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ABSTRACT. This paper considers the distribution of responsibility for prevention of negative social or ecological effects of production and consumption. Responsibility is related to ability and ability depends on welfare. An increase in competition between Western companies depresses their profitability, but increases the welfare of Western consumers, and hence their ability, to acknowledge social values. Therefore, an increase in competition on consumer markets shifts the balance in responsibility from companies to consumers to prevent negative external effects from production and consumption patterns. An increase in competition on investor markets will shift the balance in an opposite direction.

KEYWORDS: corporate social responsibility, ability, fairness, distribution, externalities, competition, ethics

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1. Introduction

Today the world's people and their leaders face a complex and multi-faceted set of 'eco-social questions' within the horizon of what sociologist Ulrich Beck calls a 'world risk society'. As the productivity of humanity increases, the negative external effects of production and consumption patterns become increasingly problematic and threaten the human welfare. Because pollution has no price, the free operation of markets yields more pollution than is optimal from a social point of view. At the same time, the high economic growth in the Western countries during the last two centuries seems to go together with an increasing world-wide economic disparity creating many social tensions.

The old institutions face many difficulties in dealing with these challenges. Whereas private markets tend to neglect negative external effects of production and consumption patterns, the regulating power of the national government is also limited, because many issues of sustainability have a strong international dimension. However, the enforcement power of

international government agencies is limited by cultural and economic different priorities of national governments. In face of this lack of governance, new institutions are needed to meet the challenges of the 'world risk society'.

This challenge has recently generated a new interest in the corporate social responsibility (CSR) of companies. Notwithstanding the popular view of Friedman (1970), firms find it increasingly important to behave like corporate citizens and feel that they should not only create economic value, but also consider the social and ecological consequences of their operations. In a recent research Graafland, Van de Ven and Stoffele (2002) find that more than 70% of Dutch companies agree that corporate social responsibility is a moral obligation to the society. They must meet the moral expectations of stakeholders with respect to the companies and various stakeholders constitutes a third mechanism that supplements the shortcomings of the market mechanism and government regulation in serving the well being of the society.

However, taking responsibility for the common good cannot be considered to be a perfect duty. Rather, corporate citizenship is an imperfect duty that depends on the circumstances of the company. For example, Shell has recently introduced a new brand on the petrol market named Shell Pura, claiming that this new product produces less damage to the environment.¹ The question then is how much of the additional production costs of Shell Pura compared to cheaper but more damaging petrol products should be shifted forward to the consumer? What would have been a reasonable price differential between Shell Pura and the other cheaper petrol products of Shell from an ethical point of view? Currently, Shell Pura costs four Euro cents more per litre. If consumers are not prepared to pay this premium, does this dismiss Shell from any further responsibility to stimulate the use of this product? Or should Shell from an ethical perspective lower the price differential and even accept a negative profitability on Shell Pura in order to increase the demand of this more responsible product?

The case of Shell Pura illustrates that distribution plays a central role in the debate about how to reach sustainability. Who should carry the burden of the additional costs required to prevent negative ecological and social effects? This question also comes up when companies argue that they do not have the opportunity to spend more resources to CSR. For this lack of freedom, companies often refer to severe competition. If competition on the consumer market is imperfect, the producer has the financial means to pay these additional costs. If competition is fierce, companies cannot afford to pay attention to corporate social responsibility beyond a level that maximises profits (Graafland, 2002a). Otherwise, they risk losses in market shares that might eventually result in bankruptcy. As Van de Ven and Jeurissen (2000) argue, this may reduce the set of potential strategies that firms can follow to behave in a social responsible way. Moreover, if competition increases, consumer prices will generally go down. Hence, the welfare of consumers and their ability to purchase more responsible and expensive goods will increase. Therefore, should consumers not pay a higher price in order to allow producers to supply goods that produce less negative social and ecological external effects in a profitable way?

This argument can be based on the ethical claim that the distribution of the cost implied by taking responsibility for the common good should be related to the abilities of various agents. However, if one agrees on this socialist distribution principle, the question remains how one should define ability. Here there are several different opinions. Third world producers will argue that ability is related to welfare and that Western companies and consumers are therefore responsible, because they have the financial resources. They complain that Western companies often force them to carry the costs involved with more responsible product processes. Indeed, due to the large market power, Western companies are often able to shift the burden involved with improving ecological and social conditions to their third world suppliers, who again shift them to their employees by lowering the wage or asking a higher productivity. Western companies argue, however, that they cannot spend more resources to reduce the negative external effects of their production processes and products because of severe competition from other Western companies. They feel that it is up to the Western consumers to make responsible goods marketable by paying the additional costs required for this type of goods. Indeed, as increased competition on the consumer market raises the welfare of consumers, one could argue that their responsibility for the social and ecological consequences of the products that they consume also grows. Western consumers, however, hardly feel that they are very rich. They compare their income with the income of other Western consumers and tend to relate their ability to their relative welfare instead to the absolute level of welfare.

