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The Impact of Social Preferences and Information on the Willingness to Pay for Fairtrade Products

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Abstract

This paper investigates the impact of social preferences and information about the value chain on the willingness to pay (WTP) for Fairtrade products. More specifically, the perceived social and economic benefits for Fairtrade farmers are analyzed in order to study whether altruistic preferences or information biases may shift consumers' WTP. By means of an online survey, the empirical analysis is carried out for the coffee market. After grouping and comparing participants with respect to their WTP, social preferences, and demographic backgrounds, we find some evidence that consumers wrongly estimate, and lack information on, the financial benefits of Fairtrade certification that are eventually allocated to the coffee farmers. Large multinational enterprises often seem to make use of the Fairtrade system in order to gain financial and competitive advantages by "fairwashing" their products. This demonstrably leads to a higher WTP for an ethical premium that is not necessarily justified.

Keywords: Social preferences; Willingness to pay; Fairtrade; Coffee market; Tobit model.
JEL Classification: Q56, Q01, D83, D63, O13

1. Introduction

The Fairtrade coffee market is unique in terms of its exploitation by intermediaries, child labor, and poverty among farmers, which increasingly concerns consumers' preferences for coffee products. Beyond this, coffee prices are highly volatile and often do not cover the production cost of small-scale farmers (Naegele, 2019). However, the society's willingness to support the Fairtrade concept through higher retail prices varies among different consumer groups. This

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may be due to differences in the pro-social preferences, i.e. the need to distinguish oneself by specific purchase decisions, or in the financial possibilities. Moreover, consumers may also have different views on the necessity and effectiveness of the Fairtrade system. There might be an information bias that distorts the consumers' estimations of the farmer's benefit from Fairtrade and enhances their willingness to pay (Hainmueller et al., 2015; Baake et al., 2018). On the retailer's side, price setting for Fairtrade coffee is a tough challenge, because the price of Fairtrade coffee needs to exceed the price of conventional coffee to suggest that there is a premium that can actually be transferred to the producer. However, at the same time, the retail price of Fairtrade coffee needs to remain close to the retail price of conventional coffee in order to attract a sufficiently large group of consumers (Johannessen and Wilhite, 2010).

The aim of this study is to address how consumers' social preferences and information on the distribution of benefits along the value chain determine their willingness to pay (WTP) for Fairtrade-certified coffee products. By eliciting altruistic preferences and providing information on the price premium for the coffee products, we analyze whether altruistic preferences or an information bias are the underlying cause for the variation in in consumers' WTP. In order to address this question, we analyze the deviation between the perceived and the actual social and economic benefits the coffee farmers receive for their Fairtrade production.

We provide a quantitative measure of the influences of altruistic preferences and information provision and subsequently examine whether individuals fail to properly estimate the distribution of economic benefits along the value chain.

In this strand of literature, price-based measures are commonly used as a benchmark for the success of the Fairtrade concept. Although the Fairtrade movement has grown strongly over the last decade, there are a few studies on other motives that influence consumers' purchase decisions. In fact, there are a number of studies that examine the motivations behind charitable giving and the impact of food labeling on consumer demand (e.g., Johannessen and Wilhite, 2010; Chiu et al., 2016). However, little is known about the underlying motivation of why consumers are willing to pay ethical premiums for Fairtrade products.

Our study addresses this gap by considering the impacts of altruistic tendencies and information on the distribution of the benefits of Fairtrade certification along the value chain. A closer look at the differences in valuation of Fairtrade products compared to conventional products is taken. In Germany, the share of Fairtrade coffee accounts for some 40% of the entire Fairtrade revenues generated among different product groups, which is why coffee is chosen as a reference product for the analysis carried out in this paper (TransFair, 2018).

We hypothesize that consumers' WTP can partly be predicted by their prior beliefs about the distribution of the benefits of Fairtrade certification along the value chain, i.e., the share of

the price premium which the coffee farmers eventually enjoy. If participants over- or underestimate these benefits, it might induce them to have a different valuation for the Fairtrade-certified product compared to a benchmark case with no "price and quality deviation". Moreover, altruistic tendencies might be an additional predictor of consumer WTP in this context. These hypotheses are tested by an empirical analysis that is carried out for the coffee market. The underlying data is collected by a self-designed online survey which has been distributed among diverse subjects. It has been designed and hosted using the SoSci Survey[1] platform for research.

