. However we excluded this possibility from the possible ranges of results when CSR is a differentiation strategy. In fact, this would clearly indicate a market in which – given the current 'ethical' preferences of the relevant stakeholders – CSR is not a good differentiation strategy.

CSR for the firms which remain unexploited. In fact, if there was a certain critical level of firms already undertaking CSR, then all the firms would find it optimal to undertake it and the market would move to a situation in which all firms undertake CSR.[139] This would be the efficient equilibrium from a perspective of maximising social welfare.

One way in which the market could move to the more efficient equilibrium would be if in the $\Pi_S$ function - in addition to the *network/common pool* elements - there were large *independent* gains from CSR. In fact, if these gains are larger than the fixed costs of CSR, we would be in a typical 'win win' situation where even the first firm which gets to choose will find it more profitable to undertake CSR. This will apply until the threshold number of firms is reached, at which point the *network effect*s will have kicked-in to ensure that the market will end up in a situation in which all firms undertake it.[140]

One caveat could be that in reality the *independent* gains from CSR are not the same for all the firms in the market. In fact, these rely on each individual firm's ability to translate CSR practices into bottom-line benefits and depend on elements such as managerial ability, the synergies between the CSR practices and the firm's production processes and so on. In light of this, the fact that the independent gains are higher than the fixed costs for one individual firm does not ensure that they are higher for all the firms in the same market. Therefore the number of firms which will undertake CSR might not be enough for the network effects to kick-in significantly, and the market will be locked in this sub-optimal equilibrium in which only some firms undertake CSR (only the ones for which it is a 'win win' situation)

Another possible way in which the market could move to the efficient situation from a social welfare perspective would be through policy intervention. In fact, an adequate policy intervention - such as a subsidy for CSR - could be the right instrument to push enough firms ($\theta^{**}$) to adopt CSR. The market would then converge alone to the equilibrium configuration which is preferred from the social welfare perspective. The important point to make is that such subsidy would not need to be *permanent*, but only *temporary*.

[139] This is true unless there are significant *free-riding* opportunities for the firms which are not undertaking CSR, or large *spillover* effects from the one which are undertaking it to those which are not.

[140] See note above.

In fact, once the number of firms undertaking CSR reaches the critical threshold θ**, the subsidy would no longer be necessary. At this point all the other firms left in the market would want to undertake CSR without need of the subsidy, but also those that adopted CSR because of the subsidy will not need it anymore, and the removal of the subsidy will not affect their decision to undertake CSR. Therefore, the overall welfare would increase, without any policy cost in the long term.

On last solution to the market failure, would be if at least θ** firms, understanding the potential of unexploited benefits from CSR, would spontaneously decide to make an agreement to undertake CSR. From a dynamic perspective, this would be the optimal choice for firms with perfect foresight. Nonetheless, there might be problems such as coordination failure and free riding, as firms would have an incentive to reap the benefits from other firms' CSR practices without undertaking any. We will analyse this issue in a dynamic optimisation context in Chapter 6.

On a side note, it is important to understand why a policy intervention would not be necessary when we look at the cases when CSR is mainly a differentiation strategy for the firms, without relevant efficiency gains which can be exploited given the characteristics of the industry/sector. The key difference is that in this case there are not multiple equilibria, and the market should converge to the only possible equilibrium in terms on number of firms undertaking CSR, given the specific characteristics of each market. Therefore, in this case policy intervention would still be one possible way to increase the number of firms undertaking CSR in equilibrium, but differently that what was happening in the previous case this intervention will have to be permanent and not only temporary.

Nonetheless, even when CSR is only a differentiation strategy there could be possible market failures, such as for example the impossibility of the stakeholders to reveal their true preferences (and in some cases the fact that they might even not be aware of their true preferences because they ignore the issue), or the lack of credibility of firms' promises due to the asymmetry of information. Because the latter issue was analysed previously in Chapter 2, we will focus here only on the possible problems with the stakeholders' revelation of preferences. These could be of different sorts, and the solutions need to be identified for each specific case.

For example, in some cases it might be hard for the stakeholders to correctly identify the firms which are actually doing CSR, so to reward these and punish the others. This would lead to a situation in which in equilibrium there will be a sub-optimal number of firms undertaking CSR. One possible solution to this failure would be to promote and facilitate the work of certain organisations, such as the Civil Society Organizations (CSOs) which can help the stakeholders identify exactly who is doing what.

Another example is if the stakeholders are still largely unaware of the issue of CSR, leading for example to a low degree of sophistication of consumers' demand. This could imply that CSR is not yet a viable differentiation strategy for the firms – because for the first firm which gets to decide the extra-profits in the $\Pi_S$ function under the *differentiation effect* case are less than the fixed costs of CSR – but it might become one. In fact, there might be a huge potential for increasing the stakeholders' awareness of the benefits from CSR, revealing to them their 'true' preferences, which will then make CSR a viable differentiation strategy for the firms.

A final example could be if the stakeholders do not have effective ways to communicate to firms their preferences. In this case again the revealed $\Pi_S$ function under the *differentiation effect* case would be lower than the 'true' one, and the number of firms which will undertake CSR in equilibrium will be sub-optimal. As a consequence of that, there will be unexploited benefits for the firms from using CSR as a differentiation strategy. Possible interventions to reduce this problem would be to implement adequate mechanisms to allow the consumers to reveal their 'true' preferences. Examples of these could be product labelling, devices to favour the feedback from the workers to the management, the establishment of 'ethical' investment funds and so on.

Before moving to the empirical analysis, it is worth mentioning some of the main limits of the theoretical framework which has been developed in this chapter.

First of all, we assumed that CSR is a binary choice. This is clearly a limitation with respect to the real life, where firms compete not only on the choice of undertaking CSR or not, but only on the level of CSR. Secondly, we assumed that CSR is

a holistic concept, while in the reality there are many different types of CSR practices and activities, to which different levels of extra-profits could be attached.

These first two elements have important implications on the equilibrium configurations that were found. If we consider for example the $\Pi_S$ function with *network/common pool effects*, the firms which undertake CSR could in fact be engaging in very different types of CSR projects (due to the *independent* gains attached to each project), and even if the total number of firms engaging in CSR is above the critical threshold, the network-effects might still not be enough to ensure that the market will converge to the equilibrium were all firms undertake CSR.