The purpose of this article is to clarify these arguments. In particular, we will develop three definitions of ability that might reflect the various opinions of third world suppliers, Western companies and Western consumers. Next, we will investigate how an increase in competition influences the ability of third world producers, Western companies and Western consumers to pay the costs involved with the prevention of negative social and environmental effects from production, trade and consumption of Western consumer goods, as defined by these three definitions. We thereby only focus on taking responsibility for external effects of market activities and abstract from win-win situation in which corporate citizenship improves the competitive position of the company (Hausman and McPherson, 1996; Graafland, 2002a).

The contents of the paper are as follows. First, section two starts with a case study of the textile sector that illustrates the impact of competition on corporate social responsibility. In section three we discuss the relationship between the distribution of responsibility and abilities. In section four we develop three alternative definitions that relate ability to economic parameters. In section five we investigate how a change in competition affects the ability of third world suppliers, Western retailers and Western consumers, as defined according to these three alternative definitions. Section six evaluates the different definitions from a moral and practical point of view. Section seven summarizes the main findings.

2. Responsibility, ability and competition: the case of the fashion retail

This section illustrates the relationship between competition and the distribution of responsibility for the textile sector. Fashion is merchandised from all over the world, especially in Europe, Asia and, to a lesser extent, in Africa. A single item of clothing may be made by a number of production units. The resulting supply chain is complicated and has several stages including product development (design, collection definition, samples), fabric production (cotton production, knitting, bleaching, printing and dyeing), garment assembly (fabric cutting and stitching) and distribution and sales (merchandising, packaging, transit distribution and retail).

The clothing market can be characterised as a consumer market, since the profit margins of both the fabric production, garment assembly and retail of clothes are relatively low. Low prices imply low wages of the employees of the suppliers. Südwind (2000) reports that the average wage per day for female sewers in the textile sector in Indonesia equals \$ 0,9. Including overwork, the monthly wage is between \$ 40 and \$ 50. Also the profit rates of the Western retailers have been put under considerable pressure, due to an increase in competition on the textile market during the last five years. Several retailers were forced to close stores. For example, Kreymborg closed all its operations in Belgium and the Netherlands. Also C&A was forced to downsize its operations. Especially in the United Kingdom and Germany C&A was unprofitable during the late nineties (HandelsZeitung, 2000). In 2000 C&A closed all its stores in the UK and 4500 employees were dismissed.

The increased competition between clothes retailers has triggered a high concern for low cost strategies. As a result, the location of suppliers moves from relative high wage countries to relative low wage countries in the third world. In the coming years production will shift to countries like China, Indonesia, Bangladesh, Vietnam and India. However, the labour conditions in these relatively poor countries are bad and often exposed to all kinds of abuses. Examples are the use of child labour, miserable working conditions for women (sexual abuses, dismissal in case of pregnancy), long working times, lack of a guaranteed living wage, abuse of home workers, safety hazards (like obstructed emergency exits, no first aid box, lack of machine safety, hazardous chemicals) unhygienic working conditions or other aspects of the infrastructure like cooking and canteen arrangements, lavatories, washing facilities and dormitories (Musiolek, 1999). Also the attention for environmental issues is relatively low in these countries. The biggest environmental problem of the apparel industry concerns the production of cotton because of the enormous amount of insecticides involved. Cotton production accounts for 11% of global pesticide use. Also for the bleaching of the cotton polluting materials are used. Many of the chemicals traditionally used in fibre production and textile manufacturing can cause damage to human health, not only for the workers directly involved, but also for consumers if these are retained as residues in the final product. Also the dyeing of clothes damages the environment, in particular if the paint is drained away through the regular water system. The efforts to raise the safety and ecological standards of the products are relatively small, however, because of the substantial costs involved. Suppliers must know a lot of details for dying, using the right cotton, etc.

Another illustration of the negative impact of competition on the social and ecological standards in the textile sector is the number of Western retailers qualifying for the ISO14001 norm. Robins and Humphrey (2000) compare several companies operating on the British market, like M&S, Next, BHS and Littlewoods and C&A. C&A was the only company that was certificated for the ISO14001 standard. However, due to the financial losses in the late nineties, C&A recently halted the efforts for ISO14001 certification in several European countries in 2000 because of the high administrative burden (Graafland, 2002c). As the internal and external audits required for ISO certification were putting too much additional pressure on the C&A staff, the actions have been reduced to a minimum.