The remainder of this paper is organized as follows. Section 2 introduces the institutional and theoretical background of the Fairtrade concept as well as the development of Fairtrade and its current status. Additionally, related literature on the Fairtrade certification in general, and coffee as a product in particular, is presented. Section 3 outlines the survey design, the calculations, and the expected outcomes. In Section 4, the statistical analysis is described. Finally, Section 5 discusses the key findings of the study and concludes.

2.   Institutional and theoretical background

In the following, the origins of the Fairtrade certification system are presented and its principles discussed. Moreover, selected studies are summarized and the influence of the certification on the consumer, as well as the consequences for different actors along the coffee value chain, listed. Finally, based on this analysis, the limitations of the Fairtrade concept are discussed.

2.1   Information on Fairtrade

In 1997, the association *Fairtrade International* was founded (Dragusanu et al., 2014). Gradually, information about the poor living conditions of coffee producers, whose incomes are still below the subsistence level, became public, so that people began to question the conventional coffee production. As a consequence, Fairtrade enlarged its cooperation – from health food stores to large roasting companies and conventional supermarkets over time, which led sales of Fairtrade products to grow at double-digit annual rates (Baake et al., 2018).

Nowadays, Fairtrade aims to provide the possibility for consumers to enhance the farmers' incomes and improve living standards of the poor in developing countries by price premia. To that end, an independent organization controls compliance with the product and production specifications, issues appropriate certificates, and thus tries to maintain and secure the credibility of the Fairtrade certification and label. Buying Fairtrade products can be considered

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[1] SoSci Survey allows for scholarly projects to implement an online survey. More information can be found on https://www.soscisurvey.de/.

as a result of increasing interest on the consumer side to purchase ethical products (Fairtrade-Deutschland, 2019).

The mechanisms behind the Fairtrade concept include (i) a price floor, which implies a minimum price for a specific certified product that is sold by the producer, and (ii) a social premium, which is directly paid to the producer cooperative, in addition to the sales price of their green coffee beans. Another approach of the Fairtrade label is to create stability in the producing countries by fostering long-term contracts between cooperatives and processors. Additionally, Fairtrade aims at offering farmers access to credit by forming creditworthy cooperatives, intends to improve working conditions, establishes an institutional structure among the farmers, and fosters environmental protection (Dragusanu et al., 2014). Nevertheless, there are discussions on whether the Fairtrade concept is an adequate tool for providing help to the farmers in the long run. Although it guarantees a fixed minimum price and a social premium on top, there is no guarantee of sales for the farmer cooperatives. In this way, producers may not be able to sell all of their beans at Fairtrade standards, which often leads to the use of conventional sales channels (De Janvry et al., 2015). Furthermore, producers have to meet a variety of criteria including strict "labour standards, sustainable farming, governance and democratic participation", to participate in the Fairtrade certification process. This may cause an extra effort in advance that puts many farmers off in participating in the certification system (Dammert and Mohan, 2014). Moreover, it is difficult for them to deter a significant market share from conventionally traded products due to an increasing power gap between producers and processors (Johannessen and Wilhite, 2010). The change in the relevance of Fairtrade products, measured in terms of market and revenue shares, can also be seen in the market development over the past decade. Although the German Fairtrade market indicates increasing revenue levels, which raised from €0.14 bn to €1.33 bn from 2007 to 2017, and the market share increased from 0.11% to 0.79% in the same period, revenues of food sales in Germany rose from €131.7 bn to €168.6 bn. This shows that even though the Fairtrade-certified product market expands rapidly, the total revenue of Fairtrade-certified products lag behind the revenues generated in the conventional food market (Forum Fairer Handel, 2008; IRi, 2018; TransFair, 2018).

2.2   Related literature

In the following, an overview of the current literature is given. The selected studies carry out analysis on the certification process, reasons behind the increasing trend of buying Fairtrade products, and various external factors on the Fairtrade concept. Subsequently, limitations of the Fairtrade system are discussed.

2.2.1 Fairtrade certification

A product can only be sold under the Fairtrade label if all entities along the value chain comply with the Fairtrade standards. The certification process starts at the producer level, which is usually represented by the associations of small-scale farmers. These cooperatives produce the raw ingredients of Fairtrade-certified products (Dammert and Mohan, 2014). They sell their products directly to the certified processing companies, which process the final product that is then sold through licensed retailers and eventually to the end-consumer (Baake et al., 2018).

