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Published online: 25 Aug 2019.

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Market competition and ethical standards: the case of fair trade mainstreaming

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ABSTRACT
This paper analyzes whether ideology-driven firms doing business based on ethical principles such as those envisioned by fair trade can survive in the market when competition increases. By formally evaluating the development of fair trade over time, we show that such firms cannot continue to exist with full compliance with ethical standards about fairness. We conceptualize fairness as wealth transfers to small local producers in developing countries and apply a Hotelling-model of horizontal competition in fairness. Results show that increasing the scale and scope of fair trade products in the market implies that concessions on fairness are needed to survive intensified competition. Ideology-driven fair trade firms will survive only if they differentiate. In the end, paradoxically, wealth transfers by ideology-driven firms can be upheld only by focusing on other attributes than fairness to attract consumers. Only then can ideology-driven firms maintain ethical standards in a market environment, while alleviating pressure on total wealth transfers to local producers.

1. Introduction

The age-old question whether economic principles can go hand in hand with ethical principles has become ever more urgent now ethical standards are becoming increasingly important in modern Western markets. Whether it be the purchasing of chocolate for private consumption, the importing of wood for further processing, or the selling of clothes in large department stores, Western consumers and businesses are expected to base their decisions on ethical principles as well (UN 2017). The establishment and implementation

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of ethical standards in the market has typically been initiated by small, often ideologically inspired non-profit organizations focusing on issues such as the environment, poor working conditions in sweatshops, and the income of subsistence farmers in low-income countries. Recently, ethical standards have been strategically implemented in the businesses of larger (multinational) firms as well, increasing the impact such standards could have (Hockerts and Wüstenhagen 2010, Fransen 2012, Lutz 2012). For example, since Starbucks has been involved in fair trade standards, more coffee farmers could profit from the benefits of fair trade.

However, the impact of implementing ethical standards by businesses becomes questionable as soon as concessions have to be made regarding (full) compliance. Compliance with ethical standards is often costly and creates tension with other business motives, such as profit maximization (Raynolds 2009, Jaffee and Howard 2010). Whereas non-profit firms, ideologically, often fully comply with ethical standards to increase impact for their (marginalized) stakeholders or issue, for-profit firms may (have to) prioritize the increase of sales over ethical principles. For example, when the ideologically founded Ben & Jerry's was taken over by Unilever, a different way of doing business was implemented (Fast Company 2017). Furthermore, once for-profit firms also start complying with ethical standards, the mainly ideology-driven actors of the first hour may have to reconsider their set of ethical principles, because they risk losing customers. More products supplied according to ethical standards results in more competition on this product attribute, possibly lowering the total impact of these standards (Jaffee and Howard 2010, Fransen 2012). Finally, if competition results in less impact, this erodes the fairness and legitimacy of ethical standards in consumer markets, affecting the shelf life of ethical standards and the initiatives embodying those (Reinecke *et al*. 2012, Marston 2013, Doherty *et al*. 2015).

We analyze how the integration of ethical standards in conventional business strategies affects the compliance with ethical standards in product markets in the context of fair trade. Fair trade has successfully created ethical business standards, envisaging economic exchanges based on fairness principles (Fairtrade 2014). This makes fair trade a prime example of the phenomenon that in markets ethical principles and economic behavior can go hand in hand. One of the ethical standards of fair trade concerns transferring wealth to small local producers ('smallholders') in developing countries by means of a guaranteed higher (world) market price (Hayes 2006, McArdle and Thomas 2012, Fairtrade 2014). On top, smallholder cooperatives are paid price premiums to support development projects such as education and health care. These above-market price payments are facilitated by (mainly) Western consumers paying higher prices for comparable products (e.g. De Pelsmacker *et al*. 2005). Whereas originally fair trade products used to be sold exclusively by ideology-driven alternative trade organizations (ATOs), nowadays fair trade

products are being sold through conventional, profit-maximizing distribution channels as well, making it a mainstream phenomenon. Fair trade certification has played a major role in this respect (Littrell and Dickson 1999, Reed 2009, Doherty *et al*. 2013). This mainstreaming of fair trade could enhance payments to smallholders, but these payments could also be reduced as a result of increased competition between firms holding different conceptions of fairness (Raynolds 2009, Bezençon 2011). Fair trade's strictest (and more expensive) ethical standards may be lowered or may disappear altogether when the ideology-driven firms adhering to these standards are unable to compete with for-profit entrants (Low and Davenport 2006, Raynolds 2009, Doherty *et al*. 2013). This is problematic because ideology-driven firms, such as ATOs, are regarded as pivotal for conveying fair trade's message on fairness principles (e.g. Leclair 2002, Mohan 2009, Bezençon 2011). Furthermore, lower compliance with fair trade's ethical standards (i.e. 'dilution') could undermine fair trade's legitimacy (Jaffee and Howard 2010, 2016).

Our research question is whether ideology-driven firms can maintain the same level of fairness (in terms of compliance with ethical standards) when they are forced to compete with firms that apply a much less strict concept of fairness. In doing so, we will be able to shed light on various questions about the future of fair trade. Can ATOs, as ideology-driven firms, continue to survive in their current form and with their current products? Will fair trade products represent the same fairness in terms of compliance with ethical standards after competition has increased? Or are concessions regarding fairness necessary to surmount the increased competition in the market for fair trade products?

To analyze the consequences in the fair trade market of the confrontation between full compliance with ethical standards and profit creation, we apply a Hotelling model of competition (Hotelling 1929, D'Aspremont *et al*. 1979) in which firms compete on fairness. We define fairness as the amount of wealth transfers to small local producers in developing countries.[1] In the model, firms choose optimal levels of fairness taking into account consumer preferences, costs of compliance with fairness standards, and the fairness level of its competitor. Our model thus incorporates the importance of interactions between consumer preferences, firms' compliance costs, and competition, highlighting the dilemmas regarding compliance with fairness standards and profit creation over time.

The model's application relates firms' wealth transfers to particular market circumstances by considering four distinct historical phases of mainstreaming fair trade (see Figure 1). We motivate the four phases in detail in the next

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[1] Clearly, fairness in fair trade comprises much more than a quantitative 'wealth transfer of money'. In line with the (original) fair trade concept focusing on payments of above market prices, fair trade firms also support smallholders by offering technology and knowledge (typically through the smallholder cooperatives). Another important feature of fair trade consists of maintaining equal relationships. Wealth transfers should therefore be seen as the quality of the trade relationships.
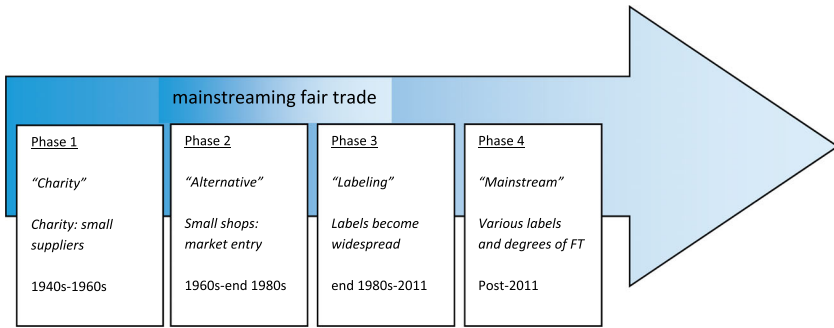
Figure 1. The different phases of the process of mainstreaming FT. Based on: Davies (2007), Doherty *et al*. (2013), Nicholls and Opal (2005), and Raynolds (2009).

section, noting here that these phases mark the transition from fair trade as a charity movement in the 1950s to the current phenomenon with for-profit and not-for-profit fair trade firms competing for market share. For each phase's competitive situation we determine fair trade firms' optimal location on the fairness spectrum, making inferences on the subsequent effect of competition on wealth transfers over time. Our historical account thus facilitates an analysis of the consequences of mainstreaming fair trade in a broader context, specifically the discussion on the survival of ATOs and compliance with fair trade standards in a market environment.

Our findings indicate that until the labeling phase the effect of mainstreaming on wealth transfers is positive, despite increased competition. In the mainstream phase, however, the effect on wealth transfers becomes less clear and starts depending on how fair trade firms react to the increased competition. Only if fair trade firms find ways to attract consumers by differentiating on other attributes than fairness, wealth transfers could increase. Paradoxically, to remain successful, fair trade firms should move away from promoting fair trade's ethical standards. These findings are consistent with findings from consumer behavior literature. For instance, Obermiller *et al*. (2009) found that when fair trade firms focus on products' taste, consumers will be more eager to choose the product. Specifically, 86% of their sample would then choose the fair trade brand compared with 34% when the fair trade brand focused on the product's ethical aspect.

Our paper contributes to the literature threefold. First, we add to the literature debating fair trade's fairness by studying an important aspect of competition which has been largely ignored in this literature: the effect of the (Western) battle for market shares. According to evolutionary economics, competition requires adequate responses to survive in changed market environments (Alchian 1950). In that vein, we analyze the survival of ideology-driven firms such as ATOs (Littrell and Dickson 1999, Leclair 2002, Ingenbleek and Reinders 2013) and the weakening of fair trade standards

during mainstreaming (Raynolds 2009, Jaffee and Howard 2010, 2016). A disappearance of ideology-driven firms will not only affect fair trade's fairness, it will also affect the compliance of profit-maximizing firms with fair trade standards (Raynolds 2009, Bezençon 2011). We show that competition may negatively affect fair trade standard compliance over time, though in the end innovation and efficiency could imply increased benefits to (more) fair trade producers nonetheless. Moreover, ideology-driven firms such as ATOs can survive only if they start to differentiate on other product features than product fairness (e.g. Obermiller *et al*. 2009). In doing so, we also contribute to general criticisms on the current imbalances between Western and non-Western countries in fair trade (Hira and Ferrie 2006, Bacon 2010, Bezençon 2011). Such imbalances are likely to be aggravated when total wealth transfers are under pressure.