Both the unfavourable labour conditions in the low wage countries and the ecological damage caused by the production process create negative external effects. The individual contribution of the producer and consumer to these effects is negligible, but on a macro scale the impact of all producers and consumers together is substantial. Experiences have shown, however, that the Western consumer is not prepared to pay the price of the additional costs of preventing these negative external effects. For example, some years ago C&A introduced a collection made with so-called (certified) green cotton. This collection was prized 20% higher than the other collections. The norms were very strict. However, consumers were not prepared to pay this price differential for the sake of a more responsible and sustainable method of production. Therefore, C&A stopped this product line. Because of these experiences, most Western retailers are not pro-actively fostering innovation in the environmental aspects of the clothing. The commercial benefits are too uncertain.² Only a small proportion of committed consumers is prepared to pay for social and environmental issues linked to clothing. In Germany the 'green' market niche accounts for about 1-2% of the clothing market (Robins and Humphrey, 2000). In Germany only Otto Versand has a certification on environmental issues.

3. Ability and the distribution of the burden of taking responsibility

Companies are often blamed by NGOs for not taking responsibility of the negative ecological and social effects of their operations. One can question, however, whether producers are responsible for the negative external effects of their products if consumers are not prepared to pay the costs involved with the prevention of these effects. In particular, if competition becomes fierce, individual companies risk losing market shares if the production costs increase due to additional efforts to reduce these negative effects. Since consumers will generally benefit from the increase in competition because of the fall in consumers prices, one can wonder whether consumers should not be held more responsible than producers for carrying the costs required for preventing unfavourable external effects of the production and consumer patterns.

This argument reflects the ethical notion of fairness that burdens should be distributed in accordance to the agents' abilities. This notion can be defended by the argument that inability eliminates responsibility because a person cannot have any moral obligation to do something over

which the person has no control (Velasquez, 1998). One can also argue, however, that inability does not principally take away one's responsibility. Indeed, one remains responsible for the fate of other human beings, even if one has not the financial means to do something about it. Lack of financial resources only takes away the practical opportunity to take this responsibility. Therefore, we use a somewhat weaker link between responsibility and ability and will argue that, even if agents are responsible, the distribution of the burden involved with taking responsibility should be distributed in accordance with ability. Likewise, if there are circumstances that make it difficult although not impossible for the person to perform a certain act, such mitigating factors lessen a person's share in the costs required to take responsibility.

Besides this socialist principle that burdens should be distributed in accordance with abilities, there are several other alternatives to relate burdens to different agents. For example, 'the polluter pays' criterion distributes the costs involved with negative social or environmental effects to those who cause these effects. However, although appealing, relating justice to contribution is problematic when external effects of the production or consumption patterns are concerned. For example, who contributes to the environmental damage caused by the Azo dyes that make up about a fifth of dyestuffs used in textile production: the supplier, the Western retailer or the Western consumer? Since this is not clear, one cannot allocate the burden required to prevent this pollution. Another alternative criterion is that burdens should be allocated in an egalitarian way. This principal is based on the idea that there are no relevant differences among people that justify unequal treatment. However, as I will show below, egalitarianism also follows from justice based on abilities if one relates ability to the relative welfare level. This criterion will therefore explicitly taken into account in our analysis. A third alternative for allocating burdens is the libertarian principle that burdens should be allocated in accordance with the free choices individuals make (Nozick, 1974). This criterion is, however, useless when considering the allocation of the burden involved with the prevention of external effects, because externalities concern social side effects that are not borne by the individual decision maker.

Another question is whether the responsibility of an agent to prevent negative external effects depends on the ability of other agents or on the actual behaviour of other agents. In particular, if the ability of other agents is much larger than my own ability and these other agents do not take their responsibility, does that dismiss me from taking my share of the responsibility, as Habermas (1991) would argue? Or should one argue for an asymmetric ethical relationship in which the responsibility of an individual agent is independent of the acts of other agents, as Levinas (1991) would do? These more fundamental questions are outside the scope of this paper. The starting point for our further analysis is therefore that an agent's share in the burden of taking responsibility for the prevention of negative external effects is positively related to his or her ability.

4. Ability and welfare: three definitions

Ability, resources and welfare

Ability depends on numerous factors. De Beus (1989) distinguishes three definitions of ability or freedom: absence of compulsion, real freedom and autonomy. These three aspects of freedom are complementary. In order to be able to perform a certain act, a person must not be hindered by others, must have the basic capacities or resources that are required and must have the control over his own rational authentic will to execute this act. The absence of compulsion is a central theme in the libertarian tradition and formulated as a negative right to be free from the coercion of other human beings. Real freedom or 'well-being freedom' is a central notion in the writings of Sen (1984) and relates the freedom of act to the availability of certain basic capacities. The third definition of freedom, autonomy or self-governance, is a central theme in the theory of Buchanan (1975). It is primarily related to the psychological state of the individual.

In this article we are especially concerned with the ability to pay the costs required to prevent negative external effects of production or consumption pattern. We are therefore interested in the material conditions that determine the ability to act and abstract from inabilities resulting from coercion by other agents or by a lack of self-governance. Sufficient material resources are regarded as a necessary condition to act in accordance with one's responsibility. This relationship holds for each person. However, this leaves open how the burden of taking responsibility should be distributed to different agents with different levels of welfare. Who should pay these costs? How should they be distributed? This requires a further operationalization of the relationship between ability and welfare.