One possible solution would be to use the framework developed in this chapter to study each CSR project separately (e.g. environmental projects, community development, supply-chain management, employees training and working arrangements, etc.) rather than CSR considered in a holistic way, and assess which equilibrium configurations we expect to arise in each case.

Finally, another limit is that we assumed that the $\Pi_S$ and $\Pi_N$ functions are the same for all the firms in a certain sector/industry. This is clearly a simplification with respect to the reality. While it might be plausible when we consider the view of CSR as a differentiation strategy, is seems much less realistic when we consider the view of CSR as efficient resource management, and in particular the issue of the *independent* gains. As mentioned before, these gains are usually not exogenous and not given one time for all, but depend on the synergies between CSR and each firm's production processes and on the management's ability to integrate CSR into these processes in order to reap the maximum benefits.

The implications of these differences could lead to the point in which, in the same sector/industry, for some firms CSR is a 'win-win' situation - because the level of independent benefits is large enough even when the network-effects still have not fully kicked-in - while for others the fixed costs are still higher than the gains and so will not undertake it. In this situation, the final outcome in the market will depend on how many firms are in one situation or the other. If there are enough firms for which CSR is a 'win-win' option, they might reach that critical share after which it will become profitable for every firm to undertake it. Otherwise, the market will be stuck in a situation in which some firms are undertaking CSR, while the others are not.

To analyse some possible empirical applications of the theoretical framework which has been developed so far, we will refer to the some of the findings from the CSR research in the Caribbean (and in particular in Trinidad and Tobago) presented in the Chapter 3 of this thesis.

The research revealed a great heterogeneity across the different sectors on the level of engagement in CSR practices, as well as in the firms' ability to communicate their CSR activities to the relevant stakeholders. Some of this variation can be explained to some degree using the theoretical framework which has been developed in the present chapter. For example, the companies from the energy sector were the ones that were undertaking more CSR activities; particularly internal CSR such as employment benefits, health and safety practices etc, and were also the ones that were putting more effort in communicating these activities to their stakeholders. This reveals the presence of large *differentiation* effects, where the firms compete in order to improve the stakeholders' perception of the firm. As well as the presence of large *independent* gains from CSR, leading to a situation in which we expect all the firms to be engaged, at least up to a certain degree, in CSR activities. This situation is similar to the one depicted in the *Figures 5.6* and *5.8*.

On the contrary, the construction sector revealed a very limited awareness and engagement in CSR activities. This is very likely to be related to the fact that for the companies in this sector the cost side is more important than the demand side to determine their. Moreover, it also likely that the *common pool* issue will be relevant, given that the firms are often very rooted into the local communities and end up draining from the same pool of workers and natural resources. This is the typical situation in which we expect the market equilibrium to be $\theta^*=0$. However, given the importance of the cost-side, there might be huge potential unexploited gains coming from CSR, particularly exploiting the network effects and the possibility to develop joint projects. In this case, the intervention by the Government intervention could help the market move to the more efficient equilibrium, which maximises social welfare.

Finally, the financial sector is another sector which revealed some interesting characteristics with respect to our framework of analysis. In fact, some of the companies interviewed lamented that many of the reputational benefits from the CSR

practices which they were undertaking spilled over to other competitors in the same market. This is a situation where clearly the differentiation strategy prevails, but the *free-riding/spillover* effects are so relevant that might lead to an equilibrium configuration in which in which some firms engage in CSR, and other do not. Many other examples could be found from the study in the Caribbean.

One possible application of the theoretical model developed in this chapter would be design a research targeted to assess the cross-sectoral differences in firms' engagement in CSR and analyse how these relate to the specific elements prevailing in the $\Pi_S$ and $\Pi_N$ functions.

# Chapter 6: A New Framework of Analysis: Dynamic Modelling of CSR as Efficient Resource Management[141]

As we saw in the introduction, concepts such as "Business case for CSR" and "strategic" CSR are now widely used in the management literature, to identify business practices which yield benefits for the environment and the society at large and also private benefits for the firms (see Porter and Kramer, 2002). The model presented in this chapter will focus exclusively on "strategic" CSR which, as mentioned there, is a phenomenon which is distinctive from traditional charity or philanthropy, from which firms do not expect any return.[142]

In developing the model, we will also make use of the distinction, developed in the first chapter of the thesis, between the view of CSR as differentiation strategy, and the one as efficient resource management.

According to the view of CSR as differentiation strategy, there is a demand for a more ethical behaviour by the firms among one or more of the stakeholders (e.g. consumers, workers, investors, government, etc.), which leads the firms to undertake CSR to increase the firm's profits. If this is the case, we expect the CSR practices undertaken by the firm to reflect stakeholders' preferences.[143]

On the contrary, according to the view of CSR as efficient resource management, CSR is a strategy undertaken by the firms to increase the efficiency of the production processes and manage optimally the factors of production, with the

[141] This section is drawn from "A Dynamic Model of Internally-Driven Corporate Social Responsibility and Enlightened Profit-Maximization", published as Working Paper N. 674 of the Department of Economics of the University of Bologna.

[142] In the literature it is now more and more common to refer to CSR as only the 'Strategic' component of CSR, while the rest is called philanthropy or charity in general. For example, Antonio Gaspar (2003, p.3) defines CSR as "an investment from which companies should expect tangible returns and positive impact on their net profits", while "philanthropy relates to donations or charitable giving from which companies do not necessarily expect any direct positive impacts on their business activities."

[143] Prof. Jean Tirole, speaking at the third annual *Economica*-Coase lecture at the LSE on 19th February 2009, on the subject "Individual and Corporate Social Responsibility", classified as 'Delegated Philanthropy' all the CSR practices in which companies "act on behalf of their stakeholders". This is very similar to our definition of *externally-driven* CSR.

objective of maximising long-term profits. From this perspective, we would expect the CSR practices adopted to be closely linked to the firms' core business.

## 6.1. A new definition and a new framework of analysis

As mentioned in the first and second chapter of the thesis, all the theoretical models of CSR which have been developed so far view CSR as being exclusively a differentiation strategy.

In light of this, before developing the model we will first need to introduce a new definition of CSR.