Second, the fair trade literature has identified and focused on studying different conceptualizations of fair trade's fairness, obstructing a straightforward comparison over time (Bezençon 2011, Ingenbleek and Reinders 2013, Doherty *et al*. 2015). Introducing one metric for fairness – wealth transfers – in a formal, integrated framework resolves this problem. Our framework facilitates the consistent comparison of distinct, historically relevant phases of fair trade mainstreaming and allows for an explicit assessment of how competition changes compliance with fairness standards over time. By analyzing the effects of combining ethical principles with profit-maximizing behavior, our framework sheds new light on the rising tensions between rational economic behavior and application of ethical standards. As such, our analysis may help understand why so many different strategies have appeared in sustainability-oriented markets such as fair trade (e.g. cf. Overdevest 2010, Reinecke *et al*. 2012, Doherty *et al*. 2015).

Third, by considering the relationship between competition in Western fair trade markets and compliance with ethical standards, we highlight a mechanism through which smallholders could be affected other than through fair trade efficiency (Hayes 2006, Wilson 2010, Van Rijsbergen *et al*. 2016) or the local role of fair trade organizations (Samuel *et al*. 2014). Our analysis shows that the effects of competition are highly relevant for 'standards markets' dynamics (Mohan 2009, Raynolds 2009, Reinecke *et al*. 2012). As such, our framework has also merit for understanding developments in other markets where ethical standards and competition interact (e.g. Hockerts and Wüstenhagen 2010, Overdevest 2010). Furthermore, our analysis illustrates the process of 'commoditization', which shows that competition enforces firms to search for differentiation strategies (Reimann *et al*. 2010, Marston 2013), focusing on taste and/or quality rather than ethical principles (Obermiller *et al*. 2009, Bezençon and Blili 2011).

The structure of the paper is as follows. In Section 2, we provide the historical background of fair trade for our model. Section 3 explains our modeling

framework for analyzing competition and fairness. Section 4 analyzes and compares wealth transfers across the different phases of mainstreaming fair trade. Section 5 discusses our results, highlighting the changed role of firms and consumers, and includes issues for further research.

2. Historical background of fair trade mainstreaming

In this section, we delineate the history of fair trade in view of different perspectives on and manifestations of fairness. We first explain that two rivaling perspectives on fairness have emerged and characterize the key debates regarding fair trade mainstreaming. Then, we distinguish four historical phases describing how fair trade mainstreaming has occurred and how the operationalization of fairness has changed over time. From this background, we conclude that the different operationalizations of fairness can be stylized into one metric: wealth transfers, which is at the core of the model in Section 3.

Fair trade is a form of ethical trade based on two competing perspectives on fairness (Maseland and De Vaal 2002, Walton 2010). The first perspective is held by ideology-driven organizations such as Alternative Trade Organizations (ATOs), i.e. suppliers fully committed to ethical principles. ATOs typically aim at maintaining direct trade relationships with local producers and at offering fair trade products only (Raynolds 2009). The second perspective is held by a wide array of market actors that use fair trade-certification programs in their production processes and/or product assortment (Moore 2004, Doherty *et al*. 2013, 2015, Marston 2013). This group of suppliers has a profit-driven business strategy, starting their involvement with fair trade when fair trade labels were introduced. For the latter, fair trade is a product feature and not a business aim (Raynolds 2009).

These two different perspectives feed ongoing discussions about, among other things, fair trade's efficacy and fairness in providing wealth transfers to fair trade's main beneficiaries: the local producers (Raynolds 2009, Wilson 2010, McArdle and Thomas 2012, Doherty *et al*. 2013, Bassett 2014, Jaffee 2014, Hilson *et al*. 2016). Key issues in the debate regard provision of a fair share of product prices and whether Western organizations rightfully address smallholder needs, criticizing fair trade as a system (Raynolds 2009, Jaffee and Howard 2010, Bezençon 2011, Doherty *et al*. 2015). Other issues relate to the mainstreaming of fair trade, drawing particular attention to the question what fairness is and for whom, and how fairness can be upheld when ideology-driven fair trade firms must compete with for-profit firms (Maseland and De Vaal 2002, Walton 2010, Jaffee and Howard 2016).

Importantly, competition between ideology-driven and for-profit firms may imply the disappearance of ATOs. For example, in The Netherlands, the number of ATOs ('World Shops') has decreased from 410 in 2001 to 344 in 2015 (Hebels

2015), whereas sales from fair trade labels have increased, with most sales taking place in for-profit environments (FTI 2011, 2018). The disappearance of this type of shops may imply that the original notion of fairness disappears (e.g. Hira and Ferrie 2006, Mohan 2009, Bezençon 2011). Indeed, ATOs are important for conveying fair trade's message and identity (Mohan 2009) and, by setting the strictest standards, are generally considered as a benchmark for other market parties (e.g. Ingenbleek and Reinders 2013). Additionally, the full-compliance of ATOs with their own strict principles may be under pressure when competition arises with firms less willing to fully comply with fair trade standards (Raynolds 2009, Jaffee and Howard 2010, 2016). In the battle for market shares, ATOs may be required to lower their standards, resulting in overall lower product fairness.

Next to ATO survival, an important issue in the discussion on mainstreaming fair trade concerns ethical standard compliance, which affects the fairness of fair trade-certified products offered on Western markets. Specifically, four main debates are going on. First, fair trade-certification governance schemes are accused of not allowing social movement participants and smallholders to actively participate (Jaffee and Howard 2016). This is an important aspect as fair trade principles are ideally co-constructed with the local producers to ensure efficacy (Bezençon 2011, McArdle and Thomas 2012). Second, the involvement of larger, multinational firms may imply that standards are lowered (Jaffee 2010). For instance, in the US the fair trade entry requirement of a minimum purchase of 5% fair trade of total production was violated by Starbucks buying < 1% (McMurthy 2009, Jaffee 2010). Third, labeling multi-ingredient products has led to a different version of fair trade labels on product packages, making fairness less visible and confusing for consumers (Lake Research Patterns 2013 cited in Jaffee and Howard 2016). Finally, as multinationals often source from plantations, a tension has emerged as larger plantations are considered competitors for the original small-scale producers that already face difficulties selling all harvest as fair trade-certified (see also Besky 2015, FTI 2018).

We delineate the history of fair trade in view of the different perspectives on fairness and the debates on fair trade mainstreaming. Particularly, we briefly elaborate on the development of fair trade over time, distinguishing four phases: charity, alternative, labeling, and mainstream. These are depicted in Figure 1.[2] Our brief account of the history of fair trade highlights the confrontation of the two different perspectives on fairness.

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[2] These phases are based on our reading of the history of fair trade, see, for instance, Nicholls and Opal (2005), Low and Davenport (2006), and Van Dam (2016). The exact timing of the four consecutive mainstreaming phases differs across products and countries (Kocken 2003, Wheeler 2012). The years pointed out are indicative for front running fair trade product markets, such as coffee, tea and chocolate in the Netherlands.

- *Mainstreaming begins: the charity phase*

The 'charity phase' starts after WWII when consumer groups and (mostly religious) organizations started to trade directly with small producer groups, supplying products to Western consumer markets on a small scale (Kocken 2003). For example, in 1946 the American organizations 'Self Help Crafts' started trading with poor Southern producer groups, and in Great Britain Oxfam started to sell handicraft from Chinese refugees in their charity shops (Kocken 2003). Fair trade's concept of fairness[3] was based on a moral duty to help others, conveyed through product packages and sales environment (Littrell and Dickson 1999, Nicholls and Opal 2005, Raynolds 2009, Reed 2009). As such, markets for ethically traded products existed separately from conventional product markets, i.e. two different segments existed. Conventional market participants did not care about, or were not aware of small local producers' needs, in contrast to consumers and suppliers in small, but relatively stable fair trade market segments. In these micro-segments, the involved fair trade organizations ensured small-scale and direct relationships between local producers and ideologically motivated consumers, which ensured that fairness was front and center.

- *In and against the market: the alternative phase*

In the 'alternative phase', starting in the 1960s, the exclusive focus on fair trade micro-segments starts to fade away. Fair trade's fairness was extended with the idea of establishing an alternative international trade system, which was clearly visible in fair trade sales environments (Kocken 2003, Reed 2009). The main ATOs, World Shops, were established and became places for political and economic discussions (Van Dam 2016). For example, Dutch World Shops sold cane sugar with the message 'by buying cane sugar you give people in poor countries a place in the sun of prosperity' (Kocken 2003, p. 1). With World Shops in high streets, fair trade became available in outlets similar to conventional channels, resulting in higher awareness among the larger public (Nicholls and Opal 2005, Raynolds 2009). However, conventional suppliers remained disinterested in fair trade and competition hardly increased. Both direct trade and the impact on the international political level defined fair trade's fairness. For instance, the campaign 'Trade not Aid' during the UNCTAD conference in 1968 was seen as a big step (Kocken 2003).

