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# The role of organic and fair trade labels when choosing chocolate ☆

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ABSTRACT

We investigate to what extent consumers base food purchases on the information implied by the presence of a label. Firstly, we study whether consumers are able to identify the environmental and social labels associated with a particular good or service. Secondly, we analyze whether consumers find the product information implied by the presence of a label trustworthy. Thirdly, we examine the desirability, including taste, of sustainably produced goods compared to conventional goods. Fourthly we calculate consumers' marginal willingness to pay for environment-friendly and socially desirable goods, and finally, we identify groups of consumers with different preference patterns. Specifically, we performed a survey including a stated choice experiment of consumer decisions concerning the purchase of chocolate in Flanders (Belgium), focusing on fair trade and organic labels. Overall, we find that fair trade labels for chocolate are more likely to influence consumer choice than organic labels in Flanders. For most of the consumers the organic label seems to become superfluous when selecting a self-indulgent treat such as chocolate.



## 1. Introduction

Consumers are increasingly interested in environmental and social criteria when buying food products and information found on packaging is often used by consumers to evaluate the sustainability of products (Bublitz, Peracchio, & Block, 2010). In order to better understand how consumers use the information found on product labels, we focus on the role of organic and fair trade labels in influencing sustainable food consumption. Five specific research questions lay at the basis of this study. Firstly, are consumers able to identify the environmental and social labels associated with a particular good or service? Moreover, do consumers find the product information implied by the presence of a label trustworthy? In addition, are sustainably produced goods perceived as more desirable than conventional goods, including taste perceptions? Fourthly, are some consumers willing to pay for environment-friendly and socially desirable goods? Finally, can we distinguish groups of consumers with different preference patterns?

In recent years a large volume of studies have investigated the impact of organic and/or fair trade labels on consumer behavior (e.g. Aertsens, Verbeke, Mondelaers, & Van Huylenbroeck, 2009; Hughner, McDonagh, Prothero, Shultz, & Stanton, 2007; Kollmuss & Agyeman, 2002; Young, Hwang, McDonald, & Oates, 2010). Part of this literature has focused on describing the demographic characteristics of the organic (e.g. Hjelmar, 2011; Hughner et al., 2007; Wier, O'Doherty Jenssen, Andersen, & Millock, 2008) or ethical (e.g. Tallontire, Rentsendorj, & Blowfield, 2001) food consumer. Another part has concentrated on consumers' motivations for purchasing organic (e.g. Hjelmar, 2011; Honkanen, Verplanken, & Olsen, 2006; Hsu & Chen, 2014) or fair trade (e.g. Andorfer & Liebe, 2012; De Pelsmacker, Driesen, & Rapp, 2005) food products. Several arguments in favor of buying organic or fair trade food have been brought forward. On the one hand, health considerations are often quoted by consumers as an argument in favor of eating organic food (e.g. Brécard, Hlaimi, Lucas, Perraudeau, & Salladaré, 2008; Goetzke, Nitzko, & Spiller, 2014; Lee, Shimizu, Kniffin, & Wansink, 2013; Mondelaers, Verbeke, & Van Huylebroeck, 2009; Schifferstein & Oude Ophuis, 1998). On the other hand, motivations such as better taste, reduced environmental impact or improved animal welfare were also documented (e.g. Hughner et al., 2007; Padel & Foster, 2005). Yet another part of the

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literature has focused on consumers' willingness to pay a price premium for organic (e.g. Janssen & Hamm, 2012; Rousseau & Vranken, 2013) or fair trade (e.g. De Pelsmacker et al., 2005; Loureiro & Lotade, 2005) food products. Only a limited number of studies have focused on jointly estimating the willingness to pay for organic and fair trade. Yet, as argued by Zander and Hamm (2010), consumers are interested in additional ethical attributes of organic food such as animal welfare, integration of handicapped people or fair prices for farmers. Thus it is important to disentangle the separate impact of each of the two labeling programs to investigate which label influences consumer behavior most. Consumers' preferences for organic and fair trade food products have been studied specifically for yellow chili peppers (Garcia-Yi, 2015), pineapples (Poelman, Mojet, Lyon, & Sefah-Dedeh, 2008), coffee (Loureiro & Lotade, 2005; Tagbata & Sirieix, 2008) as well as chocolate (Tagbata & Sirieix, 2008), and in a more general setting for Italian consumers (Annunziata, Ianuario, & Pascale, 2011) and for consumers in Austria, Germany, Italy, Switzerland and UK (Zander & Hamm, 2010).