We will define CSR as "*every activity that a firm undertakes voluntarily, based on a sensible economic incentive, resulting in the full or partial internalisation of the externalities – positive and negative – on the society and the environment associated with the firm's production of goods and services".*

This definition takes into account that CSR is a voluntary behaviour, and it has the advantage of relaxing the assumption that CSR has to be strictly profit-enhancing, and also of capturing the distinction between private and social benefits vs. costs of production. In fact, in presence of a negative externality, the profit-maximising production level of the firm's goods or services is too high with respect to the social optimum, and the opposite occurs when there is a positive externality. The key is now to understand why a profit-maximizer firm would voluntarily choose to internalise these externalities - i.e. provide more of the 'public good' and less of the 'public bad' associated with its activities.[144]

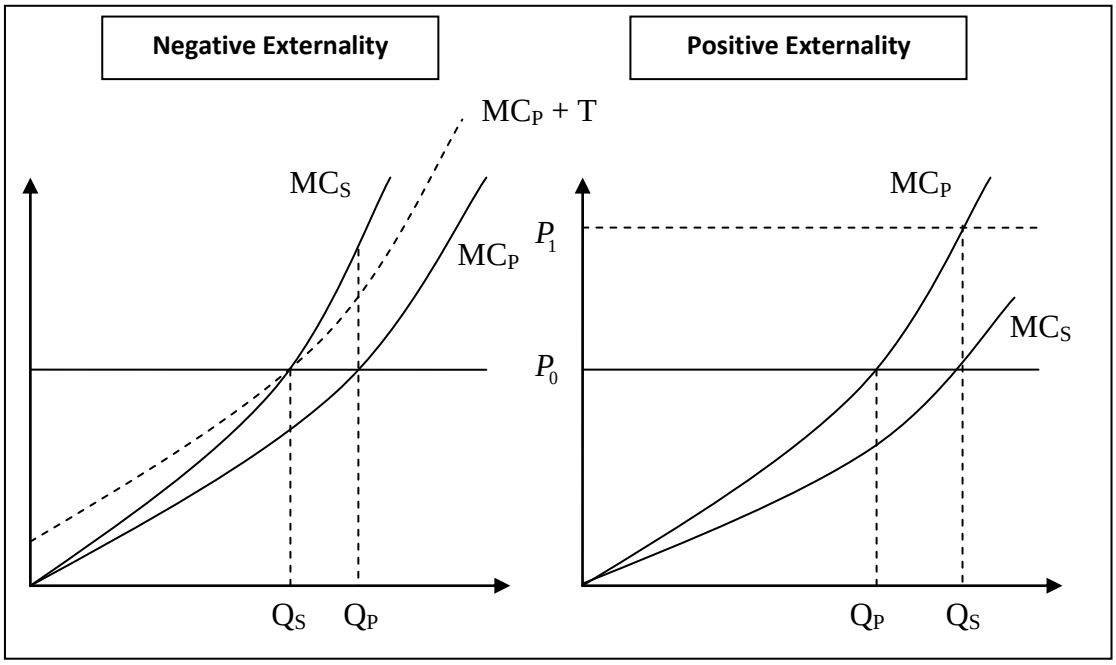
The classical mechanisms by which firms can be induced to internalise some of the negative externalities they produce is through a *Pigouvian Tax*. Of course, this would not be a voluntary intervention, but the same result can be achieved if firms decide to pre-empt the introduction of such a tax, by voluntarily limiting the

[144] One way to achieve this result is to assume, as Kelsey and Milne (2006) do, that the firm's shareholders are also the people which are directly affected by the externality. In this case, the incentive for internalising them is straightforward, but it does not explain why firms would still behave like that in more realistic situations in which the shareholders are not directly affected by the externality.

production or implementing measures to reduce the level of the externality (cf. the case of pollution).[145]

In the opposite case of a positive externality, one way in which firms would be induced to provide more of the 'public good', is if consumers were willing to pay a higher price for the private good from which the positive externality arises (see Figure 1).

**Figure 6.1. Traditional solutions to the problem of externalities**




These two cases come from the view of CSR as differentiation strategy. Let's consider now how it can be applied to the view as efficient resource management.

In order to do so, we will move from the consideration that firms need several factors of production, of which not only the quantity is important, but also the quality. In the introduction of the these section, we have seen the CSR can affect the availability and the quantity of certain factors of production (e.g. water, agricultural

[145] The economic incentive to do so is given by the fact that any voluntary reduction of the level of production (or reduction of the 'public bad' associated with the production), which is strictly less that what the tax-regime would lead the firm to do, leaves the firm better-off with respect to the situation with the tax.

crops, forests, etc.), and the quality of others (e.g. labour productivity - where elements such as employees' motivation, satisfaction and well-being play a key role - support of the neighbouring communities, access to government licenses and foreign technology, etc.).[146]

These factors of production also have a value for the society as a whole, i.e. they are *public goods*. This derives from the consideration that that everyone in the society benefits from a richer environment, a higher level of satisfaction and happiness of employed people and their families, and so on.

Therefore, a potential conflict could arise between the needs of firms - which want to use these factors to produce - and the ones of the society - which would like to see them grow. This conflict falls nicely into my externality framework: by employing one factor – and thus reducing the available stock - a firm imposes a negative externality on the society, while by investing into increasing its stock, it generates a positive one.

This is the starting point of our analysis of CSR as efficient resource management. Our objective will be to identify all the situations in which the firm's choices towards its factors of production are not in conflict with the interests of the society, but actually aligned with them.

To develop the theoretical model, we drew inspiration from the literature on renewable resources. This literature studies the optimal rate of exploitation of a scarce resource (e.g. fisheries), which would grow over time if unexploited, but could be exhausted if excessively harvested (Dasgupta and Heal, 1979; Clark, 1990). These features are also relevant for the factors of production on which CSR has an impact.

First of all, it seems plausible to assume that the stock of these factors grows over time. In some cases it is the quantity of the factors which increases (e.g. agricultural crops, forests, natural resources, etc.), in others the quality (e.g. labour productivity, support from neighbouring communities, etc.). In the – maybe less evident - case of quality, this is due to the way reputation spreads over time and to the formation of habits among the stakeholders (Becchetti, Giallonardo and Tessitore,

[146] One clarification is necessary here. What the firm pays for is always for the level of a tangible factors of production (e.g. materials, or number of employees), but when CSR can affect the quality of this factors, then the firm can obtain from it a marginal product which is higher than its actual marginal cost.