- *Trying to make a distinction: the labeling phase*

Both the goal of and degree of competition started to change when ethical – 'fair trade' – certification programs started to largely define the fair trade

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[3] In fact, 'fair trade' as we know today was called 'alternative trade', or 'charity trade'. We regard these markets however as 'fair trade' markets.

movement in the 'labeling phase'. Since the introduction of a fair trade label in 1988, fair trade-certified products became increasingly available in conventional distribution channels. For example, whereas the conventional Dutch coffee sector was initially rather hostile towards fair trade, nowadays most coffee roasters use fair trade-certification programs in their business strategies (Mohan 2009, Reinecke *et al.* 2012). Higher sales and increased awareness of conventional consumers and suppliers were the result (Kocken 2003, Low and Davenport 2006, Davies 2007). In this phase, conventional suppliers started to compete with ATOs' products through labels. Fair trade labels introduced a different practice of ethical trade and implied a different operationalization of fairness. ATOs feared that the original fairness of ethical trade might be undermined by a focus on market share and increased (price) competition as well as less ethical consumer and supplier awareness (Raynolds 2009, Balineau and Dufeu 2010). Fair trade labels were heavily criticized by ATOs for being 'in', and not 'against' the market, as they envisioned (Jaffee 2014).

- *In and with the market: the mainstream phase*

Fair trade's fairness became even obfuscated in the mainstream phase. Consumers were confronted with several fair trade-certified labels in conventional sales environments. Some conventional firms have become similar to alternative, 100% ideology-driven firms, whereas others decided to (also) introduce an own fair trade label (e.g. Mohan 2009, Ingenbleek and Reinders 2013). For example, Starbucks developed its own coffee certification program (CAFE), while it also buys coffee from independent fair trade-certifiers. Such forms of standard compliance were heavily debated and resulted, among other things, in a schism in the US fair trade movement in 2011 (McMurthry 2009, Jaffee and Howard 2010, 2016). In the mainstream phase, fair trade has become fully integrated into conventional product markets and the initial segmentation between the fair trade and conventional market has disappeared. In wake of the increasing attention for fairness principles in product markets (UN 2017), competition may put pressure on the impact and legitimization of fair trade's fairness. Compromises to fair trade's fairness in terms of compliance with its ethical standards may be the result (Jaffee 2010, Jaffee and Howard 2010, 2016).

To conclude, both the extant debates and the historical phases show that the fairness of fair trade is multifaceted and complex. Fair trade's fairness regards market operationalizations directly related to its ideology. As these operationalizations change over time, irrevocably also the concept of fairness changes. As such, fairness is to be understood and studied in its historical context: fairness in the charity phase differs from fairness in the mainstream phase. We assert that competition changes the context and type of wealth transfers (fairness), resulting in fairness obtaining another meaning. To understand how

market competition changes the different aspects of fairness, we stylize fairness into a single metric: wealth transfers. Our metric captures the different aspects shaping the fairness concept, allowing for a more general conception and understanding of how the fairness of fair trade evolves over time under different market conditions. As such, our aim is to transcend the aforementioned ideological differences (e.g. Bezençon 2011) and focus on one general notion of fairness for fair trade's producers, which is useful especially given the different phases fair trade has gone through over time and the different perspectives that have characterized fair trade.

3. A model on competition in fairness

Having elaborated upon the historical context of fair trade competition, in this section, we develop an economic model showing the impact of including compliance with ethical standards (wealth transfers to smallholders) for each of the four phases of mainstreaming fair trade. The modeling framework we apply to model competition in fairness is the two-firm model of Hotelling (1929), where we assume that two profit-maximizing firms operate on a horizontal fairness continuum of unit-length, choosing a fairness position $a_i \in [0, 1]$. One firm offers conventional products (indicated by ct), and the other firm offers fair trade (FT) products (indicated by ft). Wealth transfers to smallholders are part of the firm's profits, with the firm's location on the fairness continuum indicating how much of the profits are transferred. We assume a linear relation between the firm's location a and wealth transfers to producers. Hence, $a_i = 0$ implies zero wealth transfers, $a_i = 1$ means that the firm will transfer all of its profits, and $a_i = 0.4$ implies that 40% of the firm's profits will be transferred. Market shares are denoted by x_i and prices by p_i. Both firms face exogenously determined variable and fixed costs, denoted by c and F respectively, resulting in profit functions of

$$\pi_i = (p_i - c)x_i - F \quad (i = ct, ft) \tag{1}$$

On the demand side, we assume consumers have preferences regarding the amount of wealth transfers (Konow 2003, De Pelsmacker et al. 2005). Consumers are uniformly distributed along the fairness continuum, where their location $x \in [0, 1]$ defines a particular consumer's preferred fairness location. Consumers have inelastic unit demands, and the total market size is normalized to one. Analogous to the Hotelling model consumers face a psychological distance cost when buying a product that does not match their fairness preference. Whenever a consumer buys a product containing less wealth transfers than preferred, psychological unit distance costs are $t_{ct} > 0$, whereas buying a product containing more wealth transfers than preferred implies that the consumer faces psychological unit distance costs $t_{ft} > 0.$[4] In our analysis we

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[4] These subscripts coincide with the subscripts distinguishing the conventional firm from the FT firm. This is not problematic, as long as the conventional firm positions itself to the left of the FT firm.

focus on the case of symmetric distance costs $t_{ct} = t_{ft} \equiv t > 0$, verifying the impact of asymmetric distance costs $t_{ct} \neq t_{ft}$ whenever useful.

Consumers buy the product as long as the price p_i plus psychological distance cost t_i does not exceed their willingness to pay V. Consumer utility U of buying a good

$$U(x) = V - p_i - t_i|(x - a_i)| \quad (i = ct, ft) \tag{2}$$

must be nonnegative for a consumer to buy the good. The indifferent consumer between two products in terms of utility is denoted by x^*. We assume that consumers' willingness to pay V is always sufficiently high to ensure that the whole market is covered.

The consumer utility function and the particular competitive situation in the market determine firms' prices, market shares, and the amount of wealth transfers. In the remainder of this section we consider these outcomes for each of the historical phases of FT mainstreaming. We assume perfect information: consumers have correct perceptions regarding the firms' wealth transfers and their own psychological distance costs (Becchetti *et al.* 2014); firms have correct perceptions regarding consumers' willingness to pay V. We denote total wealth transfers by S and the conventional and FT firm's wealth transfers by S_{ct} and S_{ft} respectively. To minimize mathematical notation all derivations have been relegated to the Appendix. An overview of all results of this section is given in Table 1.

3.1. The charity phase

In the charity phase, the two firms are located at the extremes of the fairness continuum. The conventional firm is located on the left-hand side extreme of the market ($a_{ct} = 0$), the FT firm is located on the right-hand side extreme ($a_{ft} = 1$). Furthermore, the market is segmented in the charity phase: both firms' markets are strictly separated by a border of (un)awareness and/or (dis)interest. Using x^* to denote this border, the conventional market segment is positioned at the left of x^*, covering consumers and firms that are not interested in the FT concept. The FT market segment is positioned at the right of x^*, where consumers and firms buy and sell FT products out of ideological reasons. This also established market shares: x^* is the conventional firm's market share and $1 - x^*$ is the FT firm's market share, with the latter being small in the charity phase ($x^* > 1 - x^*$). In the charity phase, these market shares are exogenously given, i.e. not determined by the indifferent consumer. This implies that both firms can behave as a monopoly in their respective market segments. We assume, however, that both firms set their market prices such that their complete market segment is covered.

Figure 2 illustrates the market situation in the charity phase. In the conventional market segment, both the firm and consumers are not interested

Table 1. Characterization and results of mainstreaming fairtrade.

	Symmetric t $(t_{ct} = t_{ft} = t)$	Asymmetric t $(t_{ct} \neq t_{ft})$

Charity Phase (1950 – end 1960s)

A segmented market exists, separated by a border of (un)awareness and (dis)interest in FT. One market segment is served by a conventional firm, and a charity-driven segment is served by an FT firm. Specific model features: two separated market segments with two firms acting as monopolies located at the opposite extremes of the fairness continuum.

Market shares (exogenous)	$(ct) : x^*$ $(ft) : 1 - x^*$	$(ct) : x^*$ $(ft) : 1 - x^*$
Prices	$p_{ct}^* = V$ $p_{ft}^* = V - (1 - x^*)t$	$p_{ct}^* = V$ $p_{ft}^* = V - (1 - x^*)t_{ft}$
Profits	$\pi_{ct}^* = (V - c)x^* - F$	$\pi_{ct}^* = (V - c)x^* - F$ $\pi_{ft}^* = (V - (1 - x^*)t_{ft} - c)$ $(1 - x^*) - F$
Wealth transfers	$S^{char} = \pi_{ft}^* = (V - (1 - x^*)$ $t - c)(1 - x^*) - F$	$S^{char} = \pi_{ft}^* = (V - (1 - x^*)$ $t_{ft} - c)(1 - x^*) - F$

Alternative Phase (end 1960s – 1988):

The border of unawareness disappears and the market becomes one, as World shops appear in high streets. The FT firm is still ideologically driven as it aims at establishing an alternative trade system. Specific model features: two duopolists with the location of both firms fixed in their original positions.