On the continuity of the relationship between ability and welfare

Of course, there are several different ways of relating ability to economic parameters. Some will argue that ability is a discontinuous concept: once welfare exceeds a certain minimum level, one has the ability to pay the additional costs involved with the prevention of negative external effects. The advantage of assuming discontinuity at the point where welfare equals the minimum subsistence level is that it requires no account of the level of ability beyond this point.

In our analysis, we assume that ability is continuously related to welfare. Although ability is a very individual concept and dependent on many aspects of life that are difficult to measure, there is on average a positive partial relationship between welfare and ability. For example, one way to exercise freedom and to realise certain goals is by affecting the behaviour of other people by market transactions and this ability typically depends on the purchasing power of the person. Therefore, it is unreasonable to assume that the ability of different persons is fully incomparable beyond the point that welfare exceeds the minimum subsistence level.

Another argument against the discontinuity in the relationship between ability and welfare is that the resulting responsibility is very demanding, since each person is held equally responsible once his welfare exceeds the minimum subsistence level. This yields an unbalanced way of relating the personal responsibility to the responsibility of other persons.

Minimum level of welfare: three options

Another point of discussion is how one should define the minimum level of welfare at least required to have the ability to act. Here we distinguish three alternative options. The first option is that an economic agent is free to perform a certain action if the welfare after this action is at least as high as some minimum subsistence level that is necessary to meet the most basic goods. Examples are food and safe drinking water, shelter, clothing and access to medical services. This is the option that relatively poor third world suppliers will favour. They simply lack the financial means to invest in the quality of their production process in order to reduce negative external effects.

The second and much less demanding option is that the ability of the agent is specifically related to the transaction that generates the negative external effects and, in particular, to the net surplus this transaction generates to the agent. This might be an option that Western companies will favour. In particular, they will argue that if the net producer surplus from a certain transaction becomes negative, it is not profitable to conclude the transaction at all. They feel that they have no moral obligation to retain trade relations that are not as profitable as trade relations in other market segments or other countries. Indeed, firms with a relatively low expected profitability compared to their competitors will face more difficulties in attracting new capital to finance their investments and become an object for take over by more profitable firms. Accepting transactions that yield a lower profitability than alternative transactions may therefore be unacceptable. From the perspective of financial continuity, the Western company might therefore argue that it is only able to pay the additional costs required to prevent the negative external effects from this transaction if the net surplus from the transaction remains positive.

The third option for defining the minimum reference level of welfare is the welfare obtained by other agents. This option is based on the idea that people often value their welfare relative to the welfare of other people. This is the so-called 'Keeping up with the Jones' effect. The other people do not only provide an example to be followed, but also act as competitors by increasing the minimum level to be attained. Only insofar as the welfare exceeds the welfare of other people, freedom exists. This option seems especially relevant for Western consumers. Notwithstanding their relatively high level of welfare compared to third world suppliers (and especially their employees), Western consumers do not feel that they have a lot of financial room to pay extra for goods like Max Havelaar coffee. Rather, they tend to define their welfare relative to the welfare of the richest group in their social environment. In that case, freedom of act only exists for the richest group of people. Although this may be rather extreme, this option may be defended from two other perspectives. First, this option might be favoured from an egalitarian point of view. If only the richest people have the ability, and hence the responsibility, to pay the cost for common goods, living up to this responsibility will favour a more egalitarian income

distribution. A second defence of this option is that it is, under certain conditions, also consistent with the utilitarian efficiency principle. In particular, if utility is digressively related to income, the total sum of utilities is maximised if the ex-post welfare of all agents is equal (Singer, 1972).

5. The impact of competition

In this section we analyse how competition will affect the welfare and, hence, the ability to take responsibility for preventing external social or ecological effects from the production processes required for Western consumption patterns.

A small transaction model as framework

In order to give an accurate definition of the relationship between competition, welfare and ability, we use a simple and abstract transaction model between a third world supplier, a Western retail company (who is also owner of the firm)³ and a Western customer. We assume that these agents are representative for their respective groups. That means that we do not consider any differences between different consumers, respectively among retail companies or between different third world suppliers. Since our interest in this article is not so much in explaining economic behaviour (like in Graafland, 2002b) but in the moral implications of competition, we abstract from many economic mechanisms that are relevant in the economic reality. The model is mathematically described in the appendix.

It is assumed that the welfare of the consumer can be defined as the benefit received from a consumption good minus the price paid for this good. The welfare of the representative retail company selling this good to the consumer equals the profit from this transaction. The profit is equal to the price of this consumer good minus the price that the retail company pays to the third world supplier plus some additional costs involved with transactions and transportation. The welfare of the third world supplier is also equal to his profit. The total welfare from the transaction between the consumer and retail company and the transaction between the retailer and third world supplier is equal to the benefit the consumer obtains from the transacted good minus the costs of the retailer and supplier.