2005). This implies that the quality of the factors of production will increase over time, and this applies both to the factors that a firm could decide to use in the future (e.g. the more widespread a firm's reputation, the higher will be its ability to attract the most motivated employees), and to those which the firm is already employing (e.g. the longer an employee has been working for a firm, the higher his/her motivations will be, because of increasing loyalty and self-identification; similarly, the longer a firm has settled in a community – and the more of its members that finds a job in the firm - the greater will be the support from the community).

Secondly, when firms use these factors of production, they reduce the stock available for future production – again, this could be the quantity, the quality, or both. The Civil Economy literature (Bruni, Zamagni, 2004) helps us understand how this process might work in the case of quality. According to this literature, economic agents receive a greater utility in environments where a lot of 'relational goods' are provided. These are goods produced by the interaction among agents, such as friendship, trust and social reputation. Translating this idea into my model, I can argue that relational goods are becoming more and more abundant in private firms, thanks to their engagement in CSR. This determines that, for example, there are workers who are willing to give up a higher wage to work for firms which they perceive to be more ethical (Collier and Esteban, 2007; Brekke and Nyborg, 2005), or investors willing to give up higher returns to invest in ethical funds (Baron, 2001). If this is the case, then a firm which 'owns' a certain level of reputation coming from its past behaviour, could decide to exploit it to obtain an advantage - for example making motivated employees work longer hours, or using its past CSR achievements to acquire a licence to operate. However, this will reduce the stock of relational goods, because of increasing dissatisfaction and lack of trust, unless the firm does something to build up the stock of relational good again.

Hence, the key question that our model will try to answer is how much a firm should exploit the benefits of its reputation today, and how much it should leave 'unexploited' - or even invest into increasing the stock of relational goods – to obtain a higher quality of the factors of production in the future.

## 6.2. The model

The model is an adaptation from the one developed by Clark (1990) to analyse the issue of the evolution and exploitation of a natural resource.

A firm *i* employs a certain factor of production $y$ to produce an output $z$, which then sells at a constant price $\bar{p}$ (i.e. there is perfect competition in the market of the final output). For simplicity, and without loss of generality, let's assume the simplest production function possible, $z_t = ky_t$, where $k$ represent the overall efficiency of the production process.

The factor of production is available in a certain stock, *x*, which, as previously noted, is determined both by its level and its quality. The firm, however, cannot employ the factor directly, paying a price for it, but has to employ an 'instrumental input', $E$, at a unitary cost *w*, to obtain it. Then, the amount of the factor which will actually enter in the production process, is an – increasing - function of the amount of the instrumental input employed, and also of the level of the stock available: $y_t = h(E_t, x_t)$.[147]

This formulation is quite flexible and can be applied to all the factors of production mentioned in the previous section. For example, in the case of a natural resource, *w* can be seen as the unitary cost of a machine to extract the resource and $E$ as the number of machines.

The amount of the factor of production which will actually enter in the production process is a function of the number of machineries, but also of the stock of the factor. In fact, when this is available in great quantity, the firm will be able to obtain more of it for a given number of machineries.

In the case of human capital, *w* can be viewed as the salary paid to the employees, while $E$ is the number of employees. Again, there is not a one-to-one correspondence between the number of employees and the level of human capital which enters in the production process, because the employees might decide to put

[147] I maintain the notation typical of the literature on exhaustible resources, where $E$ is the level of the *effort* (to extract a certain resource) and *h* is the *harvesting* function.

more or less effort at work. This decision depends on their 'stock' of motivations, which in turn depends on the firm's reputation, goodwill etc.

An important element to be noted - and which distinguishes our view of CSR as efficient resource management from the view of CSR as differentiation strategy - is that this level of motivations is not exogenous and taken as given by the firm, but is endogenous to our model, depending on the firm's behaviour.

Following Schaefer (1957), we assume the simplest functional form to capture how an additional unit of the instrumental input $E$ translates into additional units of inputs *y*, given by:

$$y_t = E_t x_t \tag{0.62}$$

We start by analysing the behaviour of a profit-maximising firm, which does not take into account the effect of its activities on the level and the quality of the factors of production. The firms' total profits are given by the stream of present and future profits, discounted at a rate equal to $\rho$:[148]

$$\prod = \int_0^\infty e^{-\rho t} \left( \bar{p} k y_t - w E_t \right) dt \tag{0.63}$$

Plugging equation (0.63) in the equation of the profits, I obtain the following expression:

$$\prod = \int_0^\infty e^{-\rho t} \left( \bar{p} k E_t x_t - w E_t \right) dt \tag{0.64}$$

The profit function is linear in the control variable - the level of the instrumental input – hence I have that if, at any time *t*, $\bar{p} k x_t < w$, the firm would not produce at all, while if $\bar{p} k x_t > w$ it would want to produce an infinite amount of the final good, and thus employ an infinite amount of the factor of production. In this case however - even if the firm does not take that into account – the fact that the firm uses the factor will reduce the stock *x* available in the next period. Hence, as production goes on, the firm will obtain less and less additional units out of a given level of the instrumental input, and this process will continue until $\bar{p} k x = w$. At this point the firm

[148] The firm's time-discount rate is often assumed to be equal to the interest rate, because a firm can always reinvest their profits at the interest rate. However I will see later on in the paper how I can use it to capture the relative weight which firms put on 'short-term' profit maximization vs. 'long-term' profit maximization.

will have to stop to employ the factor, because obtaining one additional unit would yield negative profits ( $\bar{p}kx < w$ ).

Following this reasoning, in equilibrium we must have that:

$$\bar{p} = \frac{w}{kx} \tag{0.65}$$

which states that that the marginal revenue of employing one additional unit of the factor of production – given by the (constant) price $\bar{p}$ of the final good multiplied by the efficiency of production parameter *k* - has to be equal to the marginal cost of obtaining this additional unit - given by the marginal cost of the instrumental input, divided by the additional units of the factor of production that the instrumental input will allow to obtain (i.e. $\frac{\partial h(E,x)}{\partial E} = x$ ).

Now we will analyse how differently an '*enlightened*' firm would behave.

By *enlightened*, I mean a profit-maximising firm which takes into account the dynamic stock externalities from its production (i.e. how its production choices affect the stock of the factors of production available in the future).