Market shares	$x^* = 1 - x^* = 1/2$	$x^* = \frac{1}{3}\frac{(t_{ct} + 2t_{ft})}{(t_{ct} + t_{ft})}$ $1 - x^* = \frac{1}{3}\frac{(2t_{ct} + t_{ft})}{(t_{ct} + t_{ft})}$
Prices	$p_{ct}^* = p_{ft}^* = t + c$	$p_{ct}^* = \frac{1}{3}(t_{ct} + 2t_{ft}) + c$ $p_{ft}^* = \frac{1}{3}(2t_{ct} + t_{ft}) + c$
Profits	$\pi_{ct}^* = \pi_{ft}^* = \frac{t}{2} - F$	$\pi_{ct}^* = \frac{1}{9}\frac{(t_{ct} + 2t_{ft})^2}{(t_{ct} + t_{ft})} - F$ $\pi_{ft}^* = \frac{1}{9}\frac{(2t_{ct} + t_{ft})^2}{(t_{ct} + t_{ft})} - F$
Wealth transfers	$S^{alter} = \pi_{ft}^* = \frac{t}{2} - F$	$S^{alter} = \pi_{ft}^* = \frac{1}{9}\frac{(2t_{ct} + t_{ft})^2}{(t_{ct} + t_{ft})} - F$

Labeling phase (1988–2011)

Using FT labels becomes the new strategy of FT firms, in order to reach a larger market potential. This phase results in the first conventional firm(s) (considering) supplying FT products. Specific model features: two duopolists, with the conventional firm moving on the fairness continuum to the position of the FT firm.

|		
Market shares	$x^* = 1 - x^* = 1/2$	$x^* = 1 - x^* = 1/2$
Prices	$p_{ct}^* = p_{ft}^* = t + c$	$p_{ct}^* = p_{ft}^* = \frac{1}{3}(2t_{ct} + t_{ft}) + c$
Profits	$\pi_{ct}^* = \pi_{ft}^* = \frac{1}{2}t - F$	$\pi_{ct}^* = \pi_{ft}^* = 0$
Wealth transfers	$S^{label} = \pi_{ct}^* + \pi_{ft}^* = t - 2F$	$S^{label} = \pi_{ct}^* + \pi_{ft}^*$ $= \frac{1}{3}(2t_{ct} + t_{ft}) - 2F$

Table 1. Continued.

Mainstream phase (2011 – now)

For strategic reasons also the FT firm decides to lower the amount of wealth transfers to (potentially) increase market share. Eventually, both firms start supplying FT products from a location in the middle of the fairness continuum, resulting in the start of commoditization. Specific model features: two duopolists, both willing to move along the fairness continuum. Degree of product heterogeneity becomes important.*

Market share	$x^* = 1 - x^* = 1/2$	$x^* = 1 - x^* = 1/2$
Prices		
-homogeneous	$p_{ct}^* = p_{ft}^* = c$	$p_{ct}^* = p_{ft}^* = c$
-heterogeneous	$p_{ct}^* = p_{ft}^* = t/2 + c$	$p_{ct}^* = t_{ft}/2 + c \quad p_{ft}^* = t_{ct}/2 + c$
Profits		
-homogeneous	$\pi_{ct}^* = \pi_{ft}^* = 0$	$\pi_{ct}^* = \pi_{ft}^* = 0$
-heterogeneous	$\pi_{ct}^* = \pi_{ft}^* = \dfrac{t}{4} - F$	$\pi_{ct}^* = \dfrac{t_{ft}}{4} - F \quad \pi_{ft}^* = \dfrac{t_{ct}}{4} - F$
Wealth transfers		
-homogeneous	$S^{main} = \pi_{ct}^* + \pi_{ft}^* = 0$	$S^{main} = \pi_{ct}^* + \pi_{ft}^* = 0$
-heterogeneous	$S^{main} = \pi_{ct}^* + \pi_{ft}^* = t/4 - F$	$S^{main} = \pi_{ct}^* + \pi_{ft}^* = (t_{ct} + t_{ft})/8 - F$

*For reasons of comparison with the homogeneous product case, we assume that the firms locate halfway the fairness continuum in heterogeneous product markets. This happens if firms differentiate to the same degree, implying equal t_i for both products.
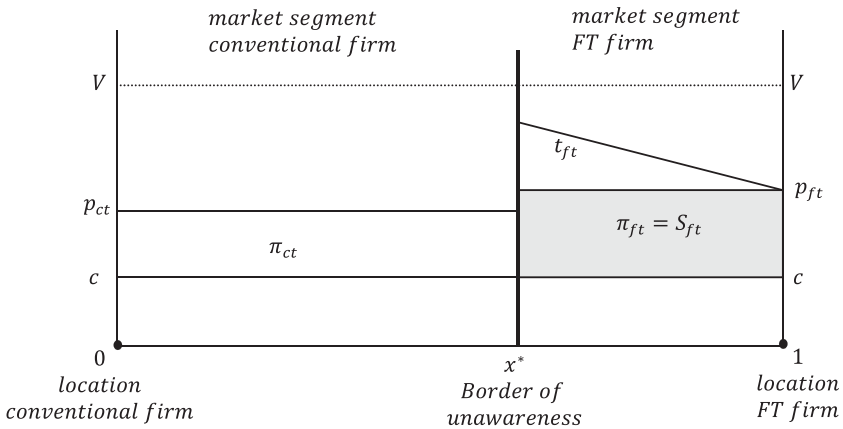
Figure 2. Market situation in the charity phase.

in, or unaware of, FT products' existence. Consequently, consumers in this market segment do not face costs in buying products that do not contain wealth transfers ($t_{ct} = 0$). Accordingly, the highest price the conventional firm can ask is V,[5] yielding profits of $(V - c)x^* - F$. The conventional firm

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[5] As conventional consumers are not interested in FT, a move of the conventional firm to the right will not be profitable. In such case, part of the profits has to be transferred. Optimally, the conventional firm stays in location $a = 0$, in contrast to a standard Hotelling setting (with positive and symmetric t) in which

generates no wealth transfers. By contrast, the FT firm locates in $a_{ft} = 1$, ideologically aiming at transferring all profits to smallholders: $S_{ft} = \pi_{ft}^*$. FT consumers are not indifferent regarding wealth transfers though. With $a_{ft} = 1$, FT consumers buy a product containing more wealth transfers than preferred, inducing psychological distance costs of $t_{ft} > 0$. Assuming V to be the same as for conventional consumers, the maximum price the FT firm can ask to cover the entire market is $p_{ft}^* = V - (1 - x^*)t_{ft}$ and total wealth transfers are $(V - (1 - x^*)t_{ft} - c)(1 - x^*) - F$.
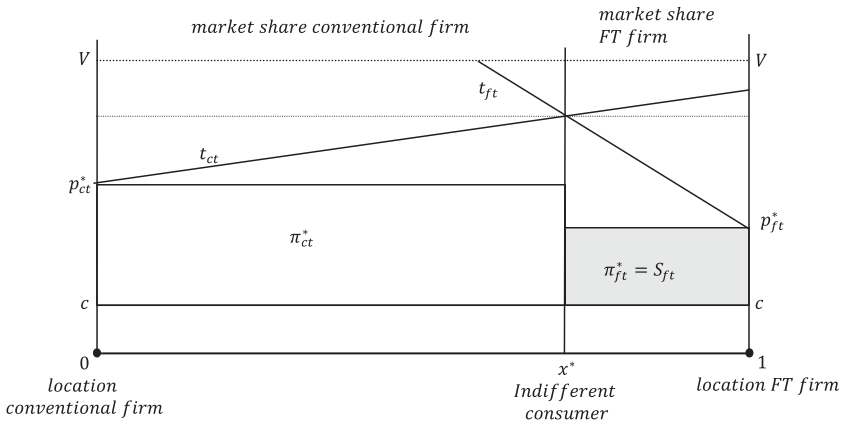
3.2. The alternative phase

In the alternative phase, the border of unawareness and disinterest between both market segments disappeared, resulting in one integrated market and a duopolistic market situation. Yet, disinterest at the conventional firm's side and ideological reasons at the FT firm's side prevented both firms from making changes in the amount of wealth transfers they wanted to transfer (Nicholls and Opal 2005). Hence, also in the alternative phase, the conventional firm operates in $a_{ct} = 0$, transferring zero wealth transfers, whereas the FT firm remains operating in $a_{ft} = 1$, transferring the maximum amount of wealth transfers.

On the consumer side, however, things have changed. All consumers are aware of their fairness preferences, also those in the conventional market segment ($t_{ct} > 0$). Consequently, each firm's market share is now endogenously determined by the consumers' utility function. Consumers buy the conventional (FT) product whenever $U_{ct}(x) > (<)U_{ft}(x)$ and market shares are determined by the consumer that is indifferent between both products: $U_{ct}(x^*) = U_{ft}(x^*)$. As before, the market is fully covered, and prices fall sufficiently short of V to ensure that also the indifferent consumer has positive utility.

Market equilibrium entails market shares of: $x^* = 1 - x^* = 1/2$ and prices of $p_{ct}^* = p_{ft}^* = t + c$ (for $t_{ct} = t_{ft} \equiv t$) The conventional firm's profits are $t/2 - F$, of which it transfers zero to smallholders. The FT firm transfers its entire profit $S_{ft} = t/2 - F$. Note that market shares diverge when $t_{ct} \neq t_{ft}$. For instance, as illustrated in Figure 3 below, for $t_{ct} < t_{ft}$ the alternative phase results in a lower market share for the FT firm than for the conventional firm. With t_{ct} (relatively) low compared to t_{ft}, consumers find it less costly to switch to a product containing less wealth transfers than preferred, than to a product containing more wealth transfers than preferred. This decreases the FT firm's market share, while the FT firm also charges a relatively low price compared to the conventional firm.

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the conventional profit-maximizing monopolist would end up in the middle of its market segment to serve the whole market. The optimal location for the firm would then be $a_{ct} = x^*/2$, and prices charged depend on the consumers' maximum willingness to pay and their psychological distance costs, hence $p_{ct} = V - tx^*/2$.

Figure 3. Illustration of the market situation in the alternative phase (for $t_{ft} > t_{ct}$).

