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Competition in fairness and the consequences of mainstreaming Fairtrade

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Abstract

The increased availability and sales of Fairtrade products has resulted in an increased number of products with fairness content in the market place. While mainstreaming of Fairtrade implies that overall fairness and wealth transfers to small producers goes up, it may also entail the possibility of dilution of Fairtrade principles resulting in less welfare transfers. This paper uses a Hotelling framework of competition to analyze firm behavior with respect to the entry of products with fairness content. We analyze how an incumbent supplier reacts on a Fairtrade entrant and how a Fairtrade supplier reacts on a conventional entrant that starts offering a product with fairness content. By doing so we are able to calculate the firms' optimal fairness locations and the total amount of fairness generated. The results can be used by managers and policy makers in determining the optimal strategy when it comes to the amount of fairness content in the market and/or the implementation of fairtrade products within development policies. We find that firms' optimal locations are mainly determined by the transfers to smallholders and the distance of consumers towards the location of the firm.

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1. Introduction

Fairtrade is an increasingly important phenomenon in global trade. The last two decades have shown a remarkable growth in sales of fairtrade products. This fits into the increasing societal interest in production methods and trade consequences of Western consumption patterns (Goodman 2004; 2010; Hertz 2002; Irving, Harrison & Rayner 2002; Klein 2004; Renard 1999). Fairtrade is a concept within international trade, envisaging economic exchanges based on fairness principles (FLO 2013). The fairtrade movement aims at maximizing wealth transfers to smallholders in poor developing countries by organizing smallholders in cooperatives, empowering them and stimulating sustainable production. Small-scale producers are often in an unequal bargaining position when it comes to price determination and receive only a small fraction of the final product price (Becchetti & Huybrechts 2008; Fridell, Hudson & Hudson 2008; Hira & Ferrie 2006; Valkila, Haaparanta & Niemi 2010). Within the Fairtrade approach to trade these “smallholders” are paid a stable and guaranteed minimum price allowing a decent coverage of production and living costs. The Fairtrade Organizations (FTOs) also provide development premiums for projects such as education systems and health care to improve local conditions. To facilitate these above market price payments, consumers in advanced –mainly Western– economies pay higher prices for comparable products in the market.

While fairtrade as a trade concept already existed in the fifties of the last century, it is only from the late eighties that fairtrade products have become available in supermarkets and other stores. Before, fairtrade was an alternative movement, driven by non-profit organizations that wanted an “alternative trade system” based on “fairness” principles instead of the conventional trade. However, as a market-driven approach has become more popular among the majority of the fairtrade actors and has started to dominate the movement’s strategy. Fairtrade products are nowadays available on a much wider scale than before. This mainstreaming of fairtrade has caused a debate within the movement² and in the

² Note that the Fairtrade movement consists of all kind of organizations and individual projects (Bacon 2010; Jaffee & Howard 2010; Low & Davenport 2006; Reynolds 2009; Renard 1999). Even the Fairtrade Labeling Organization International (FLO), an umbrella organization of national labeling initiatives is also not univocal in

academic literature on the future of ‘fairness’ that the fairtrade label(s) represent(s) and the tensions that a market-driven strategy to increase sales brings along (Ballet & Carimentrand 2010; Davies 2007; Jaffee & Howard 2010; Low & Davenport 2007; Raynolds 2009; website Fair World Project). Several aspects need to be pointed out. On the one hand mainstreaming boosts the total number of products with fairness content on the market and has raised awareness among both consumers and supply chain actors (Low & Davenport 2005, 2006; Raynolds 2009). Large manufacturers and corporations embracing fairtrade principles may make the trade process on the whole “fairer” by guaranteeing an increased amount of farmers a higher level of income. On the other hand, mainstreaming may also lead to dilution of the initial fairtrade concept in several aspects and lower the final welfare impact the fairtrade concept had in mind. First, mainstreaming implies increased competition for FTOs in segments that were previously exclusive to them (Codron et al. 2006; Davies 2007; Giovannucci & Ponte 2005; Max Havelaar 2013; Renard 1999; Smith 2010). More supply chain actors being involved in the fairtrade movement may put pressure on lowering cost and thus decrease payments to the small-scale producers. Additionally, certain aspects of fairtrade, such as retaining long-term relationships with small farmers, may not be guaranteed due to the market-driven approach (Davies 2007). Second, various labels (e.g. Utz Certified and Rainforest Alliance) have shown up in the market, being supported by their own certification organizations and control mechanisms (Codron et al. 2006; Giovannucci & Ponte 2005; Moore et al. 2008). This may result in confusion about what fairness encompasses and lead to ‘fairtrade light products’, products containing less fairtrade benefits than the original fairtrade organizations had in mind (Davies 2007). Third, fairtrade may be used as ‘fair washing method’³ (Doherty et al. 2013). Companies give the impression that their whole business strategy is fair while in fact only a minor part of the product (assortment) is labeled as such (Jaffee & Howard 2010; Low & Davenport 2005; Raynolds 2009). As long as the fairtrade movement itself is not univocal on the minimum amount of fairtrade ingredients a product should contain or the