First we need to define how the stock of the factor evolves over time. For the purposes of this chapter, we will not use any specific functional form, but only assume that the growth of the factor of production is a function of the stock, $\frac{dx}{dt} = F(x)$, and that this growth-function satisfies some key proprieties: $F'(x) > 0$, $F''(x) < 0$ and $\lim_{x \to 0} F'(x) = \infty$.[149]

Therefore, the actual change in the stock of the factor of production is given by this growth-function, minus the amount actually employed by the firm:

$$\dot{x} = F(x) - h(x, E) \tag{0.66}$$

[149] In the literature on renewable resources, the most widely used function to define how a population grows over time is Logistic growth function, which has the following form: $\dot{x} = rx\left(1 - \frac{x}{K}\right) = F(x)$, where K is referred to as the system's *carrying capacity*, or *saturation level* (Clark, 1990). Despite not being used in our paper to avoid any loss of generality, the implications of using this particular functional form in terms of our model would be the same. The mathematical derivation is available upon request.

Using dynamic programming, we can solve the problem of maximising the infinite stream of profits, given by equation (0.64), subject to the law of motion in equation (0.66).

**Proposition 1.** An *enlightened* firm – defined as a firm which takes into account how it affects the level and the quality of certain factors of production (i.e. the *dynamic stock externalities*) - will stop employing these factors, before reaching the level at which the marginal revenues from using them equal the marginal costs of obtaining them.

**Proposition 2.** This distance, between the level of the factors of production employed by an *enlightened* firm, and the level at which marginal revenues equals marginal costs, decreases in the firm's time-discount rate (i.e. it becomes smaller, the more weight the firm puts on maximizing short-term profits). At the limit, a firm with an infinite discount rate (i.e. which does not care at all about future profits), will employ the factors of production until marginal costs equal marginal revenues; 'as if' it did not take into account the *dynamic stock externalities*.

**Proof.** *The Current Value Hamiltonian for this problem is:*

$$H = \bar{p}kEx - wE + \lambda\left[F\left(x\right) - Ex\right] \tag{0.67}$$

*Deriving the first order conditions and cross-substituting,*[150] *I obtain my expression for the optimal exploitation of the resource at every time:*

$$\rho = F'\left(x\right) + \frac{\frac{w}{x^2}F\left(x\right)}{\bar{p}k - \frac{w}{x}} \tag{0.68}$$

*where the first derivative of the factor of production's growth function,* $F'\left(x\right)$*, is referred to as the "own/internal rate of return" (Clarke, 1990) in the literature on renewable resources.*

*The formula implies that a firm should increase the level of the instrumental input, up to the point at which the time-discount rate is equal to the factor of*

[150] See the Appendix for complete mathematical derivation.

*production's 'own rate of return', plus an additional element which captures the reduction in future costs for obtaining the factor. In fact, renouncing to obtain the resource today will increase the future stock, and – because of* $\frac{\partial h(E,x)}{\partial x} > 0$ *- reduce future costs.*

*To prove Proposition 1 and 2, first we will make a no-loss assumption, i.e.* $\bar{p}k$ *has to be always greater or equal than* $\frac{w}{x}$*, or the firm would make negative profits out of each unit of the factor employed. Then, we analyse what happens when the stock of the factor of production is very small, and when it is very large.*

*For values of the* $x$ *small enough, the "own rate of return" has to be greater than the firm's discount rate,* $F'(x) > \rho$*, and in this case the firm will not employ the factor of production at all, because it will make higher profits by letting the stock grow and use it in the future.*[151]

*For values of* $x$ *large enough,* $\rho$ *will be greater than the right-hand side of equation* (0.68) *, since we know that, as* $x$ *increases,* $F'(x)$ *decreases, while*

$$\lim_{x\to\infty} \frac{\frac{w}{x^2}F(x)}{\bar{p}k - \frac{w}{x}} = 0 .$$

*In this case the firm will find it profitable to employ the instrumental input to obtain the factor of production, and will produce the final good. As this process goes on, the stock of the factor will be reduced,* $F'(x)$ *will increase - because of diminishing marginal returns – and* $\frac{\frac{w}{x^2}F(x)}{\bar{p}k - \frac{w}{x}}$ *will also increase, for the admissible range of the*

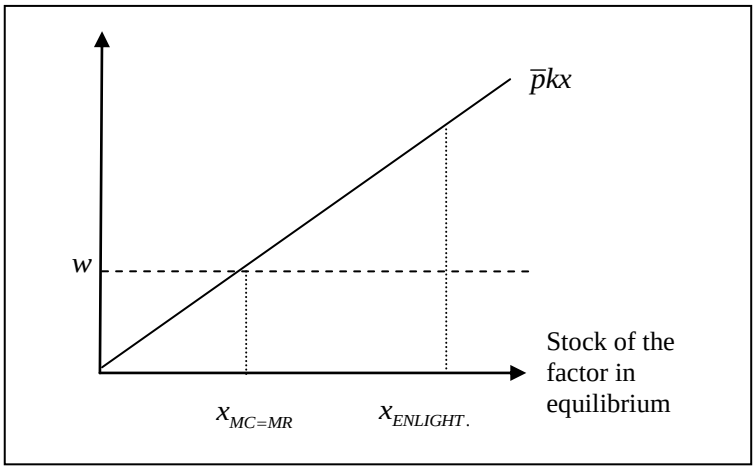
[151] Note that - for the non-negativity of the profits assumption - the second term on the left-hand side of equation (0.68) has to be positive, hence the whole left hand side of the equation will be greater than $\rho$. For this result to be realistic, however, I will need to make some assumptions on the fact that (i) if the firm does not utilises the factor, someone else will not do it, and also that (ii) if it does not employs it today, it will be able to do so in the future. These aspects are discussed in Preposition 4, in the last section of the paper.