Both the consumer, retailer and the third world supplier have alternatives if the transaction does not materialise. The consumer can buy a good from another retail company. The retailer can stop the trade of the good and invests its capital in another market segment. The supplier can choose to sell his product to another retail company. The welfare obtainable by alternative transactions defines a minimum level of welfare that each party requires will the transaction be attractive. Let us call the difference between the actual welfare obtained from the transaction and the welfare obtained when transacting a nearest best alternative good the net consumer surplus respective net producer surplus from the transaction.

This net surplus is negatively related to the competitiveness between retailers on the

consumer market, between retailers on the investor market and between retailers on the supply market, because competitiveness can be interpreted as substitutability. If the most attractive good is highly substitutable by the nearest best alternative, the surplus from this alternative will be almost equal to the surplus from the most attractive good. Hence, the net surplus from the most attractive good is small. If, on the other hand, the agent faces high transaction costs to substitute the most attractive good by the nearest best alternative good, the net surplus from the most attractive good is high. Besides high transaction cost, low substitutability can also be due to product differentiation (McGuire, 2000).

The consumer and the retailer respectively the retailer and the supplier bargain about the prices of their transactions. These prices determine the distribution of the total net surplus from the two transactions. This total net surplus is equal to the total welfare from the two transactions minus the sum of the welfare obtainable by the consumer, retailer and supplier from each of their nearest best alternative transaction. It is assumed that the share of the total net surplus obtained by each party can be expressed by a constant parameter. If all bargaining parties have full information about the total net surplus and the same ability in bargaining techniques, this parameter will be equal for each party and each of them will obtain one third of the total net surplus. In case of asymmetric information or different abilities in bargaining techniques, the allocation of the surplus may differ from this equal distribution of the total net surplus. The model is very general and offers a framework for more specific models. For example, markets where the retailer unilaterally sets the consumer price (as is the case in the textile market) can be described by using a particular value for the bargaining parameters (see the appendix).

This model has two crucial features. First, the model implies that increases in competition between retailers on the consumer market, the investor market or the supplier market all lower the total net surplus from the two transactions. As a result, the consumer, retailer and the supplier's net surplus from the transactions decline. The second feature is that the effect on the welfare is quite different. For example, an increase in competition between retailers on the consumer market raises the consumer's welfare from the nearest best alternative, which enables him to bargain a lower consumer price. As a result, the balance in welfare shifts in favour of the consumer.⁴ Similarly, an increase in the competition between retail companies on the investor market shifts the balance in welfare in favour of the retailer, whereas an increase in competition between retailers on the supplier market raises the welfare in favour of the retailer.

Competitiveness and ability

Now that we have analysed the relationship between competition and the distribution of welfare and net consumer and net producer surplus, we are able to study the implications for the relationship between competition and ability.

Box 1 represents the effects of competition between retailers on the consumer, investor and supplier market on ability defined as welfare minus some minimum subsistence level that is necessary to meet the most basic goods. An increase in the competition between retailers on the consumer market will raise the threat point of consumers. As a result, the price of the good on the consumer market will go down. The profit of the retailer declines and part of this decline will shifted backward into lower prices for the supply of merchandise by third world suppliers. Hence, the welfare of both retailers and third world suppliers fall, whereas the welfare of Western consumers increases. This implies a shift in ability from retailers and suppliers to consumers. Likewise, an increase in the competition between retailers on the supply market will raise the threat point of suppliers and enable them to charge a higher price in the price bargain with the retailer. As a result, the profit of the supplier will increase, whereas the profit of the retailer declines. Part of the retailer's decline in profits will be shifted forward into a higher price for the consumer product. Hence, also the consumer's welfare declines. This implies a shift in ability from retailers and into a higher price for the consumer product. Hence, also the consumer's welfare declines. This implies a shift in ability from retailers and suppliers and consumers to suppliers. In a similar way an increase in competition between retailers on the supplier and result in a shift of ability from consumer and supplier to retailer.

Ability of:	Consumer	Retailer	Supplier
Increase in competition on:			
Consumer market	+	-	-
Investor market	-	+	-
Supplier market	-	-	+

Box 1 Impact of competition on ability defined as welfare minus subsistence welfare

Box 2 represents the effects of competition on ability if defined by the net surplus from the transaction. In that case, an increase in competition reduces the ability of both consumers, retailers and suppliers. This result does not depend on whether competition increases on the consumer market, investor market or supplier market. The increase in competition between retailers on the consumer market, investor market and supplier market equally reduces the total net surplus. Moreover, as the net surplus of the consumer, retailer and suppliers are proportionally related to the total net surplus, the relative decline in the net surplus of each of these trading partners will also be equal. As a result, the relative ability of each trading partner does not change at all if competition on one of these markets increases.