the application of fairtrade standards (Jaffee & Howard 2010), for example about the minimum amount of Fairtrade products that a good should contain or who (large plantations or smallholders only) should be certified.
³ Also called ‘green washing’ (Goodman 2010) or ‘clean washing’ (Raynolds 2009). We use here the word ‘fair washing’ because in our view that word describes the phenomenon the most appropriate.

“fairness” strategy a company should follow,⁴ moral hazard problems may arise due to information asymmetries between buyer and seller.⁵ These aspects of the mainstreaming of fairtrade have consequences for the way trade is made ‘fair’. It is the question how the movement deals with the increasingly varying fairtrade suppliers that engage in the fairtrade principles, especially when it comes to the impact on the fairness transfers to small producers.

The purpose of this paper is to investigate how mainstreaming affects fairness transfers in the market by means of (increasingly) competing suppliers. Total fairness transfers in the market may be reduced due to increased competition on fairness as a means of product differentiation with the consequences described above. Especially consumer perceptions may be an important impact factor, as the fairtrade movement’s success essentially depends on the way consumers behave with respect to fairness content offered. We use Hotelling’s model on spatial competition to obtain insights in the interrelation between prices, cost structures and the amount of fairness transfers “produced” and will observe how firms’ decisions influence the fairness transfers to the producers. We will end the analysis with suggestions on how these insights can be used by fairtrade movement actors, conventional firms’ strategies and possible government policies. Furthermore, we will reflect on the fairtrade movement’s ability to raise welfare of the farmers, given the involvement of profit-maximizing firms with the fairtrade principles. Finally, we suggest issues for further investigation and reflect upon the ability of markets to produce transfers to smallholders without being inefficient.

Within the literature on Fairtrade, there is a lack of information and insight on how to deal with mainstreaming and what impact it might have on fairness transfers and the final effectiveness of its (initial) concept. Within the economic literature there is currently a gap when it comes to the mainstreaming of fairtrade, especially when it comes to the theoretical reflection upon the impact of fairness transfers that might induce actors to start adding fairness content in the products as well.

Exceptions so far are the evaluations that also study different types of competition on fairness taking

⁴ This is exemplified by the case of Starbucks. Though this company claims to sell a certain degree of fairtrade certified coffee, one of the fairtrade actors, Fair World Project, who currently strives for disclosure of the use of GMO products in which Starbucks also participates. It is henceforward not clear what the exact intentions Starbucks has and what role fairness transfers will play in the future within its corporate strategy.

⁵ This might even give raise for an institutional framework, however this will be beyond the scope of this paper.

into account among others changing consumer attitudes and welfare effects (Becchetti & Solferino 2003, 2005; Becchetti, Giallonardo & Tessoro 2006; Becchetti & Solferino 2011; Becchetti, Palestini, Solferino & Tessoro 2013).

This paper contributes to further clarify the impact of competition on fairness transfers by introducing fairness costs as an explicit function within the profit function of the suppliers. Specifically, first this paper investigates how and why a firm's location on fairness may change when being confronted with a fairtrade entrant in the market. Second, we observe the situation in which a fairtrade supplier is confronted with a conventional supplier starting supplying products with a certain (varying) fairness content. We will focus on these locations with respect to differences in prices, cost structures, and competition in the market. By doing so, we are able to analyze whether and under which conditions increased involvement of profit-seeking companies will change the market situation, especially when it comes to the total amount of fairness and the fairtrade movement's principles. Additionally, we give considerations for governments to reflect upon its (degree of) involvement in fairtrade or regulation of the various fairtrade certification systems.

The outcomes of this paper are relevant firstly for the fairtrade movement itself, as the consequences of mainstreaming are pointed out and what the increased competition might imply for their fairness location. Additionally, for conventional firms' managers on sustainability and corporate social responsibility this paper is of interest as it points out why it could be profitable to start adding fairness content in products. Finally, the paper is relevant for policy makers that need to evaluate upon the degree of fairness that is delivered in the market and to which degree fairness transfers contribute to international common good provision.