*parameters.*[152] *Therefore, the right-hand side of equation* (0.68) *will increase until it will be equal to* $\rho$*. At this point the firm will stop employing the factor of production.*

*During the period in which the firm uses the factor, the difference between the marginal revenues from employing one additional unit of the factor,* $\overline{p}k$*, and the marginal costs of obtaining it,* $\frac{w}{x}$*, will decrease. It is evident that the equality in* (0.68) *will be verified before the level at which* $\overline{p}k = \frac{w}{x}$*, when the term* $\frac{\frac{w}{x^2}F(x)}{\overline{p}k - \frac{w}{x}}$ *would be infinite. Hence, an enlightened firm will stop employing the factor, before it reaches the level at which marginal revenues equal marginal costs, and the level of the stock in equilibrium will be higher (see Figure 2).*

*From the formula it is also evident that, the greater* $\rho$*, the further the firm will go in employing the factor, until for* $\rho \to \infty$ *the level of utilization will be equal to the one at which* $\overline{p}k = \frac{w}{x}$*.* ***QED***

**Figure 6.9. 'Enlightened' firms and level of employment of the factors of production**




[152] In particular, the non-negativity of the profits has to hold. In fact, the derivative of this term with respect to $x$, is negative if $2\overline{p}kx > w$. Hence, the non-negativity of profit assumption is a sufficient condition to ensure that, as $x$ decreases, the term into consideration will increase.

So far CSR has been introduced in my model only in an indirect way. However, we can think of CSR entering in a more explicit way at different stages of the model, affecting, for example (i) the rate of growth of the resource over time, or (ii) the overall efficiency of the production process.

The first case includes all CSR programmes which increase the level of a factor of production (e.g. reforestation programmes, more sustainable production processes etc.), or its quality (e.g. flexitime, work-life balance, childcare facilities, trainings, etc.). A growth function which captures these elements could look like this:

$$\frac{dx}{dt} = F(x, S) \tag{0.69}$$

where the level of CSR, $S$, increases the marginal rate of growth of the factor of production. The existing literature on CSR helps us characterize some of the key proprieties of this function. For example, the benefits of CSR are usually very high at the beginning, because the firm can address the "low-hanging fruits" (Husted and Salazar, 2006), and then decrease over time, until they reach a point – which I call $S_{MAX}$ - in which an additional unit of CSR does not yield any additional benefit for the resource (McWilliams and Siegel, 2002).[153]

To reflect these elements, we shall assume that $F_s'(x, S) > 0$, $F_s''(x, S) < 0$, $\lim_{S \to 0} F_s'(x, S) = \infty$ and $\lim_{S \to S_{MAX}} F_S'(x, S) = 0$. Finally, the unitary – constant - cost of CSR is $\tau$.[154]

**Proposition 3:** An *enlightened* firm undertakes a positive level of CSR – defined as an investment which enhance the availability and/or quality of certain factors of production – in equilibrium, up to the level at which marginal costs equal

[153] It is important to note that these benefits are not private benefits for the firm, as for example in Baron (2001), but are benefits for the resource itself, in terms of increased availability and quality. Then, because in our model I have that the firms and the society as a whole put a value on the stock of these factors of production, both of them will benefit from the increased stock. Hence, I do not have the problem of distinguishing between private vs. social benefits, as it was for *externally-driven* views of CSR.

[154] It is worth highlighting that this is just the actual cost of undertaking CSR, but does not imply that CSR '*occurs at a cost for the firm*' - as it was for *externally-driven* views of CSR. In fact, I will see CSR actually decreases the marginal cost of producing the final good.

marginal benefits. This level decreases in the firm's time-discount rate, i.e. a firm which has a more 'long run' perspective will undertake more CSR than one which cares exclusively of maximizing 'short-term' profits.

***Proof**. The firm maximises the profits in equation (0.64), subject to the new law of motion given by:*

$$\dot{x} = F(x,S) - h(x,E) \tag{0.70}$$

*Now the control variables are two, S and E.* [155] *The expression for the optimal level of utilization of the factor of production is the following:*

$$\rho = F_x^{'}(x,S) + \frac{\frac{w}{x^2}F(x,S)}{\bar{p}k - \frac{w}{x}} \tag{0.71}$$

*which has the same interpretation as before. The optimal level of CSR in equilibrium is determined by the following expression:*

$$\tau = F_S^{'}(x,S)\left[\bar{p}k - \frac{w}{x}\right] \tag{0.72}$$

*which states that an enlightened firm undertakes CSR until its marginal cost, $\tau$, equals the marginal benefit, which is given by the marginal effect of CSR on the rate of growth of the resource, multiplied by the (positive) difference between marginal revenues - $\bar{p}k$ - and marginal costs - $\frac{w}{x}$ - of obtaining one additional unit of the factor of production.*

*The fact that $\lim_{S\to 0} F^{'}(x,S) = \infty$, ensures that, when the firm starts engaging in CSR, the right hand side of equation (0.72) is greater than the left hand side. Then, as the firm undertakes more CSR, the right hand side decreases because of decreasing marginal returns, until it hits the level $\tau$. This ensures that equation (0.72) will be verified, and that the firm undertakes a positive level of CSR in equilibrium.*

*In addition, we know from equation (0.71) that, the higher $\rho$, the lower will be the stock $x$ in equilibrium, and hence the lower the expression $\left[\bar{p}k - \frac{w}{x}\right]$ in equation*

[155] See the Appendix for complete mathematical derivation.

*(0.72). Hence, for the equality to be verified,* $F_S^{'}(x,S)$ *will have to be higher, which implies that the equilibrium level of CSR will be lower.* **QED**

The other case (i.e. CSR increases the overall effectiveness of the production process) captures another common 'business' argument for CSR, which is that, for example, switching to more environmentally-friendly production technologies can lead to large increases in efficiency, energy saving, recycling of materials and reduction of waste.

In terms of our model, we can assume that *k* - the overall efficiency of the production process CSR– is an increasing function of CSR, with decreasing marginal returns:

$$y = k(S)Ex \tag{0.73}$$

The optimal level of CSR in equilibrium is determined by the following expression:

$$\bar{p}k^{'}(S)Ex = \tau \tag{0.74}$$

which states that an *enlightened* firm will undertake a positive level of CSR in equilibrium, up to the level at which the marginal cost $\tau$ equals the marginal benefit, given by the marginal increase in the efficiency of the production process - multiplied by the output's selling price.[156]

## 6.3. Conclusions and main limits of the model

Our model shows that an *enlightened* firm will voluntarily choose to reduce the level of utilization of certain factors of production, with respect to the level at which marginal private costs equal marginal revenues.

The main idea driving this result is that *enlightened* firms take into account the 'dynamic stock externalities' from production, and their perception of the marginal

[156] The fact that $k^{'}(S)$ is very high at the beginning and then decreases with the level of CSR, while $\tau$ is constant, ensures that the equality will be verified in equilibrium.

cost of utilizing certain factors of production will be higher than the actual marginal cost.