But why do Fairtrade-certified products gain increasing popularity these days? Dragusanu et al. (2014) find that consumers increasingly intend to behave in a "socially and environmentally responsible manner" and thus are willing to pay an ethical premium for certified goods. This is recognized by the retailers, who try to respond to the new consumer segment. However, they are often not able or willing to indicate the level of social sustainability achieved in the production processes of their goods (Dragusanu et al., 2014). According to the standards of corporate social responsibility, consumers either evaluate companies as "good" or "bad". "Good" companies are those that have a high social reputation and thus attract consumers, while "bad" companies lack social commitment and face negative consumer reactions like boycotts (Castaldo et al., 2009). Beyond that, it is important to understand that the Fairtrade certification accentuates the link between producers and consumers, while intermediate entities take a back seat. In this way, powerful entities within the global value chain may distribute products that pretend to comply with the standards of Fairtrade, but are not as fair as promised to the consumer (Johannessen and Wilhite, 2010). Marketing strategies thereby represent an important factor on the purchase decision. Retailers advertise their ethically conscious practices and transfer these values on their products to suggest that consumers are helping producers in developing countries by buying specific products. However, the social reputation and the compliance with the Fairtrade standards of the retailer is not transparent to the consumer during an ordinary purchasing situation. Therefore, by default, consumers trust the retailer's compliance with the standards and can only use the certification as a modest heuristic to inform their purchase decisions. Hence a retailer's credibility can be interpreted as one of the main determinants of consumers' purchasing decisions of Fairtrade-certified products together with brand loyalty (Castaldo et al., 2009).

Besides consumer trust, there are other factors which influence the consumer perception of the benefits within the Fairtrade system: Alain de Janvry et al. suggest that free market entry into the Fairtrade market can be seen as an exemplary market characteristic, which may undermine the benefits of producing within the Fairtrade system. It can be detected that the benefits of the certification are marginalized by a constantly increasing number of products that

are sold under the Fairtrade label (De Janvry et al., 2015). This leads to the question whether the Fairtrade system can be sustainable in the long run. According to Dragusanu et al., non-certified producers offering homogenous goods with the same quality and origin increasingly observe that certified producers sell their products at a slightly higher price. Hence, the non-certified producers tend to certify their products as well, which leads to an increase in the total amount of Fairtrade products. However, the total consumer demand for these products grows by a smaller rate than the number of certified products. As a consequence, the share of each producer's output that actually could be sold under Fairtrade conditions decreases (Dragusanu et al., 2014). Considering this, free entry into the Fairtrade market may continue up to a point where the monetary benefits of Fairtrade equal the producers' certification costs. This can potentially harm the sustainable development of the Fairtrade market and the concept behind Fairtrade certification (De Janvry et al., 2015). The balance between decreasing sales of single farmers through free market entry and high certification costs thus seems to play an important role for the long-term effectiveness of the Fairtrade concept. Saenz-Segura and Zuniga-Arias indicate that less-educated farmers with less farming experience or land ownership are more likely to become Fairtrade-certified in order to receive support, although they have to pay additional certification costs (Saenz-Segura and Zuniga-Arias, 2009).

Recent literature defines the sales price paid by the processor to the producer as the dependent variable in order to test the impact of Fairtrade. However, the sales price of the producers' crops seems to be a weak indicator of producer welfare, as Fairtrade certification also involves other associated costs, and fosters changes in productivity. In most of the cases, cooperatives take deductions to compensate loan costs or to pay down debts, which might incur through certification costs. Therefore, the sales price often does not equal the farm-gate price received by Fairtrade farmers (Dammert and Mohan, 2014).

2.2.2 Fairtrade retail price and buying decision

Demand theory tells us that low (high) retail prices affect the demand positively (negatively) (Marshall, 1890). However, the retail price of a product is only one characteristic among other product attributes that influence consumer demand. Since Fairtrade products include attributes that are of political, social, and environmental nature, consumers' willingness to pay for an ethical premium can be understood as the Fairtrade mark-up on the retail price of a similar conventional product (Andorfer and Liebe, 2014). Even though Fairtrade seeks to be a catalyst for societal and commercial change, it currently rather becomes a consumption habit instead of being a certification concept that tackles injustice along the value chains of big companies or local socio-political problems (Tiffen, 2019).

Hence, consumers' decision-making process with respect to purchasing behavior highly depends on the level of trust they have in the Fairtrade compliance practices in the production process and trade. Beyond this, personal norms influence consumers' intention for considering sustainability and social responsibility in their consumption behavior (Zerbini et al., 2019).