The structure of this paper is as follows. In Section 2 we introduce the basic model in which we model the situation of fairtrade before mainstreaming. Section 3 models the situation after the mainstreaming of fairtrade. Section 4 provides a deeper analysis in which two firms start competing and enter each other's markets. Section 5 provides (preliminary) conclusions and issues for discussion.

2. The basic model

Hotelling's model on spatial competition (1929) has been widely discussed and used within the field of marketing and industrial organization. The original model aims at demonstrating that when two rational (profit-maximizing) competing firms choose geographical locations in a market they will end up next to each other. The firms aim at serving the whole market, and grasping as much market share as possible. Prices will be decreased until the point is reached in which the consumer is indifferent in choosing from which firm to buy. Prices and locations are determined simultaneously. The firms will therefore be located next to each other – in the center of the market. In this scenario we take the geographical space as “fairness space”, as one can observe that the model can be extended to a product characteristic space (Hotelling 1929) with non-profit maximizing firms as well (Gabszewicz 1999; Moorthy 1985).

We will discuss the basic set-up of our model by determining how the market functioned before the mainstreaming of Fairtrade. We assume that for a specific good (such as coffee or chocolate) two strictly separated, monopolistic market parts exist: one in which conventional products are exchanged, the other in which products containing fairness are exchanged. The conventional market is characterized by a profit-maximizing monopolist, whereas the other market part is supplied by a firm that also adheres to other principles than profit maximization. The supplier of fair trade products offers its producers a higher price because from a fairness perspective the firm believes that these producers should receive higher prices than in the conventional market. These principles result in a higher amount of payments to suppliers than in the conventional market. The two markets are separated by a “border” of unawareness and information; consumers in the conventional market do not know or are not aware of the (existence) of (un)fair products, whereas consumers in the market for fair products consciously purchase the products in that market and know what fairness entails. In our model, “fairness” is defined as the total amount of transfers transferred to the small producers in producing countries. We will denote the amount of transfers by s . We assume furthermore that a most fair position ($a = 1$) and a least fair position ($a = 0$) can be determined, related to the extra amount of s paid to the smallholders.

As mentioned before we take geographical space as fairness space, and assume a line of unit-length on which consumers are distributed uniformly according to their fairness content preferences. Consumers have inelastic unit demands and their position on the fairness line is denoted by $x \in [0,1]$. The total number of consumers is normalized to one. We assume that a share x^* are located in the conventional market so that $1 - x^*$ is the market share for the fair product firm. For now, we assume that the conventional firm's market share is larger than the fairtrade supplier's, $x^* > 0.5$ ⁶ and that it is exogenously given and fixed.

Firms differ in the fairness content they offer and their positions are denoted by $a_c \in [0, x^*]$ for the conventional firm and $a_f \in [x^*, 1]$ for the fair firm. We furthermore assume the existence of perfect information; consumers have a correct perception regarding the amount of fairness the firm in their market offers.

Consumers will buy the product as long as their maximum willingness to pay (V) exceeds the price of the product (p_i) and the psychological costs they incur if they do not get their preferred fairness level (t_i). The utility U_i ($i=c, f$) a consumer derives from buying a good is therefore:

$$U_i = V - p_i - t_i \cdot |x - a_i|$$

which must be positive for a consumer to buy the good. We assume that the maximum willingness to pay is the same for consumers in both markets.

In the conventional market we assume that consumers are completely inelastic with respect to the fairness amount delivered (they either don't face costs for buying below their standard or they are unaware) and we set their t equal to zero: $t_c = 0$ ⁷. Hence, $U_c = V - p_c$.

⁶ This can be observed in reality as well, since World shops and other alternative shops have a smaller market share (as Fairtrade still has) in comparison with other suppliers of Fairtrade products: supermarkets.

⁷ For simplicity we have assumed that these consumers are also distributed uniformly along the line. It could be the case as well that these consumers are not uniformly distributed, but are all clustered in location $a = 0$. This is due to the fact that these consumers require a fairness level of zero – or they do not care about the fairness. We assumed here that $t_i = 0$ in order not to complicate this issue further.