Total wealth transfers are positively related to t, a result that also appears in other phases. This outcome arises because we have assumed that consumers' willingness to pay V is always sufficiently high to ensure that the whole market is covered. A high t means that consumers face high costs when buying a product containing a different amount of wealth transfers than preferred. However, with only two firms in the market there is not much to choose for consumers, giving firms price-setting power over consumers in their respective market segments. As long as the indifferent consumer between both products experiences nonnegative utility, which will be the case if V is high enough, firms are thus able to charge higher prices when t goes up. With symmetric distance costs, this will leave the division of the market unchanged, resulting in a larger profit margin for both firms and a higher amount of wealth transfers. With asymmetric distance cost, changes in t_i will also affect profits and wealth transfers through an impact on markets shares, see Table 1.

A low t_{ct} and t_{ft} also mean that consumers do not care that much about the distance costs when being unable to buy products with their most preferred fairness level. Both products are better substitutes, reducing the price-setting power of firms, and result in low prices and low wealth transfers. A similar effect occurs if we assume that consumers' willingness to pay V is insufficient to cover the entire market. Parts of the market will not be served, resulting in a reduction of profits and wealth transfers as shown in the Appendix.

3.3. The labeling phase

In the labeling phase, the conventional firm is no longer fixed in its (initial) location of $a_{ct} = 0$. The conventional firm could obtain higher profits moving upwards on the fairness continuum: its market share would increase by competing in fairness with the FT firm in an integrated FT market. Clearly, this

also implies that the conventional firm must increase the amount of wealth transfers from zero to a positive amount, due to the assumed linear relationship between a_i and the share of profits going to wealth transfers. The FT firm remains in its original location of $a_{ft} = 1$.[6]

Equilibrium entails market shares and prices that depend on the conventional firm's position on the fairness spectrum: $x^* = 1/2 + a_{ct}/6$ and $1 - x^* = 1/2 - a_{ct}/6$ and $p_{ct}^* = (1 + a_{ct}/3)t + c$ and $p_{ft}^* = (1 - a_{ct}/3)t + c$. The closer the conventional firm locates to the FT firm's position ($a_{ft} = 1$), the higher the price to be charged. By contrast, the FT firm's market share and price are under pressure by the increased competition.

Based on the conventional firm's profit functions, it would be profitable for the conventional firm to relocate on the fairness continuum. In fact, with both the conventional firm's price and market share positively related to its location, the conventional firm will find it optimal to relocate towards complete fairness: $a_{ct}^* = 1$. Hence, two FT products will be supplied with similar fairness content: $a_{ct}^* = a_{ft}^* = 1$. For symmetric distance costs, market shares become $x^* = 2/3$ and $1 - x^* = 1/3$ and prices are $p_{ct}^* = 4/3t + c$ and $p_{ft}^* = 2/3t + c$.

This is not the final outcome of the labeling phase, however. As consumers are price sensitive (i.e. maximizing their utility), locating at the FT firm's location implies that the conventional firm will lose consumers unless it aligns its price to that of the FT firm. Assuming that the conventional product's price equals the price the FT firm established in the alternative phase – reflecting fairness, the FT firm's price is part of its strategy and unlikely to change (Jaffee and Howard 2016) – both firms will end up serving half of the market.[7] Nash market shares are $x^* = 1 - x^* = 1/2$ and prices are $p_{ct}^* = p_{ft}^* = t + c$. Total wealth transfers are $t - 2F$.

3.4. The mainstream phase

In the duopolistic market situation of our model we assume that the move of the conventional firm towards the same location induces the FT firm to lower its price. The FT firm also considers to make concessions regarding its ideological stance, realizing that the larger public does not want to go as fa(i)r as the ideologist consumers in the charity phase. This way, the FT firm could increase its profits to increase the total amount of wealth transfers for the smallholders. Observing this potential move of the FT firm, the conventional firm reconsiders its location choice. Thus, now both firms are willing to move

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[6] In fact, ideology prevented (part of the) FT firms to move until other firms started to move in the market (Nicholls and Opal 2005, Reed 2009).

[7] The conventional firm could consider to lower its price even below that of the FT firm. This is unrealistic as it already transfers its entire profits to local smallholders and thus has no real interest in gaining more market share. Furthermore, the conventional firm runs a risk of a price war resulting in zero profits when it cuts its price further. Finally, with the FT becoming more important, the conventional firm could expect that consumers are willing to pay more for ethically produced products.

along the fairness continuum, intensifying competition in wealth transfers. Within our model both firms are able to move, choosing prices and locations simultaneously.

In a situation in which both prices and locations are simultaneously chosen, no final conclusion can be drawn on firms' locations unless other assumptions are made (D'Aspremont *et al*. 1979, Gabszewicz and Thisse 1986, Lipczynski *et al*. 2012). Considering firms' tendency to move to each other's location in the labeling phase, this could result in a return to the original Hotelling outcome in which firms optimally locate halfway the fairness spectrum (as will be the case when the psychological distance costs are symmetric). But irrespective of the exact location both firms share, each firm will have a market share of half. What happens next depends on the features of the product market concerned, making it useful to differentiate between homogeneous and heterogeneous products.

Consider first a market for homogeneous products, where consumers are no longer able to distinguish FT products on fairness. Absent any other features differentiating both products, Bertrand competition occurs and prices decrease until profits are zero (Davenport 2005, Becchetti *et al*. 2014). Consumer welfare goes up at the expense of smallholders, who do not receive wealth transfers anymore. This outcome is in line with what has been referred to as 'commoditization', denoting a process by which products (and services) are becoming more homogeneous for both firms and consumers (Reimann *et al*. 2010). Price competition prevails, and no profits can be reaped: FT products become commodity-like products (Davenport 2005). These issues are beyond the scope of this paper though.

An additional effect of intensified competition is that cost considerations become more important for firms (Hockerts and Wüstenhagen 2010). Essentially, firms have two options to become more efficient. First, marginal costs of operations c could be reduced. If only one of the firms in the commoditized market succeeds in doing so, this will result in a monopoly situation. The effect on wealth transfers is unclear as such a monopolist will have to choose between possible reputation damage (by only offering conventional products) and consumers' psychological distance costs (offer products containing wealth transfers). If more firms succeed in reducing their costs c, Bertrand competition again leads to (close to) marginal cost pricing. Wealth transfers remain zero and the benefits of lower costs are passed on to consumers, not to smallholders. Second, firms could start reducing the amount of wealth transfers per se. With consumers unable to see fairness differences firms have no incentive to hold on to their original location on the fairness continuum. As a result, firms could start moving to a location implying fewer wealth transfers (e.g. Jaffee and Howard 2010, 2016, Doherty *et al*. 2013).

In heterogeneous product markets products differ on other aspects than fairness. Consumers' psychological distance costs could continue to be

relevant in such a market. However, the interpretation of t_{ct} and t_{ft} would become slightly different, referring to the psychological distance consumers face with regard to the product itself rather than to fairness. As such, $t_{ct} > t_{ft}$ implies that consumers will be more attracted to the FT product for other reasons than fairness, allowing FT firms to charge higher prices (and vice versa if $t_{ct} < t_{ft}$). This makes sense: to make profits when differentiation of FT products on fairness is no longer possible, firms have to seek other ways to attract consumers and/or influence the consumers' psychological distance costs (e.g. Obermiller *et al.* 2009, Reimann *et al.* 2010). Firms may add extra product features[8] or provide extra information, securing differentiation and choice for consumers.

Also in heterogeneous product markets competition serves to make cost considerations more important. Higher costs and more pressure on wealth transfers may result from firms' desire to differentiate from their competitors (Hockerts and Wüstenhagen 2010). However, the outcome may be less gloomy in heterogeneous markets, particularly because the search for differentiation also implies a shift of costs towards R&D to find innovative ways of attracting consumers and reaching smallholders. If this happens, both consumers and smallholders would benefit. Consumers are provided with more FT product varieties, as well as possibly lower prices and psychological distance costs. Smallholders do benefit by more effective wealth transfers.

4. The effect of mainstreaming on wealth transfers

We now compare how wealth transfers change over the course of mainstreaming, analyzing changes in the total amount of wealth transfers, wealth transfers per firm, and wealth transfers per product sold. The total amount of wealth transfers per phase is denoted by S^j in which j represents either of the four phases charity, alternative, labeling, and mainstream. S_i^j denotes wealth transfers per firm in each phase, and $\bar{s}_i^j$ the amount of wealth transfer per FT product sold, calculated as S_i^j/x_i ($i = ct, ft; j =$ phase). Table 2 gives an overview of our results. As before, we will focus on the case of symmetric psychological distance costs $t_{ct} = t_{ft} \equiv t$.

4.1. Comparing the charity phase with the alternative phase

Comparing wealth transfers between the charity and alternative phase is problematic because it implies a transition from a monopoly in the charity phase to a duopoly in the alternative phase. Prices and market shares become subject to consumers' choice between the two products, making their stance towards

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[8] For example, in the Dutch chocolate market firms have deepened their product assortment by adding special flavours to their brand to further distinguish themselves from their competitors (for instance, the Dutch Tony's Chocolonely and Côte D'Or).

Table 2. Comparison of wealth transfers between different phases of mainstreaming fairtrade.