Box 2	Impact of com	netition on	ability a	defined ·	as net surnlus
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Ability of:	Consumer	Retailer	Supplier
Increase in competition on:			
Consumer market	-	-	-
Investor market	-	-	-

Supplier market	-	-	-	1
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Box 3 represents the impact of competition on ability defined as relative welfare. We assume that the welfare of suppliers is lower than the welfare of Western consumers and Western retailers. This implies that their ability is zero and is not affected by a change in competition on the consumer, investor or supplier market. Then we can distinguish between two cases.

Ability of:	Consumer	Retailer	Supplier
Increase in competition on:			
If consumer has highest welfare			
Consumer market	+	0	0
Investor market	-	0	0
Supplier market	-	0	0
If retailer has highest welfare			
Consumer market	0	-	0
Investor market	0	+	0
Supplier market	0	-	0

Box 3 Impact of competition on ability defined as relative welfare

In the first case, the welfare of Western consumers exceeds the welfare of Western retailers. Hence, the ability of the retailers is also zero. In that case, an increase in competition on the consumer market raises the ability of consumers, whereas an increase in the competition on the investor or supplier market lowers their ability. However, as long as the welfare of consumers remains higher than the welfare of retailers, the relative ability of consumers does not change. Consumer should pay the full burden of the costs involved with the prevention of negative external effects, both before and after the change in competition. If the welfare of retailers exceeds the welfare of the consumers, an increase in competition only influences the ability of retailers, but, again, as long as the retailers obtain the highest welfare, the relative ability in taking responsibility for the prevention of damaging social or ecological effects does not change. Only if the relative welfare shifts from retailer to consumer (or vice versa), a change in competition will shift the relative ability from retailer to consumer.

Application to the textile sector

If we apply these findings to the experiences in the textile market as described in section two, it seems that Western retail companies consider the second definition of ability (see Box 2) as the most relevant one for defining their responsibility. Indeed, although the profitability of the retail in fashion has declined, the welfare of the owners of the large Western retail companies is still

substantial, because they have shifted their operations to other markets and have diversified their capital by investing in other markets. The reduction in transaction costs and resulting increase in competition on investor markets raises the responsibility of producers according to Box 1. The reluctance of Western retail companies to accept this responsibility indicates that they are inclined to relate their freedom to the net producer surplus in the textile market in accordance with Box 2.

A similar conclusion holds for Western consumer. In particular, since the welfare of Western consumers well exceeds the minimum subsistence level, consumers have substantial freedom of act according to the first definition of ability. In contrast, both the profit margins of Western retailers and of Asian producers are rather low. Especially the welfare of the employees of Asian producers is insufficient to guarantee a living wage. According to Box 1 this would imply that the increase in competition on the textile market should increase the responsibility of consumers to pay the costs involved with improving the labour standards and the ecological effects of the production of clothes. Still there is hardly any consumer demand for this kind of measures. This suggests that either consumers do not act in accordance with their responsibility or tend to minimise their responsibility by relating their freedom to the net consumer surplus (Box 2) or relative welfare (Box 3).

6. Evaluation and conclusion

In the previous sections we have presented several options for defining the relationship between responsibility, ability and welfare and analysed how an increase in competition on the consumer, investor and supplier market would affect the distribution of responsibility between Western consumers, Western retailers and third world suppliers. In this section we evaluate the various options and consider some practical problems involved with the application of the various options.

We first consider the second definition that relates ability to take responsibility for reducing the negative external effects of a certain transaction to the net surplus obtained from this transaction. A moral argument against this definition is that an agent's ability, and hence responsibility, will decrease if his market power increases. Hence, more power will induce lower responsibility. This seems highly unfair from an ethical point of view.

Another argument against relating ability to the net surplus is that the nearest best alternative good will generally also produce negative external effects. Dismissing oneself from the responsibility to take care of the negative external effects of a certain transaction if this would imply a negative surplus, does not take into account the costs required to prevent the negative external effects of these alternative products.

For these reasons, we reject the relationship between ability and net surplus, which are sometimes favoured by Western companies.

Next we consider the relationship between ability and relative welfare. This option can be based on the idea that many people relate their welfare to the welfare of others. However, this relationship is not 100 percent. Empirical research often only shows a partial impact from social environment on choice behaviour of consumers (Kapteyn et al., 1989). Moreover, even if empirical research would show that ability is fully related to the relative welfare, this would not validate the relation between ability and relative welfare from a moral point of view, because this would result in a very low responsibility of economic agents. Rather, one would argue that people should liberate themselves from this circle of competition between people in order to increase their degree of freedom and enable themselves to take responsibility for the fate of the human community as a whole.