Within the fairtrade product market we assume that consumers only face costs when buying a product below their fairness standard, hence in case $a_{ft} < x$. Fair product consumers prefer to buy from a nonprofit-maximizing firm that maximizes fairness transfers to its small producers.

$$U_{ft} = V - p_{ft} - t_{ft}(x - a_{ft}) \quad \text{for } x - a_{ft} > 0$$

$$U_{ft} = V - p_{ft} \quad \text{for } x - a_{ft} < 0$$

We assume that in both markets one supplier of the good exists hence both markets are characterized by a monopolist supplier. Within a standard Hotelling setting (with positive and symmetric t) the conventional profit-maximizing monopolist would end up in the middle of the market in order to serve the whole market. Since all consumers between 0 and x^* have to be served, the optimal location for the firm is location $a = x^*/2$. The price it charges then depends on the consumers' maximum willingness to pay and their distance costs, hence $p = V - t/2$.

In our set-up this will be different. Assume that the conventional firm faces variable costs denoted by c , reflecting the payments per product to the producers in the supply chain of the conventional firm. Besides these costs, the conventional firm has a fixed cost F which is determined exogenously and does not affect the outcomes of the model in this set-up. We set $t_c = 0$. The profits π of the monopolist are:

$$\pi(x, 1) = x^*(p - c) - F = x^*(V - c) - F.$$

With consumer's utility function $U_c = V - p_c$, the highest price the profit maximizing firm can ask is $p_c = V$.

Furthermore, because $t_c=0$ the conventional supplier can choose any position on the segment $a \in [0, x^*]$. Consumers are not aware or not interested in fairness and do not face (dis)utility when buying a good further away from their preferred variety. The firm's location does not affect prices and profits. However, by choosing a position of $a_c > 0$ the supplier runs the risk of raising consumer awareness and interest in fairness. This may influence its profits in the future, requiring the conventional firm to locate itself to the right. More fairness content implies more costs and less profit for the firm due to

extra fairness transfers to its producers. Hence in the conventional market the firm optimally locates itself in $a_c = 0$ (Becchetti & Huybrechts 2008).

The profit function of a fairtrade firm is different. We assume that fairtrade firms find that the payments to producers in the conventional market c are not sufficient in guaranteeing a certain level of well-being. For that reason these firms add a surcharge $s > 0$ to their payments to local producers. Consequently, the profit function of the fair trade firm becomes:

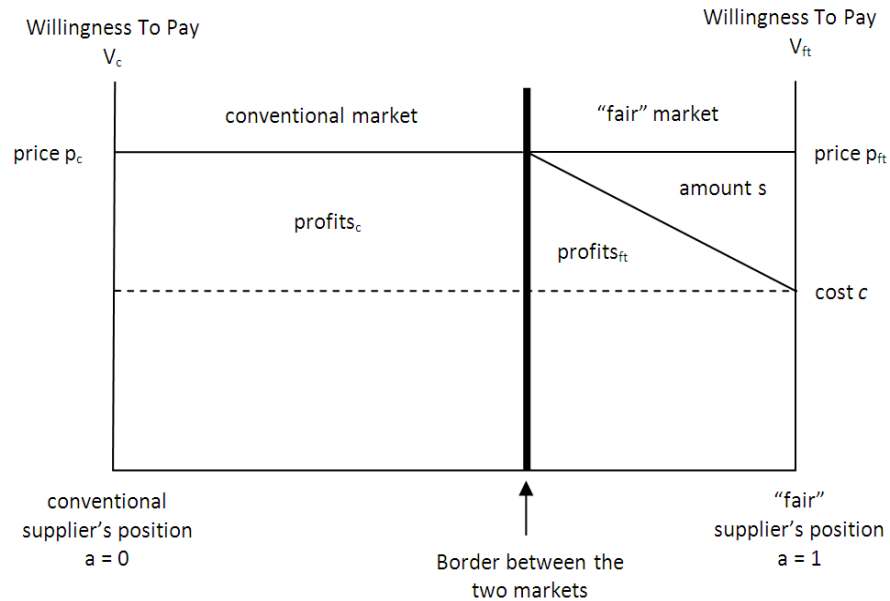
$$\pi_{ft} = (p_{ft} - c - s) \cdot (1-x^*) - F$$

where we assume that the fixed and marginal costs (F and c) the fairtrade firm faces are the same as for the conventional firm. The height of the surcharge s can be seen to reflect the level of fairness of the firm. That is, more fairness implies a higher s . In fact, one could argue that the fair trade firm's goal is to maximize s ; for fair trade firms other considerations than profit-maximization play a role as well. However, in the current set-up with a fairtrade monopoly and unit consumer demand the maximization of s leads to the same outcomes as profit maximization would.