Phases	Differences for symmetric t	Differences for asymmetric t
Charity – Alternative*	*n/a*	*n/a*
Alternative – Labeling		
Total	$S^{alter} \gtreqless S^{label} \Leftrightarrow \frac{t}{2} - F \gtreqless 0$	$S^{alter} \gtreqless S^{label} \Leftrightarrow \frac{1}{3}(2t_{ct} + t_{ft})$
		$\left(1 - \frac{1}{3}\frac{2t_{ct} + t_{ft}}{t_{ct} + t_{ft}}\right) - F \gtreqless 0$
Firm	$S_{ct}^{alter} \gtreqless S_{ct}^{label} \Leftrightarrow \frac{t}{2} - F \gtreqless 0$	$S_{ct}^{alter} \gtreqless S_{ct}^{label} \Leftrightarrow \frac{1}{6}(2t_{ct} + t_{ft}) - F \gtreqless 0$
	$S_{ft}^{alter} = S_{ft}^{label}$	$S_{ft}^{alter} \gtreqless S_{ft}^{label} \Leftrightarrow t_{ct} \gtreqless t_{ft}$
Per product	$\bar{s}_{ct}^{alter} \gtreqless \bar{s}_{ct}^{label} \Leftrightarrow t \gtreqless 2F$	$\bar{s}_{ct}^{alter} \gtreqless \bar{s}_{ct}^{label} \Leftrightarrow \frac{1}{3}(2t_{ct} + t_{ft}) - 2F \gtreqless 0$
	$\bar{s}_{ft}^{alter} = \bar{s}_{ft}^{label}$	$\bar{s}_{ft}^{alter} \gtreqless \bar{s}_{ft}^{label} \Leftrightarrow t_{ct} \gtreqless t_{ft}$
Labeling – Mainstream**		
Total	$S^{label} \gtreqless S^{main} \Leftrightarrow \frac{3}{4}t - F \gtreqless 0$	$S^{label} \gtreqless S^{main} \Leftrightarrow \frac{13}{24}t_{ct} + \frac{5}{24}t_{ft} - F \gtreqless 0$
Firm	$S_{ct}^{label} \gtreqless S_{ct}^{main} \Leftrightarrow \frac{3}{8}t - \frac{1}{2}F \gtreqless 0$	$S_{ct}^{label} \gtreqless S_{ct}^{main} \Leftrightarrow \frac{1}{3}t_{ct} + \frac{1}{24}t_{ft} - \frac{1}{2}F \gtreqless 0$
	$S_{ft}^{label} \gtreqless S_{ft}^{main} \Leftrightarrow \frac{3}{8}t - \frac{1}{2}F \gtreqless 0$	$S_{ft}^{label} \gtreqless S_{ft}^{main} \Leftrightarrow \frac{5}{24}t_{ct} + \frac{1}{6}t_{ft} - \frac{1}{2}F \gtreqless 0$
Per product	$\bar{s}_{ct}^{label} \gtreqless \bar{s}_{ct}^{main} \Leftrightarrow \frac{3}{4}t - F \gtreqless 0$	$\bar{s}_{ct}^{label} \gtreqless \bar{s}_{ct}^{main} \Leftrightarrow \frac{2}{3}t_{ct} + \frac{1}{12}t_{ft} - F \gtreqless 0$
	$\bar{s}_{ft}^{label} \gtreqless \bar{s}_{ft}^{main} \Leftrightarrow \frac{3}{4}t - F \gtreqless 0$	$\bar{s}_{ft}^{label} \gtreqless \bar{s}_{ft}^{main} \Leftrightarrow \frac{5}{12}t_{ct} + \frac{1}{3}t_{ft} - F \gtreqless 0$

*The structure of these phases is difficult to compare, and as such we have made additional assumptions as explained in the text.
**We have put here only the results for heterogeneous product markets. As in homogeneous product markets no profits are generated, wealth transfers are lower in the mainstream phase.

both products important. This carries over to wealth transfers. In the charity phase, the amount of wealth transfers depends mainly on the exogenously determined number of consumers ideologically preferring FT products. Combined with consumers' maximum willingness to pay V and the psychological distance costs t_{ft}, the given market share determines the price level covering the entire FT market segment and the wealth transfers. By contrast, in the alternative phase consumers are able to compare both products and also t_{ct} starts playing a role. Market shares and prices are determined by the consumer that is indifferent in terms of utility between the two products. Wealth transfers can be expressed to depend on fixed costs F and the psychological distance costs t_{ft} and t_{ct} only.

To get some idea how the transition from charity to alternative phase works out for wealth transfers, a useful benchmark is to assume that in the alternative

phase the market shares of both firms are a half. This would be the case when the psychological distance costs are symmetric. The price the FT firm charges is then $t + c$ and wealth transfers are $t/2 - F$. Suppose furthermore that the prices charged in the alternative phase are such that the utility of the indifferent consumer is exactly zero, that is: the maximum willingness to pay is such that $V^{alter} = p_{ft}^{alter} + t(1 - x^*) = 3/2t + c$.

Assume now that also in the charity phase the willingness to pay is exactly binding. Keeping willingness to pay equal across phases, this implies that V^{char} is $3/2t + c$ as well. In terms of Figures 2 and 3: V lies at the exact same level in both phases. Then, if the exogenous market segment for FT products in the charity phase is ½ as well, the FT firm charges the same price as in the alternative phase to make V exactly binding, making wealth transfers exactly the same. If, however, the FT market segment in the charity phase is a fraction $0 < \delta < 1$ of its market share of a half in the alternative phase, the price the FT firm charges in the charity phase will be higher and wealth transfers will be smaller: $p_{ft}^{char} = (1 + \delta/2)t + c$ and $S^{char} = t/2 - F - (1 + \delta)t\delta/4$.

In the Appendix, we show that this basic outcome also holds for the more general case of $t_{ft} \neq t_{ct}$. Hence, as long as the FT firm's market share expands due to becoming an integrated market, wealth transfers increase. The extent to which this occurs depends on the extent of the psychological distance costs: the lower these are, the lower the impact on wealth transfers will be. For symmetric distance costs $S^{alter} - S^{char} = (1 + \delta)t\delta/4 > 0$, which becomes less positive when t decreases.

4.2. Comparing the alternative phase with the labeling phase

Comparing total wealth transfers between the alternative and the labeling phase is more straightforward since market shares in both phases are determined in the same fashion. Presenting results in general notation for ease of reference, we get,

$$S^{label} \gtreqqless S^{alter} \Leftrightarrow \frac{1}{3}(2t_{ct} + t_{ft})\left(1 - \frac{1}{3}\frac{2t_{ct} + t_{ft}}{t_{ct} + t_{ft}}\right) \gtreqqless F \tag{3}$$

The main difference between the total wealth transfers in both phases is the conventional firm's move to $a_{ct} = 1$, implying a market share of one for FT products in the labeling phase. This is also visible in (3). In the labeling phase, both firms supply FT products at the FT product's price of the alternative phase $\frac{1}{3}(2t_{ct} + t_{ft})$, the first part of the equation. The difference in wealth transfers thus amounts to a comparison of market shares of FT products between the two phases, which is $1 - \frac{1}{3}\frac{2t_{ct}+t_{ft}}{t_{ct}+t_{ft}} > 0$, the second part in (3). However, this positive effect of increased market share on wealth transfers should be compared to the extra fixed cost F coming along when two firms offer FT products. This inefficiency in the market cannot be prevented unless both firms

would become one. Such a monopoly position would however result in other inefficiencies. Note that (3) becomes $t/2 - F \gtreqless 0$ for symmetric psychological distance costs, implying that if firms' profits are positive, wealth transfers increase when moving from the alternative phase to the labeling phase.

Additionally, we compare the differences in *wealth transfers per firm*, contributing to the discussion of the dilution of FT (e.g. Jaffee and Howard 2010). Do FT firms indeed offer less wealth transfers if competition becomes more important in the FT market? Comparing S_{ft}^{alter} and S_{ft}^{label}, we derive:

$$S_{ft}^{alter} \gtreqless S_{ft}^{label} \Leftrightarrow t_{ct} \gtreqless t_{ft} \qquad (4)$$

The intuition behind (4) is as follows. As soon as $t_{ct} > t_{ft}$ the FT firm's market share in the alternative phase is larger than FT's market share of $1/2$ in the labeling phase. The higher the consumers' psychological fairness costs regarding the conventional product, the more attractive the FT product becomes for consumers. The higher market share results in larger profits for the FT firm, making S_{ft}^{alter} larger in comparison to wealth transfers in the labeling phase. Likewise, when $t_{ct} < t_{ft}$, the FT firm's market share in the alternative phase is smaller than in the FT labeling phase, resulting in lower wealth transfers in the alternative phase. For the conventional firm these considerations do not matter: as it generated zero wealth transfers in the alternative phase, it obviously transfers more in the labeling phase.

Also, the effect on average wealth transfers, the *wealth transfers per product sold*, add to the discussion on dilution. The conventional firm's wealth transfers per product sold increase, while for the FT firm we find $\bar{s}_{ft}^{alter} \gtreqless \bar{s}_{ft}^{label} \Leftrightarrow t_{ct} \gtreqless t_{ft}$, due to the interplay of fixed costs and FT market shares. As in the alternative phase, the FT firm's market share is larger (smaller) when $t_{ct} > (<)t_{ft}$, F is spread over more (less) products and average wealth transfers increase (decrease) for the FT firm. As FT market shares were relatively small, it is likely that the labeling phase thus results in higher average wealth transfers for the FT firm. Furthermore, it indicates a more efficient provision of wealth transfers by the FT firm.

4.3. Comparing the labeling phase with the mainstream phase

We now analyze the differences between the labeling phase and the mainstream phase, the latter being featured by either homogeneous or heterogeneous products. If firms cannot differentiate, this leads to commoditization of FT products and zero wealth transfers. If firms can differentiate their products sufficiently to ensure prices above marginal costs, and positive wealth transfers can be generated.