Since we assumed that these factors of production are also *public goods*, this implies that the firms' private marginal cost will now be closer to the one of the society, and the level of production closer to the social optimum (see Figure 6.1).

In light of this, *enlightened* profit-maximising firms will look 'Socially Responsible' to the eyes of the society.[157] This is the first key conclusion from the model.

It is important to stress that the reason why firms behave in such a way is not altruistic motivation, but the fact that they realise that they can achieve higher profits by not utilizing the factors of production until marginal revenues equal marginal costs, but letting their stock (in the sense of their level and/or quality) grow and then utilize a higher and constant fraction for an infinite amount of time. [158]

The profit-maximisation rationale is evident from the fact that an *enlightened* firm which only cares about 'short-term' profits (i.e. it has an infinite time-discount rate), will behave exactly as a firm which does not take into account how its choices affect the stock of the factors of production, and follow the marginal costs equal marginal revenues rule.

Our model also shows that *enlightened* firms will undertake a positive level of CSR, defined as investments which increase the availability and/or quality of the factors of production in the future. Again, the more they care about maximising long-term profits as opposed to short-term ones, the more of these practices will be undertaken in equilibrium.

One of the main questions to be addressed now is if these conclusions will hold if more than one firm has access to the same factor of production (i.e. the classical 'common pool' or 'common resource' case, which was also mentioned in Chapter 5 of this thesis).

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[157] Interestingly, in the management literature CSR has been also defined as "Enlightened Self-interest" (Keim, 1978), or "Enlightened Value-Maximization" (Jensen, 2000)

[158] "When Mars and Cadbury talk about their cocoa supplies being sustainable, they mean it. Chocolate manufacturers are worried about how much cocoa will be available in a decade from now" ("Why Corporate Social Responsibility is a Survivor", *Financial Times*, 12th April 2009, p.13).

In the literature on renewable resources, this problem is often referred to as the "tragedy of the commons" (Dasgupta and Heal, 1979, Lehvari and Mirmam, 1980). The reason is that when a renewable resource is shared among different players, there will be over-extraction – and sometimes exhaustion - of the same resource.

If we apply the same type of reasoning to our model, it would imply that firms will utilize the factor of production until the level at which marginal costs equal marginal benefits, because every firm is afraid that the other competitors might do that anyway.

This will lead to a Pareto-inefficient outcome – both for the firms and the society – with respect to when they all firms behave as *enlightened* firms.[159]

Before analysing some of the possible solutions to this problem, it is actually worth pointing out that only some - of the factors of production which can be affected by CSR - have the characteristics of a 'common pool'. Typically, these would be environmental resources, water, as well as employees' skills which can be easily transferred from one firm to another, etc.

On the contrary, factors such as employees' motivation, goodwill, the "social licence to operate" (Kramer and Porter, 2002), support of the neighbouring communities, depend on the specific reputation of a firm – what we could call its "CSR record" - and cannot be accessed or used by other firms.[160] Hence, in all these cases, the 'tragedy of the commons' argument will have a very limited impact.

In the cases in which the "common pool" is actually relevant, one possible solution would be to give to one firm the exclusive access to the factor of production (e.g. a government licence). Such a policy would be in the interest of the society,

[159] This is Pareto-inefficient also for the firms' perspective, because for *enlightened* firms the choice to employ the factor up to the level at which marginal cost equal marginal benefits is NOT the profit-maximizing strategy.

[160] Though, as we mentioned in Chapter V of the thesis, it might not always be easy for the stakeholders to identify exactly the firms which are actually doing CSR from those which are not.

avoiding the over-exploitation and inducing a greater investment in those practices which can enhance the quantity and quality of these factors (i.e. CSR).[161]

When it is not possible to give out licenses, under certain conditions it is still possible to achieve the Pareto-efficient outcome.

In the context of a dynamic fishery game, Cave (1987) showed that, when players play a repeated game and are allowed to implement threats, every "credible, voluntary, collective agreement" to limit the exploitation is enforceable, provided that players are 'patient' enough.

If we translate this argument to the context of CSR – assuming that the time-discount rate of *enlightened* firm is low enough – it is likely that the Pareto-efficient outcome will be sustained in equilibrium, provided that such game is played an infinite amount of times.

Another way in which the "tragedy of the common" argument could have an impact on our model is to reduce the incentives for firms to undertake CSR.

Because of the way we defined CSR (i.e. as an investment which increases the availability and/or quality of certain factors of production), it is clear that when more than one firm has access to the same factor, some could free ride on the CSR programmes implemented by others, and benefit from the enhanced availability and/or quality of the resource without paying for it.

This will reduce the private marginal benefits from CSR of the 'good' firms, leading them to reduce their provision.

There are many ways in which this problem could be – and often has been in practice - overcome.

For example, a firm could invest in CSR programmes which target firm-specific factors of production and are not useful to any other firms or sectors, or could train their employees in specific skills which cannot be transferred without a cost to another firm or sector.

[161] It should be noted that this exclusive access would have to be for an infinite time, or at least that the firms does know when it is the last period. Otherwise, if the firm expects the licence to expire at time $t+n$, it knows that it will not have access to the future benefits of being *enlightened*, thus at t+n-1 it will find optimal to employ the factor of production up to the level at which marginal costs equal marginal revenues. I will analyse this issue again later in the paper.

Moreover, a firm could undertake CSR programmes which are highly differentiated and easily recognizable, such that that the benefits in terms of increased employees' motivation, goodwill and enhanced 'social licence to operate' cannot be reaped by other firms.

Finally, when all of the above is not possible, or too costly to implement, firms should promote joint CSR programmes in certain areas, sharing the costs among all the firms that will benefit from them, in order to reduce the extent of possible free-riding by other firms.[162]

Another crucial question is what would happen when a firm, which has access to a certain factor of production today, is not sure whether it will have access to it also in the future.

The answer to this question can be summarised in one preposition, which completes the ones derived previously from the theoretical model.

**Proposition 4:** The degree to which an *enlightened* firm will behave according to the predictions of my model, with respect to a certain factor of production, depends on its perception of the possibility to have access to that factor also in the future.