By the demand side the highest price the fair-trade firm can reach is when it locates at position $a_{ft} = 1$. In that case, $p_{ft} = V$ and profits become $(V - c - s) \cdot (1-x^*) - F$. The maximum level of s the fair trade firm can afford to pay is therefore $s^{max} = (V - c - F) / (1-x^*)$. This makes overall profits zero and the operational profits just enough to cover fixed costs. The total amount of additional payments to local producers is $S = s(1-x^*)$. In comparison to the conventional firm, the fair product firm asks the same price, but transfers all of its profits to its producers instead of keeping it for the own company and/or shareholders. Alternatively, the fair trade firm could decide to retain some of the profits as well, setting s below s^{max} . It is reasonable to assume however that the firm that locates at the highest level of fairness also pays the highest amount of s . This also provides a natural benchmark for the analysis in later sections, where we will introduce an explicit functional form for the relation between a and s .

We illustrate the situation in the market before mainstreaming in Figure 1 below. In the next section we will point out that when the border blurs, the market situations results in duopolistic competition. This well allows us to analyze the effects of mainstreaming for fairness in the market.

Figure 1. Situation in the market before mainstreaming of Fairtrade:



3. Effects of Mainstreaming

The mainstreaming of fairtrade implies that the initial fairtrade companies are increasingly in conflict with retaining their original ideas about fairness transfers. Concessions might be in order, as a result of competition with conventional suppliers that also start supplying fairtrade products. Since mainstreaming also implies that these products are available on a much wider scale, reflecting as well the increased societal interest in these types of products, we assume that all consumers in the market know about fairness products (as can also be observed in the Max Havelaar brochure: 8 out of 10 persons have heard about fairtrade). The border between the two markets thus blurs. There is now one market in which all consumers have a certain fairness preference for the product they buy, and where all consumers face psychological costs when buying a product below or above one's preferred fairness location. This has consequences for the way suppliers compete in the market. For the conventional firm there might be a growing niche market in which additional profits can be grasped; for the fairtrade actors it might imply that extra fairness transfers may result.

We approach the newly arisen market situation as a duopoly and develop a duopoly model to analyze how two product suppliers compete in prices, locations and fairness content. Hotelling's geographical space is (again) taken as fairness space and expressed in terms of a line a of unit-length. The conventional supplier offers a conventional good, whereas the fairtrade supplier supplies a product with fairness content. Consumers can choose between two identical products, which are only differentiated from each other regarding their fairness content. The conventional firm maximizes its profits, whereas the fairtrade supplier is a zero profit firm and wants to maximize fairness transfers s for its producers.

We assume that all consumers are distributed uniformly along the line a according to their fairness preference. The assumption of perfect information still applies; consumers have a correct perception on the amount of fairness content delivered by the firm. Total amount of consumers is normalized to one, and they have inelastic unit demands. Any time the consumers buy a product below or above their fairness standards, they incur costs proportional to the distance denoted by t , with coefficient $t \in]0, \infty[$. This factor denotes how consumers' fairness preference influences consumers' utility. We reasonably assume that t_{ft} differs from t_c as it may be highly likely that these costs will differ per product category or time path; in the further analyses we therefore include the possibility of different 'distance' costs.

Consumer's utility depends on their willingness to pay V , prices, p_c and p_{ft} , and the distance costs, t_{ft} and t_c . Consumers will buy the good that yields the highest utility. With $t_c, t_{ft} > 0$ the utility functions are:

$$U_c = V - p_c - t_c|x - a_c|$$

$$U_{ft} = V - p_{ft} - t_{ft}|x - a_{ft}|$$

A consumer will buy the conventional (fairtrade) good if $p_c + t_c|x - a_c| < (>) p_{ft} - t_{ft}|x - a_{ft}|$.

The conventional firm has two variables to maximize its profit: price p_c and position a_c on the fairness space $a \in [0, 1]$. The conventional firm faces cost c , which are the costs for production paid to the producers of its product. Since the two markets are integrated now and all consumers are aware of

fairness content, the conventional firm may have an incentive to change from location since adding fairness content may imply more market share. To fix ideas, however, we will first assume that it retains its original (monopolist) position of $a_c=0$.