In this study we analyze the results from a stated choice experiment concerning the purchase of chocolate in Flanders (Belgium) to investigate the influence of labels – and their implied information – on consumption behavior. A stated choice experiment describes hypothetical varieties of a good in terms of its attributes and requires respondents to indicate their most preferred variety. We selected chocolate since it is a product that is well-known and frequently bought by consumers in Flanders, and the novelty bias when making choices in hypothetical markets should therefore for be minimal (List & Shogren, 1999). In addition, chocolate is an interesting good to study the role of labels since it is often considered to be a luxury or a special treat. It is interesting to examine to what extent consumers still consider external effects such as labor conditions (revealed through the impact of a fair trade label) and environmental impacts (revealed through the impact of an organic label) when selecting such a self-indulgent treat. In addition, health arguments in favor of organic consumption are less likely to hold when considering chocolate. Further, consumers cannot easily judge the environmental impact of chocolate and chocolate production. No easy proxies exist and some additional effort is needed to provide consumers information on the environmental impact of the product. The environmental and ethical impact of food products can thus be labeled as credence attributes (Darby & Karni, 1973).

To make these credence attributes searchable for consumers, several different labeling schemes such as organic labels or fair trade labels are available for chocolate and its main ingredient cocoa. In 2007, Barry Callebaut conducted a survey to investigate how large the consumer awareness for organic and/or fair trade chocolate is in both Europe and the US (Pay, 2009). The results of the survey show that consumer awareness is increasing: 33% of all consumers had already purchased fair trade chocolates, and 24% of the respondents had already purchased organic chocolate. These results show that: "*purchasers are no longer confined to the higher income groups, and the segment is making inroads into the mainstream chocolate market*" (Pay, 2009, p.6). Previously, consumers' willingness to pay a price premium for organic and fair trade dark chocolate compared to unlabeled dark chocolate has been measured using an lab experiment combined with tasting by Tagbata and Sirieix (2008). This study found that consumers are willing to pay an almost identical price for organic chocolate as for fair trade chocolate (1.25 vs 1.31 euro), while consumers were willing to pay 0.7 euro for a standard chocolate bar.

In the next section we describe the choice experiments used to estimate the importance of different chocolate characteristics in consumers' purchasing decisions. Next, in Section 3, we discuss the dataset we collected. In Section 4 we present the results and investigate the impact of labels on consumers choices and attitudes. These results are discussed in Section 5 and some conclusions are formulated in Section 6.

## 2. Methodology

In this section we describe the design of the choice and taste experiments used to estimate the importance of different chocolate characteristics in consumers' purchasing decisions.

### 2.1. Choice experiments

A discrete choice experiment (DCE) is a quantitative technique used for eliciting individual preferences. It is a stated preference technique that is especially suited to deal with multidimensional choices such as food products. As Caswell (1998) and Yiridoe, Bonti-Ankomah, and Martin (2005) note food products can be presented as a bundle of quality and safety attributes. Choice experiments allow us to explicitly reflect these different attributes and to analyze the impact of each attribute separately. This technique was initially developed by Louviere and Hensher (1982) and Louviere and Woodworth (1983). The DCE method describes a hypothetically marketed good in terms of their attributes and the levels that these attributes take (Hanley, Mourato, & Wright, 2001). While there is strong evidence in the literature of construct validity and convergent validity of stated preference results, the interpretation of these results has been questioned regarding the extent to which respondents may answer inconsistently when their choices do not have any real consequences (e.g. List & Gallet, 2001; Vossler, Doyon, & Rondeau, 2012). While such a hypothetical bias may be present, stated preference surveys are often the only practical approach to evaluate non-use values and preferences for non-market goods such as fair trade or soil quality improvements.

Respondents are presented with alternative varieties of a particular good, differentiated by their attributes and levels, and asked to select their most preferred variety. A baseline alternative, corresponding to the status quo or opt-out situation, is included in each choice set in order to be able to interpret the results in standard welfare economic terms. Typically, the method is used to learn which attributes are most important for respondents' decisions and to predict respondents' willingness to pay (WTP) for marginal changes in attributes.

Our un-labeled DCE offered three options per choice card: hypothetical chocolate variety A, hypothetical chocolate variety B and the opt-out option. Based on brainstorm sessions, pre-tests with students and previous literature (e.g. Tagbata & Sirieix, 2008), we selected the following attributes to describe a chocolate tablet of 100 g: the taste of the chocolate, the presence of a fair trade label, the country of production, the presence of an organic label, and the price of the chocolate tablet. Taste was shown to be a critical factor in previous studies looking at preferences for labeled products (De Pelsmacker et al., 2005) as well as those studying preferences for chocolate products (Tagbata & Sirieix, 2008). For each attribute we then selected the relevant levels. For the country of production we selected two countries that are well-known for their chocolates, namely Belgium and Switzerland, and one country that is not typically associated with chocolates, namely The Netherlands (CAOBISCO, 2013). The price levels were determined by the range of actual retail prices from the largest supermarket in Flanders with an extensive range of chocolate products (www.collectandgo.be[1]). The different attribute levels as well as the dummy, i.e. 0–1, variable names used later in

[1] The online prices are identical to the prices in the stores since online customers pay a fixed fee of 5.5 euro per order.