When the mainstream phase implies homogeneous products, we have seen that prices are reduced towards marginal costs, rendering the psychological distance costs t_i irrelevant. Wealth transfers are zero, resulting in

$S^{main} < S^{label} \Leftrightarrow \frac{1}{3}(2t_{ct} + t_{ft}) - 2F > 0$. Similar results follow when comparing wealth transfers per firm S_i^j and per FT product sold $\bar{s}_i^j$. The condition implies that the amount of wealth transfers generated in a mainstream market with homogeneous products is smaller as long as wealth transfers in the labeling phase are positive. This must be the case, unless the market is too small to sustain two firms (the left-hand side of the condition equals profits in the labeling phase).

A slightly different picture emerges if the mainstream phase involves heterogeneous products, allowing firms to make positive profits. Comparing total amounts of wealth transfers yields

$$S^{label} \underset{<}{\overset{\geq}{\gtrless}} S^{main} \Leftrightarrow \frac{13}{24}t_{ct} + \frac{5}{24}t_{ft} \underset{<}{\overset{\geq}{\gtrless}} F \tag{5}$$

where t_{ct} and t_{ft} mark the extent of differentiation of the conventional firms and FT firms, respectively. When both firms differentiate equally ($t_{ct} = t_{ft} = t$), the condition reduces to $\frac{3}{4}t \gtrless F$. As market shares are equal in both phases (equal to 1/2), price differences explain the left-hand side of (5). In the labeling phase, the mark-up over marginal costs is $\frac{1}{3}(2t_{ct} + t_{ft})$ for both firms, while in the mainstream phase it is $t_{ft}/2$ for the conventional firm and $t_{ct}/2$ for the FT firm. If it were for the difference in prices alone, wealth transfers would thus be higher in the labeling phase. However, in the mainstream phase firms donate 50% of their profits, rather than 100% in the labeling phase. This implies that the effect on total wealth transfers of having double fixed costs in the market are also halved. Ceteris paribus prices, in the labeling phase wealth transfers are therefore lower by a factor F, explaining the right-hand side of (5).

Linking (5) to our assumption that in the labeling phase the conventional firm makes a positive profit, hence: $\frac{1}{6}(2t_{ct} + t_{ft}) > F$, wealth transfers will be definitely lower in the mainstream phase when t_i remains equal across phases. If we would assume t_i to become lower throughout the process of mainstreaming FT, for instance, due to commoditization, wealth transfers would become even lower. Hence, in the heterogeneous case, wealth transfers to smallholders declines when the mainstreaming of FT reaches its final phase.

Similar conclusions can be drawn when comparing the wealth transfers per firm or per product sold. For the wealth transfers per firm we obtain (6) and (7):[9]

$$S_{ct}^{label} \underset{<}{\overset{\geq}{\gtrless}} S_{ct}^{main} \Leftrightarrow \frac{1}{3}t_{ct} + \frac{1}{24}t_{ft} \underset{<}{\overset{\geq}{\gtrless}} \frac{1}{2}F \tag{6}$$

$$S_{ft}^{label} \underset{<}{\overset{\geq}{\gtrless}} S_{ft}^{main} \Leftrightarrow \frac{5}{24}t_{ct} + \frac{1}{6}t_{ft} \underset{<}{\overset{\geq}{\gtrless}} \frac{1}{2}F \tag{7}$$

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[9] The results for wealth transfers per product sold are obtained by dividing both sides of the conditions by ½.

These conditions reduce to $3/4t \gtreqless F$ for $t_{ct} = t_{ft} = t$. Hence, while dilution takes place in the mainstream phase in the sense that both firms move to a lower position on the fairness continuum, whether or not this also implies lower wealth transfers per firm or per product sold is conditional on (6) and (7).

5. Discussion and conclusion

We have analyzed the consequences of fair trade mainstreaming for wealth transfers to small local producers (smallholders) in developing countries during four historically relevant phases, showing how competition and profit-maximization conflict with compliance with ethical principles. Using a Hotelling model of spatial competition, we show that mainstreaming could have a negative effect on compliance with ethical standards, resulting in lower wealth transfers to smallholders. Price competition and market share pressure could however also induce (fair trade) firms to become more efficient and innovative in wealth transfer provision. Finally, competition could imply that differentiating on fairness becomes subordinate to differentiating on other product features also for ideologically-driven firms like ATOs.

These effects become already visible in the 'alternative' phase of mainstreaming, when ideology-driven fair trade firms fully comply, yet have to compete with conventional firms for market share. In the labeling phase, the conventional firm strategically moves towards the fair trade firm's location, increasing total wealth transfers. However, average wealth transfers could be lower depending on fair trade's market share in the alternative phase. In the mainstream phase, also the fair trade firm starts to think competitively, making compromises towards compliance. Furthermore, to retain market share the fair trade firm lowers its price. The definite effect on wealth transfers in the mainstream phase is unclear. Cost reduction strategies and increased competition in fairness can induce firms to differentiate their products on other aspects than fairness. If firms are unable to do so, the process of commoditization sets in, implying less wealth transfers. If, by contrast, fair trade firms can differentiate on other attributes than fairness, prospects are less gloomy because it allows firms to generate wealth transfers nevertheless. For instance, fair trade products may successfully be differentiated and positioned on taste and/or quality (Obermiller *et al.* 2009, Bezençon and Blili 2011). Competitive pressure on cost reduction is then less prevalent, as firms have incentives to find new ways of attracting consumers. For consumers, however, as soon as fair trade product differentiation increases, fairness will be difficult to understand (Walton 2010, McArdle and Thomas 2012, Hilson *et al.* 2016). At the same time, more fair trade producers can be reached, benefiting from qualitatively improved wealth transfers.

The findings of our modeling framework relate well to reality. In the labeling phase and the mainstreaming phase fair trade's sales increased, making

fair trade firms more cost-efficient. At the same time, however, conventional firms were attracted to participate: aligning with a labeling body implied lower costs (e.g. Golan *et al.* 2001). The increased competition caused some fair trade firms to go bankrupt in the 1990s while those surviving were reported to have had higher sales (Nicholls and Opal 2005). Fair trade firms starting to deliver less than a 100% fair trade-certified products is also the reason for the split in the US movement in 2011 (Jaffee and Howard 2016). These are all signs that 'commoditization' is a real-world issue (e.g. Reimann *et al.* 2010), giving rise to tensions between ideology-driven and market-driven fair trade firms in which differentiation becomes a key issue if ideology-driven firms are to survive (Obermiller *et al.* 2009, Bezençon 2011).

Our model contributes to the scholarly literature in different ways. First, it shows that in the process of increasing competition in ethical standards, firms find themselves in a continuous battle for market share, culminating into incentives to lower costs and/or to differentiate their products. This supports the view of some ATOs arguing that mainstreaming leads to a lower compliance with fair trade standards, 'diluting' the original fair trade concept particularly in the competitive, last phase of mainstreaming. However, to survive, firms initially focusing on 'original' fairness principles are to become more compliant regarding new ideas on fairness in the market. If especially in the mainstream phase ATOs start to diversify and innovate, consumers remain attracted. Although changes in the original fair trade concept may be the result, this could result in survival of ATOs, and higher total wealth transfers nonetheless (e.g. Jaffee and Howard 2016). Moreover, it could result in further reflection on what 'fairness' is in a context of increasing competition, and find ways to eliminate current perceived imbalances in the fair trade system (e.g. Bacon 2010, Besky 2015). For instance, fair trade standards are sometimes considered too 'Northern', i.e. ATOs and for-profit firms will need to actively involve smallholders in standard establishment and implementation (e.g. Bezençon 2011, McArdle and Thomas 2012). This may become even a (welcome) differentiation fair trade product strategy in Western markets (e.g. Bezençon and Blili 2011).

Second, we applied a modeling framework integrating key developments in fair trade markets, providing a consistent treatment of the consequences for wealth transfers of moving from a fairness-driven charitable consumer movement to a market-oriented supplier movement. Such formal and integrated framework on the role of competition in mainstreaming fair trade is typically lacking in the fair trade literature on 'dilution' of (ethical) standards. Likewise, our modeling framework facilitates analyzing what changed consumers' stances towards fair trade would imply for wealth transfers. For instance, if in either the labeling phase or mainstream phase consumers become less reluctant to buy fair trade products, implying a decline of the psychological costs of buying a fair trade product over time, this is good news for the fair trade firm

as it raises its competitiveness.[10] The catch is that conventional firms also get an additional incentive to move to a higher fairness location. However, as long as fair trade does not enter the mainstream phase, increased competition does not lower overall wealth transfers.

Third, our model also contributes to the literature highlighting how the competition mechanism affects the fairness of fair trade (Maseland and De Vaal 2002, Walton 2010). Particularly, it yields insight in whether the divergent strategies of the two main perspectives in the fair trade movement can be successful, i.e. reaching the movement's goals by focusing on its original, ideological principles or by full compliance with standards focusing on a 'standards market' (e.g. Reinecke *et al*. 2012). As for the latter, our analysis suggests having a joint ethical standard in industries which may guarantee a certain (minimum) level of wealth transfers, as our model suggests that such an ethical standard is to be preferred over market competition, especially if the process of commoditization starts (e.g. Davenport 2005). Building on the suggestions of Bezençon (2011), debates on differences between ATOs and fair trade-certifiers may become a strength forcing both sides to focus and cooperate on making impact for beneficiaries and draw away a too rigid focus on the compliance of principles. Context-specific impact studies of fair trade mainstream actors and ATOs (e.g. Low and Davenport 2006, Doherty *et al*. 2013, Ingenbleek and Reinders 2013) are required to analyze how such cooperation affects market structure, market shares and prices with information on wealth transfers to producers, i.e. fairness (Ronchi 2006, McArdle and Thomas 2012, Bassett 2014).