The fair product firm is a firm that also adheres to “fair” principles, which implies that it wants to transfer a positive amount s to its producers. The fairtrade firm therefore faces, besides the conventional costs of c and fixed costs F , an extra amount of “costs” s . These costs s are set as a goal to be attained by the fairtrade firm in order to transfer these to its smallholders as an extra amount of money besides the conventional compensation. Since the fairtrade firm is the only one offering fairness content and since we assume that it is (according to its principles) fully complying to the fairness criteria, we set s at the highest amount possible. Furthermore, we assume that also the fairtrade firm at first retains its original (monopolist) position: $a_{ft}=1$.

Given that $a_c=0$ and $a_{ft}=1$, the indifferent consumer is positioned at

$$x^* = (p_{ft} - p_c + t_{ft}) / (t_c + t_{ft})$$

This also identifies the market share of the conventional firm. The “fair” supplier’s market share becomes:

$$1 - x^* = 1 - [(p_{ft} - p_c + t_c) / (t_c + t_{ft})]$$

The profit functions of the conventional and fairtrade supplier become, respectively:

$$\pi_c(0, p_c) = [p_c - c] [(p_{ft} - p_c + t_{ft}) / (t_c + t_{ft})] - F$$

$$\pi_{ft}(1, p_{ft}) = [p_{ft} - c - s] [(p_c - p_{ft} + t_c) / (t_c + t_{ft})] - F$$

Maximizing each firm’s profit function with respect to prices gives the respective best-response functions of the conventional and fairtrade supplier:

$$p_c = (p_{ft} + t_{ft} + c) / 2 \quad \text{and} \quad p_{ft} = (p_c + t_c + c + s) / 2$$

The Nash equilibrium prices are:

$$p_c^* = 1/3 t_c + c + 2/3 t_{ft} + 1/3s \quad \text{and} \quad p_{ft}^* = 1/3 t_{ft} + c + 2/3 t_c + 2/3s$$

In these prices we can observe that the price of the conventional firm will increase due to the amount of s that is transferred by the fairtrade firm. But since it increases prices of the fairtrade firm by more, the conventional firm's competitive position is enhanced. Increasing the amount of s could thus be profitable for the conventional firm – as in this setting the firms compete in prices and given that their locations are fixed. For the fairtrade firm it implies that it could be sensible to lower the amount of transfer in order to gain markets share, an issue we will consider in the next section. Note that the competitive position of the fairtrade firm would not be affected had we taken transfers as a 'fixed cost' type of outlay. Then optimal prices would be independent of s . In reality, we see of course that both aspects play a role. Seeing transfers as a marginal cost is reminiscent of the price premium that fairtrade organisations pay, whereas seeing transfers as a fixed costs reflect their development premium outlays. From a competitive perspective, the latter may be the better option.

With fixed locations, profits are:

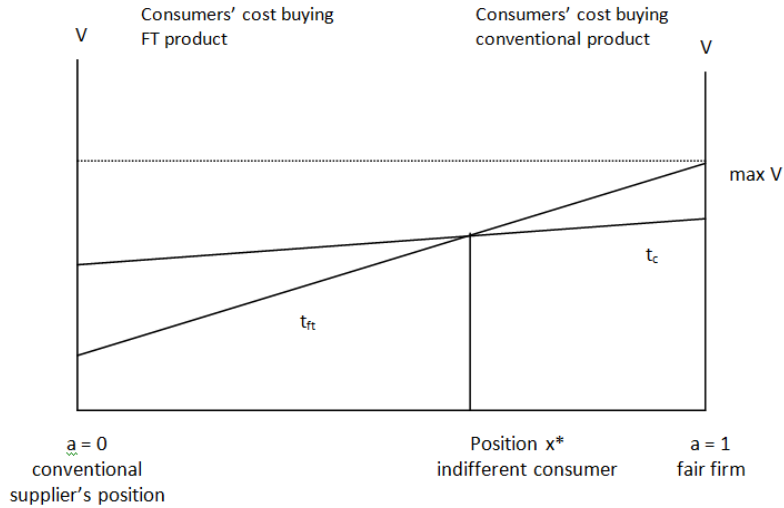
$$\pi_c^*(0, p_c) = (1/9) (t_c + 2t_{ft} + s^{\max})^2 / (t_c + t_{ft}) - F$$

$$\pi_{ft}^*(1, p_{ft}) = (1/9) (t_c + 2t_{ft} + 2s^{\max})^2 / (t_c + t_{ft}) - F$$

As we already could observe in the Nash prices, the conventional firm's profits are positively related to the transfers of the fair product supplier. We see that its optimal price is halfway between its zero profit price and the fair product supplier's zero profit price plus half of the distance cost t_{ft} .

Figure 2 shows what the newly arisen situation might look like, given the mainstreaming of fairtrade.