In fact, from a theoretical perspective, the condition for a firm to behave as *enlightened* is that it has an infinite future access to the relevant factor of production, or at least that it attaches a positive – and large enough – probability to have access to it for any period in the future. In fact, as this probability goes to zero, it would be 'as if' the firm had an infinite time-discount rate, and it would find it optimal to utilize the factor up to the level where marginal cost equal marginal benefits. [163]

[162] In the case of joint projects, we could expect to share the costs in proportion to the expected benefits from each projects, and that the final level of CSR at equilibrium will be equal to the Lindahl-Samuelson rule of marginal cost equal to the sum of marginal benefits for all firms. However, one of the elements coming out from the research in the Caribbean (see Chapter 3) was that most of the times the costs of a project are allocated taking into consideration the specific skills of each firms, in order to minimize total costs by maximizing contributions in kind by each firm, and allocating each task to the most efficient firm.

[163] Combining the problem of future access to the "common pool" one, then the condition to enforce collusion would be that all the firms, which currently have access to the factor of production, should have a positive probability of accessing the factor for every period in the future; or at least that all

This will also affect the extent to which a firm will engage in CSR, as it might be reluctant to undertake an investment which increases the quantity and/or quality of a factor of production, without being certain that it will have access to that factor in the future.

It is worth noting that this problem is actually relevant for a much wider range of factors of production than the ones affected by the "common pool" problem.

In particular, the firm's choices will be affected every time a CSR investment does not yield benefits for the firm in general (e.g. increased reputation, goodwill, 'social licence to operate', etc.), but only on the specific factor to which the investment was directed to. (i.e. an employer, a community, a government, etc.). Some examples might be the choice to train the employees, when the firm is afraid that one day they might leave and re-employ their skills somewhere else, or the choice to undertake a joint CSR project with the government of a particular country, when the firm's licence to operate is about to expire.

Fortunately, empirical evidence supports the idea that the probability that a firm which has access to one factor of production today will also have it in the future is not exogenous, but actually depends on the firm's 'behaviour' towards the factor of production in the past, and on the expectations of its behaviour in the future.

For example, many studies showed that firms which are perceived to be socially responsible are better able to attract and retain the most productive and most motivated employees (Brekke and Nyborg, 2005; Collier and Esteban, 2007). Similarly, the probability that the government will grant a licence to operate to a firm depends on the firm's reputation and on the CSR programmes it commits to undertake in the country.

These empirical regularities are good news for the results of the model developed in this chapter, because they actually reinforce the mechanisms which lead firms to behave as *enlightened* and undertake CSR.

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the firms should attach a non-zero probability to his, and all the other firms' future access to the factor. Otherwise, collusion will not be sustainable and, by backward induction, firms will employ the factor of production up to the level at which marginal costs equal marginal benefits, already in the first period.

Nonetheless, further empirical research is needed, to understand under which conditions firms actually behave as *enlightened*, and to which extent they do so, depending on the different characteristics of the relevant factors of production.

In addition, other studies might be tailored to test some of the specific implications of the model developed here. For example, the model seems to suggest that long-term work contracts or long-term government licences might induce firms to undertake more CSR, and it would be interesting to know to which extent the data match these predictions.

## APPENDIX. Mathematical Derivations.

**Derivation of Propositions 1 and 2.**

*I set up the Current Value Hamiltonian, given by:*

$$H = \bar{p}kEx - wE + \lambda\left[F\left(x\right) - Ex\right] \tag{0.75}$$

*To solve this, I set the derivative with respect to the control variable E equal to 0:*

$$\frac{\partial H}{\partial E} = 0 \Rightarrow \bar{p}kx - w = \lambda x \tag{0.76}$$

*and the derivative with respect to the state variable x equal to* $\rho\lambda - \dot{\lambda}$*, where* $\dot{\lambda}$ *is the derivative of the Lagrange multiplier with respect to time:*

$$\frac{\partial H}{\partial x} = \rho\lambda - \dot{\lambda} \Rightarrow pkE + \lambda\left[F'\left(x\right) - E\right] = \rho\lambda - \dot{\lambda} \tag{0.77}$$

*From equation I can obtain an expression for* $\lambda$*:*

$$\lambda = \bar{p}k - \frac{w}{x} \tag{0.78}$$

*If I derive this expression with respect to time, I obtain:*

$$\dot{\lambda} = -\frac{w}{x^2}\dot{x} \tag{0.79}$$

*Plugging equations* (0.78) *and* (0.79) *into the right hand side of equation* (0.77)*, I get the fundamental expression for the optimal utilization of the factor of production:*

$$\rho = F'\left(x\right) + \frac{\frac{w}{x}E + \frac{w}{x^2}\dot{x}}{\bar{p}k - \frac{w}{x}} \tag{0.80}$$

*This expression can be rewritten in the following way, to eliminate the control variable E:*

$$\rho = F'(x) + \frac{\frac{w}{x^2}F(x)}{\bar{p}k - \frac{w}{x}} \tag{0.81}$$

**Derivation of Proposition 3.**

*The firm maximises the profits under the new constraint that:*

$$\dot{x} = F(x,S) - h(x,E) \tag{0.82}$$

*I have now two control variables, S and E. The Current-Value Hamiltonian for this problem is:*

$$H = \bar{p}kEx - wE - \tau S + \lambda\left[F(x,S) - Ex\right] \tag{0.83}$$

*To solve this, I set:*

$$\frac{\partial H}{\partial E} = 0 \Rightarrow \bar{p}kx - w = \lambda x \tag{0.84}$$

$$\frac{\partial H}{\partial S} = 0 \Rightarrow \tau = \lambda F_S'(x,S) \tag{0.85}$$

$$\frac{\partial H}{\partial x} = \rho\lambda - \dot{\lambda} \Rightarrow pkE + \lambda\left[F_x'(x,S) - E\right] = \rho\lambda - \dot{\lambda} \tag{0.86}$$

*The two conditions (0.84) and (0.85) are independent, and can be solved separately, which allows for a closed form solution. The expression for the optimal level of utilization of the input is the following:*

$$\rho = F_x'(x,S) + \frac{\frac{w}{x^2}F(x,S)}{\bar{p}k - \frac{w}{x}} \tag{0.87}$$

*By plugging the value of $\lambda$ from equation (0.84) into equation (0.85), I obtain the equation which determines the optimal level of CSR in equilibrium:*

$$\tau = F_S'(x,S)\left[\bar{p}k - \frac{w}{x}\right] \tag{0.88}$$

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