Despite these contributions of our modeling approach, various limitations exist. For instance, we have assumed that consumers have perfect information on their fairness preferences and firms' wealth transfers, as well as that consumers are evenly spread over the fairness continuum. These assumptions may not hold in practice, however. With fair trade being a 'credence good', information asymmetries exist regarding the true provision of wealth transfers, i.e. firms' location (cf. Mohan 2009, Balineau and Dufeu 2010). Moreover, not much is known about consumer psychological distance costs regarding fair trade (Basu and Hicks 2008). More information may lower these costs, however, could also result in cognitive overload, particularly if the number of fair trade labels increases and products become more identical (Golan *et al*. 2001, Sénéchal *et al*. 2014). Finally, we argue that our model does not take a stance regarding the fairness of the fair trade system and the overall viability of its market operations (e.g. Hira and Ferrie 2006, Bacon 2010, Walton 2010). Nevertheless, we believe that the integration of historical developments of ethical standards in a model with competitive market interactions provides worthwhile insights in

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[10] Hardly any research has focused on the effects of increased competition among fair trade products on consumers' psychological distance costs. Exceptions are Yamoah *et al*. (2016) and Sénéchal *et al*. (2014). Such investigations would further enhance our understanding of the effects on wealth transfers to smallholders.

how for-profit and ideologically-driven firms behave and what this implies for those for whom these ethical standards are introduced in the first place: the local fair trade producers.

Disclosure statement

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Appendix

A.1 Derivations Nash equilibria

Charity phase: In the charity phase the market segments are exogenously given by, respectively, x^* and $(1 - x^*)$ for the conventional firm and the FT firm. Each firm acts as a monopolist in its respective market segment, setting prices such that the market segment is exactly covered. Applying (2) this gives $p_{ct}^* = V$ and $p_{ft}^* = V - (1 - x^*)t_{ft}$. Best-response functions are redundant in this phase and by (1) firms' profits are: $\pi_{ct}^* = (V - c)x^* - F$ and $\pi_{ft}^* = (V - (1 - x^*)t_{ft} - c)(1 - x^*) - F$. Wealth transfers in this phase are equal to the entire FT firm's profits: $S^{char} = S_{ft} = \pi_{ft}^* = (V - (1 - x^*)t_{ft} - c)(1 - x^*) - F$.

All other phases: Within all other phases (*alternative, labeling, mainstream*) market shares are endogenously determined by the consumer who is exactly indifferent between both goods in terms of utility. Hence, $U_{ct}(x^*) = U_{ft}(x^*)$ determines the division of the market between the conventional firm (market share x^*) and the FT firm (market share $1 - x^*$) as a function of both firms' prices and fairness locations, allowing the construction of best-response-curves and the determination of the Nash-equilibrium prices and market shares. The outcomes are depicted in Table A.1 below. Filling in the values for a_{ct} and a_{ft} that hold for the specific phase yields the results that are reported in the main text.

Table A1. Overview of outcomes.

	Conventional firm	FT firm
Market share functions	$x^* = \frac{p_{ft} - p_{ct} + a_{ft}t_{ft} + a_{ct}t_{ct}}{t_{ct} + t_{ft}}$	$1 - x^* = \frac{p_{ct} - p_{ft} + (1 - a_{ft})t_{ft} + (1 - a_{ct})t_{ct}}{t_{ct} + t_{ft}}$
Best response functions	$p_{ct} = \frac{p_{ft} + a_{ct}t_{ct} + a_{ft}t_{ft} + c}{2}$	$p_{ft} = \frac{p_{ct} + (1 - a_{ct})t_{ct} + (1 - a_{ft})t_{ft} + c}{2}$
Nash prices	$p_{ct}^* = \frac{1}{3}(t_{ct} + t_{ft} + a_{ct}t_{ct} + a_{ft}t_{ft}) + c$	$p_{ft}^* = \frac{1}{3}(2t_{ct} + 2t_{ft} - a_{ct}t_{ct} - a_{ft}t_{ft}) + c$
Nash market shares	$x^* = \frac{1}{3}\frac{t_{ct} + t_{ft} + a_{ct}t_{ct} + a_{ft}t_{ft}}{t_{ct} + t_{ft}}$	$1 - x^* = \frac{1}{3}\frac{2t_{ct} + 2t_{ft} - a_{ct}t_{ct} - a_{ft}t_{ft}}{t_{ct} + t_{ft}}$
Nash profits	$\pi_{ct}^* = \frac{1}{9(t_{ct} + t_{ft})}(t_{ct} + t_{ft} + a_{ct}t_{ct} + a_{ft}t_{ft})^2 - F$	$\pi_{ft}^* = \frac{1}{9(t_{ct} + t_{ft})}(2t_{ct} + 2t_{ft} - a_{ct}t_{ct} - a_{ft}t_{ft})^2 - F$

A.2 Optimal location

The outcomes for the optimal fairness location for the conventional firm in the *labeling phase* follow from

$$\frac{\partial \pi_{ct}}{\partial a_{ct}} = \frac{2}{9}\frac{t_{ct}(t_{ct} + 2t_{ft} + a_{ct}t_{ct})}{(t_{ct} + t_{ft})} > 0; \quad \frac{\partial^2 \pi_{ct}}{\partial^2 a_{ct}} = \frac{4}{9}\frac{t_{ct}^2}{(t_{ct} + t_{ft})} > 0,$$

implying a corner solution at $a_{ct} = 1$. Ethical minimal differentiation at $a_i = 1$ results, with consequences as reported in the main text.

Likewise, for the *mainstreaming phase*, we derive:

$$\frac{\partial \pi_{ct}^*}{\partial a_{ct}} = \frac{2t_{ct}}{9(t_{ct} + t_{ft})}(t_{ct} + t_{ft} + a_{ct}t_{ct} + a_{ft}t_{ft})$$

$$\frac{\partial \pi_{ft}^*}{\partial a_{ft}} = \frac{2t_{ft}}{9(t_{ct} + t_{ft})}(2t_{ct} + 2t_{ft} - a_{ct}t_{ct} - a_{ft}t_{ft})$$

showing that a single solution in optimal locations cannot be established. As we argue, the Hotelling outcome will be most likely the result, resulting in ethical minimum differentiation at $a_i = 1/2$.

A.3   Consequences of binding V

In our model we have (implicitly) assumed that consumers' willingness to pay V is always sufficiently high to cover the whole market, given the psychological distance costs t_i and prices p_i. If this is not the case, gaps in the market could arise. Here we analyze this possibility for the mainstream phase, framing it as the result of a situation where firms make a wrong assessment of consumers' willingness to pay, for instance because they are overoptimistic regarding V, expecting a higher V than it actually is: $V^e > V$ (with V^e denoting the firm's expectations regarding the willingness to pay and V its actual value which is unknown to the firm).

Being located in the middle of the fairness continuum in the mainstream phase, by the consumer's utility function a firm would expect a market share of $x^e = (V^e - p_i)/t_i$ ($i = ct, ft$). The market share it actually gets is however determined by the actual V: $x = (V - p_i)/t_i$. Hence, if $V^e > V$ the market will not be served completely and the change in market share is $\Delta x_i = (V - V^e)/t_i < 0$, ceteris paribus the firm's price. The concomitant changes in profits and wealth transfers are, respectively, $\Delta \pi_i = (V - V^e)(p_i^* - c)/t_i < 0$ and $\Delta S_i = (V - V^e)(p_i^* - c)/2t_i < 0$. The market loss implies that for the FT firm, the consumers with the highest FT preferences are lost, whereas the conventional firm loses the consumers with the lowest fairness preferences. In fact, thus two new market niches are created, in which new firms could enter.

A.4   Comparing wealth transfer between charity phase and alternative phase

To compare wealth transfers between the charity phase with exogenous market segments and the alternative phase with endogenous markets shares, we set V as a constraint to the maximum prices for both phases:

$$V^{char} = V^{alter} \Leftrightarrow p_{ft}^{char} + t_{ft}(1 - x^{*,char}) = \frac{1}{3}(2t_{ct} + t_{ft}) + t_{ft}\left(\frac{1}{3}\frac{2t_{ct} + t_{ft}}{t_{ct} + t_{ft}}\right)$$

where the right-hand side of this equation represents $p_{ft}^{alter} - c + t_{ft}(1 - x^{*,alter})$.

Assume that V^{char} is exactly binding as well. Furthermore, assume that the FT market segment in the charity phase is a fraction $0 < \delta < 1$ lower than in the alternative phase. This implies $p_{ft}^{char} = V^{alter} - t_{ft}(1 - \delta)(1 - x^{*,alter})$ and hence, substituting for V^{alter} and $(1 - x^{*,alter})$:

$$p_{ft}^{char} = \frac{1}{3}(2t_{ct} + t_{ft}) + c + \delta t_{ft}\left(\frac{1}{3}\frac{2t_{ct} + t_{ft}}{t_{ct} + t_{ft}}\right).$$

Wealth transfers are $S^{char} = (p_{ft}^{char} - c)(1 - \delta)(1 - x^{*,alter}) - F$. Substituting for p_{ft}^{char} and $(1 - x^{*,alter})$ yields, after rearranging:

$$S^{char} = \left[\frac{1}{9}\frac{(2t_{ct} + t_{ft})^2}{(t_{ct} + t_{ft})} - F\right] - \frac{\delta}{9}\frac{(2t_{ct} + t_{ft})^2}{(t_{ct} + t_{ft})^2}(t_{ct} + \delta t_{ft}).$$

Since the first term on the right-hand side equals the wealth transfers in the alternative phase, it is clear that $S^{char} < S^{alter}$ as long as the FT market segment is lower than the FT firm's market share in the alternative phase.