Figure 2. Situation after fairtrade mainstreaming (assuming in the graph that $t_{ft} > t_c$)



(Adapted from Becchetti & Huybrechts 2008)

4. Mainstreaming and competition between fairtrade and conventional actors

Due to mainstreaming it may be profitable for either of the two firms to give up their initial locations. The consumers' considerations remain the same however we now analyze firm behavior with respect to fairness locations. The fairtrade firm may lower its fairness transfers in order to gain more market share and thus increase total fairness transfers, whereas the conventional supplier may be induced to increase the amount of fairness content in order to increase its profits. A consequence might then be that total fairness transfers might also go up, depending on the market circumstances. The maximum amount s is denoted by s^{\max} and is offered in position $a=1$, whereas the minimum amount \underline{s} is offered in location $a=0$. The transfers depend on the location that the firm chooses and are determined by a function $f(a)$ in which $f'(a) > 0$, $f(0) = \underline{s}$ and $f(1) = s^{\max}$. Specifically, we assume⁸

$$f(a) = \underline{s} + \beta a.$$

We first consider the situation in which the fairtrade firm decides to stick to its principles and gives the maximum amount of s possible, hence settles in $a=1$. The conventional firm enters the market, and

⁸ At a later stage we will also check other (non-linear) fairness functions.

decides which amount of s to give, given the s^{\max} the fairtrade firm offers. The market share of the conventional and fairtrade firms are then determined respectively by

$$x_c^* = (p_{ft} - p_c + t_{ft} + t_c a_c) / (t_c + t_{ft})$$

$$1 - x_c^* = x_{ft}^* = [p_c - p_{ft} + t_c(1 - a_c)] / (t_c + t_{ft})$$

where a_c is yet undetermined. Profit functions become:

$$\pi_c(0, p_c) = [p_c - c - f(a_c)] [(p_{ft} - p_c + t_{ft} + t_c a_c) / (t_c + t_{ft})] - F$$

$$\pi_{ft}(1, p_{ft}) = [p_{ft} - c - s^{\max}] [p_c - p_{ft} + t_c(1 - a_c)] / (t_c + t_{ft}) - F$$

The best response curves make clear how each firm responds to the other's price given the addition of above cost structure:

$$p_c^* = (p_{ft} + t_{ft} + a_c t_c + c + f(a_c)) / 2$$

$$p_{ft}^* = (p_c + t_c(1 - a_c) + c + s^{\max}) / 2.$$

Then we calculate the Nash equilibrium prices to get the optimal prices, given location:

$$p_c^* = (1/3)(t_c + a_c t_c + s^{\max}) + (2/3)(t_{ft} + f(a_c)) + c$$

$$p_{ft}^* = (1/3)(t_{ft} - a_c t_c + f(a_c)) + (2/3)(t_c + s^{\max}) + c.$$

So far, we have not solved for a_c . By differentiating the profit function of the conventional firm with respect to a_c , after having inserted optimal prices and the cost function $f(a_c) = \underline{s} + \beta a_c$, the optimal location of the conventional firm is:

$$a_c^* = \frac{t_c (5t_{ft} + t_c + 3\beta) + \beta(t_{ft} + 2\beta)}{2(\beta - t_c)(\beta + 2t_c)}$$

As long as $\beta > t_c$, the conventional firm has an incentive to change towards a higher position than initially positioned: $a_c^* > 0$. The cost factor β plays an important role in this decision, as do the factors t_{ft} and t_c .

Mainstreaming may not only induce that the conventional firm changes its strategy with respect to fairness content in the product, also fairtrade firms may be tempted to reduce the amount of fairness in order to grasp more market share or prevent to be wiped off of the market by the strong(er) competition of the conventional firm. This is a highly relevant setting as well, as we see an increasing amount of products being added to the fairtrade product assortment in which already long established firms have settled, such as coffee and tea. We therefore analyze the situation in which the fairtrade firm enters the market in which a conventional supplier does not consider adding fairness content to its products, hence settles in $a_c=0$ and the “fair cost function” for this firm hence becomes $f(0) = \underline{s}$.