Another moral argument against this option follows from the theory of fairness of Rawls (1971). Although Rawls defends the principle that social and economic should be arranged so that they are to the greatest benefit of the least advantaged persons, this principle does not necessarily confirm the egalitarian norm that is implied by the relationship between ability and relative welfare. Indeed, if ability is related to relative welfare, the most fortunate person has an incentive to shift his responsibility to other persons by reducing his welfare to a level below that of other persons. Therefore, it is likely that the egalitarian position is inefficient and will, eventually, also reduce the benefit of the least advantaged groups.

A final moral argument against the egalitarian distribution is that it is too demanding, because it does not take into account the efforts of the most fortunate people that were required to obtain their fortunate position. For these reasons we also reject the relationship between ability and relative welfare.

On basis of these considerations, we prefer the first option that relates ability to the total welfare as far as it exceeds some minimum subsistence level of welfare that is required for meeting basic goods. This implies that an increase in the competition on the consumer market shifts the balance of responsibility for paying the additional costs involved with the prevention of negative external effects from retailers and suppliers to consumers. An increase in competitiveness on the investor markets shifts the balance in the direction of the owners (or shareholders) of Western companies, whereas an increase in the competitiveness on the supplier market will make third world suppliers relatively more responsible.

7. Summary

Lack of social and ecological sustainability is a persistent global problem. Both private markets and government face many difficulties in dealing with the challenge to reduce negative external effects from market operations. This challenge has generated a new interest in moral responsibility of the private parties that are involved with the market transactions that contribute to these negative social and environmental effects. However, who should take this responsibility and how is this distribution affected by changes in the competitiveness on the Western consumer market, international investor market and third world supplier market? Whereas third world suppliers often lack the financial resources to invest in new production techniques that reduce the negative externalities of the production processes, Western companies sometimes face severe competition which limit the opportunity to invest in sustainability beyond a level that maximises profitability. On the other hand, Western consumers often feel that their ability to pay for responsibly produced goods is also limited, because this would reduce their welfare relative to that of other Western consumers.

Assuming that distribution of the costs involved with attaining sustainability should be related to the relative ability of the respective agents, this paper critically examines these arguments. For this purpose, the paper develops three alternative ways of relating ability to economic parameters that reflect the view of third world suppliers, Western companies and Western consumers. The first definition relates an agent's ability to his absolute welfare level corrected for a subsistence level of welfare required to obtain basic goods like food, shelter, etc. The second definition relates an agent's ability to the specific transaction that contributes to negative social or ecological effects. In particular, the ability is related to the difference in the welfare obtained from this transaction and the welfare obtained from the nearest best alternative transaction. The third definition relates an agent's ability to his relative welfare, i.e. the difference between his own welfare and the welfare of other agents. The latter definition can be argued both from an egalitarian perspective on distribution as well as from a utilitarian perspective on optimal social welfare.

Using a small bilateral monopoly model, we find that an increase in competitiveness only impacts the relative ability if it is related to the absolute welfare (corrected for the subsistence welfare level). For example, if the competitiveness between Western retail companies on consumer markets increases, consumer prices will decline. As a result, the welfare will shift from the owners of the company to Western consumers and so will their relative ability to pay the costs for the common good. If ability is related to the net surplus from transactions or to the relative welfare, a change in competitiveness will, in most cases, not affect the relative ability of third world suppliers, Western companies and Western consumers.

Evaluating the three definitions of ability from an ethical perspective, we argue that relating ability to net surplus is unfair, because this will imply an inverse relationship between responsibility and market power. Also the relationship between ability and relative welfare is rejected, because this would result in too low responsibility for the non-richest agents and be too demanding for the richest agents. We therefore conclude that an increase in competitiveness on consumer market shifts the responsibility for paying the costs involved with preventing negative external effects of Western production and consumption patterns from suppliers and retail companies to Western consumers. Likewise, an increase in competitiveness on the investor market shifts the responsibility from consumers and suppliers to retail companies, whereas an increase in competitiveness on the supplier market makes suppliers more responsible.

Appendix A mathematical representation of the model

The welfare of the consumer (u_c) can be defined as the benefit (B) received from a certain consumption good (x) minus the price (p) paid for this consumption good:

$$(1) \qquad u_c = B - p$$

The welfare of the Western retailer selling this good to the consumer (u_r) equals the profit from this transaction:

(2)
$$u_r = p - m - c_r$$

where m reflects the price paid for the merchandise of the third world supplier and c_r some additional costs, like those involved with the transportation of the good. Similarly, the welfare of the third world supplier (u_s) equals:

$$(3) u_s = m - c_s$$

where c_s reflects the supplier's production costs.