The fairtrade firm in turn needs to decide upon the amount of fairness content offered, being determined by the function $f(a) = \underline{s} + \beta(a_{ft}) = s_{ft}$. The respective best-response functions then turn into

$$p_c = [p_{ft} + a_{ft} t_{ft} + c + f(0)]/2$$

$$p_{ft} = [p_c + t_c + (1-a_{ft})t_{ft} + c + f(a_{ft})]/2.$$

The optimal prices (Nash prices) of the two firms are given by:

$$p_c^* = \frac{1}{3}[(1 + a_{ft})t_{ft} + t_c + f(a_{ft}) + 2f(0)] + c$$

$$p_{ft}^* = \frac{2}{3}[t_{ft} + t_c + f(a_{ft})] + \frac{1}{3}[f(0) - a_{ft}t_{ft}] + c.$$

Consequently, optimal profits become, given location:

$$\pi_c^* = [p_c^* - c - f(0)] \cdot [x^*] \quad \text{and} \quad \pi_{ft}^* = [p_{ft}^* - c - f(a_{ft})] \cdot [1 - x^*].$$

Given that $f(0) = s_{\min}$ we find that the optimal position for the fairtrade firm becomes

$$a_{ft}^* = \frac{2[t_{ft}^2 + t_{ft}(t_c + \beta) + \beta t_c]}{(t_{ft} + \beta)^2} > 0.$$

As long as $a_{ft} < 1$, the firm has an incentive to decrease the total amount of fairness given in order to raise its market share and its profits. Essentially, this depends on the relationship between the factors t_{ft} , t_c , β and the amount s_{\min} that is offered. These relationships are currently under investigation, as

well as how the total amount of fairness under the different circumstances can be calculated and be compared within the different scenarios. How these factors relate to each other and how this may influence fairness, can be further investigated via consumer studies, which are increasingly being carried out in the field of fairness consumption (Examples are: Auger et al. 2003; Basu & Hicks 2008; Creyer & Ross 1997; De Pelsmacker, Driesen & Rayp 2005; Diaz Pedregal & Ozcaglar-Toulouse 2011; Gielissen & Graafland 2008; Loureiro & Lotade 2005; Paharia, Vohs & Deshpandé 2013).

5. Conclusion and discussion

The mainstreaming of the Fairtrade movement may on the one hand increase fairness in the market, but on the other hand it may result in a decrease of fairness content due to increased competition in the ethical dimensions of products. We modeled the situation before mainstreaming in which two monopolies exist in one market separated by a border of consumer awareness. We then use this framework to see what happens in the market when fairtrade becomes ‘mainstream’ and the border blurs. This could imply that a conventional supplier is confronted with a Fairtrade entrant supplying ethical products, but also that a Fairtrade supplier is confronted with a conventional entrant supplying products with certain fairness content. We analyse both scenarios, calculating optimal locations and how these depend on consumer preferences and cost differences. This helps identify circumstances that would make it optimal for a firm (also for the fairtrade firm) to move to another location. The consequences on the amount of fairness delivered to Fairtrade producers is yet to be determined.

The model as developed in this paper suggests several extensions and/or improvements. First, one can wonder whether the situation is completely accurate, i.e. in reality the market may rather be characterized by monopolistic competition than a duopoly. In combination with other product features such as quality, firms maximize their profits. The model might be extended to a three-layer model in which firms tradeoff price, quality, and fairness content in order to give a better representation of reality. Second, the discrepancy that can arise between the information that consumers possess and the “real” information about the actual fairness content can give rise to another discussion – so far we

have considered only the case in which perfect information about the fairness features exists. The model could be extended to a situation in which consumers do not have full information. Third, the model could be extended by adding a different way of measuring costs t , since people in the extremes of the market might be more/less willing to give up certain utility in order to receive more/less fairness content (which might be proof of indeed minimal product differentiation). A different situation then arises for the entrant with respect to the optimal situation that has to be chosen. Fourth, we have taken into account only fairness transfers which are directly transferred to the small producers. We have not taken into account other (positive and negative) effects of fairtrade within this model, while this could be as well a factor to be taken into account when evaluating upon the effectiveness of the fairness transfers and the way in which actors are willing to move along the fairness space they are located on.

This paper may further contribute to the discussion on whether firms will start with product differentiation (D'Aspremont et al. 1979; Moorthy 1985) or will apply minimal product differentiation as Hotelling suggests. This will be applied to the Fairtrade case in calculating to what degree products will be ending up in the same ethical locations or whether they will differentiate in the future. In addition, the model offers a further think-through of what fairness constitutes and what fair trade and fairness exactly entail. It may contribute to a clarification of what is actually happening in the Fairtrade market and what factors contribute to these developments. Especially since Fairtrade is not present in a range of markets but might be in the future, it is necessary to think through these issues and to have additional knowledge on how these markets evolve.

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