It is assumed that both the Western retailer and the consumer have alternatives which yield a welfare equal to \hat{u}_r respectively \hat{u}_c . The retail company and consumer bargain over the total net surplus obtained from the transaction of good *x*, which is equal to B - m - c_r - \hat{u}_r . Assuming the following Nash function:

(4) max (arg p) G =
$$(p - m - c_r - \hat{u}_r)^a (B - p - \hat{u}_c)^{1-a}$$

the outcome of the bargain can be described as:

(5)
$$p = (1-a)(m + c_r + \hat{u}_r) + a(B - \hat{u}_c)$$

a represents the bargaining of the producer. If the producer has full bargaining power (a=1), the model is equivalent to the model of full price discrimination. The producer will maximize profits by setting the price as high as possible provided that the consumer will not substitute good *x* for an alternative good. That means: the net welfare of the consumer must be at least as high as \hat{u}_c . The optimal price therefore equals B - \hat{u}_c . Since the producer possesses the prerequisites for price discrimination, he is able to extract the entire net surplus. The net consumer surplus from good *x* equals zero. If the consumer has full bargaining power (a=0), the price will be equal to the cost plus the profit obtainable by the producer in other market segments. The net producer surplus from good *x* equals zero and the consumer obtains the total net surplus from the transaction of good *x*.

In a similar way it is assumed that the Western retail company bargains with the third world supplier. The price outcome equals:

(6)
$$m = g (p - c_r - \hat{u}_r) + (1-g) (c_s + \hat{u}_s)$$

where g represents the relative bargaining power of the supplier.

The net surplus of the two transactions together can be defined as:

(7)
$$TS = B - c_r - \hat{u}_r - c_s - \hat{u}_s - \hat{u}_c$$

Combining equation (1) - (6), we can now formulate in Box A1 the three definitions of ability as follows.

	Consumer	Retailer	supplier
1 welfare minus subsistence welfare	${(1-a)g (B-c_r-\hat{u}_r-c_s-\hat{u}_s) + a \hat{u}_c} / z - s$	{ag (B-c _r -c _s - \hat{u}_s - \hat{u}_c) + (a(1-g)+g(1-a)) \hat{u}_r }/ z - s	${a(1-g) (B-c_r-\hat{u}_r-c_s-\hat{u}_c) + g \hat{u}_s} / z -s$
2 net surplus	(1-a)g TS / z	a g TS / z	a (1-g) TS / z
3 relative welfare	$\max (0, u_c - \min (u_c, u_{rc}))$	$\max (0, u_r - \min (u_c, u_r))$	0

Box A1 Three definitions of ability^a

$^{a}z=a+g-ag,$

s denotes the minimum subsistence level of welfare.

The marginal impact of competition on the consumer market, investor market and the supplier market on ability of consumers, retailers and suppliers is defined in Box A2.

Definition 1	Consumer	retailer	supplier
consumer market	a / z	- a g / z	- a (1-g) / z
investor market	- (1-a) g / z	(a(1-g)+g(1-a)) / z	- a (1-g) / z
supplier market	- (1-a) g / z	- a g / z	g / z
definition 2	Consumer	retailer	supplier
consumer market	- (1-a) g / z	- a g / z	- a (1-g) / z
investor market	- (1-a) g / z	- a g / z	- a (1-g) / z
supplier market	- (1-a) g / z	- a g / z	- a (1-g) / z
definition 3	Consumer	retailer	supplier
consumer market	if $u_c > u_r$, then a /z else 0	if $u_r > u_c$, then - a g / z else 0	0
investor market	if $u_c > u_r$, then - (1-a) g / z else 0	if $u_r > u_c (a(1-g)+g(1-a)) / z$ else 0	0
supplier market	if $u_c > u_r$, then - (1-a) g / z else 0	if $u_r > u_c$, then - a g / z else 0	0

Box A2 Marginal impact of competition on ability

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Notes

¹ In addition, Shell claims that this new petrol brand is also better for the engine. In our paper, we abstract from this internal effect and only consider the lower negative external effects of this product.

² Still, recently C&A lounged a new initiative under the name 'More Care for the Body' in which the collection is tested on several aspects like poisoned materials and colour-realness according to the so-called Oeko-Tex standard 100 norm. This norm, instituted by the Austrian Textile Research Institute in 1991, covers pesticide residues, pH values, the use of azo dyes, heavy metal content and formaldehyde. C&A is the only high-street fashion retailer that has adopted this Oeko-Tex 100 standard (Robins and Humphrey, 2000). But C&A feels that it has yet to see any real business benefits from its active stance on environmental policy.

³ In case of a public company, the owner of the firm can be interpreted as the group of shareholders owning the stocks of the firm.

⁴ Note that the model does not fully capture the idea that an increase in competition on the consumer market may also reduce the welfare of consumers by lowering the freedom of choice due to a decrease in the number of products. In order to model negative effects of competition on consumer welfare, we should extend the model by, for example, assuming heterogeneity in the benefits for consumers and some fixed costs (or other form of increasing returns to scale) for producers. In that case, a reduction in transaction costs on the consumer market may induce consumers with a relatively low benefit to substitute the good by an alternative product. This might force the producer to stop the production of this good and generate a loss in welfare for consumers who obtain a relative high benefit from it.

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