Influence of social preferences

An altruistic disposition can be defined as an intrinsic activator of helping behavior towards people in need, which corresponds to common social norms. In order to transform a subject's idea of morality into a concrete action, the moral norm needs to raise a subject's awareness in everyday life situations. Social psychologists distinguish between *awareness of need*, which describes a subject's attitude that action must be taken in certain situations and *awareness of responsibility*, which indicates the individual's feeling of being responsible to perform the mentioned action (Schwartz, 1977). Personal norms and morals are strong predictors of one's decisions, as they are associated with moral obligations that induce individuals to follow certain behavioral rules. If the production process of certain goods is declared to follow normative rules close to the personal norms adapted by the consumer, then consumers' propensity to choose these goods will increase. It can be acknowledged that consumers' personal moral obligations to respond to social norms theoretically lead to a higher willingness to purchase Fairtrade-certified products (Andorfer and Liebe, 2014). However, consumers do not always behave consistently. Vermeir and Verbeke investigated the effect of an attitude-behavior gap on the consumption of sustainable food. The findings suggest that there is an imperfect correlation between intention and actual behavior. However, in real-life purchase situations, there are other important factors pertaining to situation- and product-related attributes (Vermeir and Verbeke, 2006). Hence, consumers' behavioral intention influence their purchase decision, but cannot be interpreted as an adequate predictor of the actual purchase behavior (Zerbini et al., 2019).

Influence of information

Framing effects are often observed. In the present case, it is another important factor that potentially affects a consumer's purchasing decision. The framing refers to the way a decision problem is presented to the decision-maker and implies that the way of presentation influences the decision-maker's individual choice. Thus information that is given externally may cause a shift in the decision-makers' reference point and induce a change in his or her preferences with respect to other alternatives (Tversky and Kahneman, 1986). Based on this phenomenon, which is commonly referred as the "framing effect", and the fact that consumers are often confronted with asymmetric information about asymmetry vis-à-vis the producers, provision of information might shift consumer WTP.

According to this, consumption of Fairtrade-certified products can be associated with purchase decisions that involve uncertainty and problems of trust, as consumers often hold incomplete information on whether or not the compliance with ethical production standards is guaranteed. Moreover, there is a lack of knowledge of the Fairtrade mechanisms in general, which induces difficulties for consumers in distinguishing the Fairtrade certification from other social or environmental labels (Andorfer and Liebe, 2014). Although this problem can intuitively be addressed by providing information on Fairtrade products, literature suggests that adding detailed information on the Fairtrade label to the product's packaging may cause an information overload. While general information on the Fairtrade certification helps to foster consumers' ethically motivated buying decisions, the information overload is found to decrease consumers' willingness to pay (Andorfer and Liebe, 2014). Due to the existence of an information gap, *consumers are hypothesized to over- or underestimate the impact of the Fairtrade label*, which is also our first research hypothesis (H1).

2.2.3 Fairtrade coffee

An important question about the Fairtrade certification is whether its expansion led to fairer sales prices and better production conditions in developing countries. To answer this question Fairtrade coffee is examined as an example. More specifically, it is questioned whether the Fairtrade concept has the ability to break down the exploitative structure of the international coffee value chain. Nowadays, coffee represents the most common Fairtrade product within the Fairtrade network and has the largest market share (Johannessen and Wilhite, 2010). Its growth is due to its rapidly increasing mainstreaming in the market, which is triggered by large importers who are able to influence the conventional coffee market with the impact of their market power. Furthermore, the increasing consumer demand for fair coffee leads large distributors to buy high quantities of certified coffee. As a result, the price of certified coffee increasingly becomes an object of speculation like the world market price for conventional coffee. This causes downward price pressure that may affect the producers negatively, which leads to an "inherent contradiction" between fairness and profit within the Fairtrade coffee market (Johannessen and Wilhite, 2010). In general, the Fairtrade certification enables coffee companies in the case of roasting and retail trade to differentiate their products in an ethical dimension and to address consumers' perceived social responsibility. Fairtrade certification serves as a tool for roasters to sell their coffee at a higher retail price and to profit from the greater WTP of pro-socially-oriented consumers. Recent evidence indicates that the difference in the retail prices between conventional and Fairtrade-certified coffee far surpasses farmers' monetary value added from the certification (Baake et al., 2018). Hertel et al. also state that half

of the regular coffee buyers are willing to pay a price premium of $1 for a pound (~0.45 kg) of Fairtrade-certified coffee. Another 25% would at least pay a premium of $0.50 (Hertel et al., 2009). These findings are supported by Pelsmacker et al., who indicate that consumers that value such a donation based on the equity considerations or pro-social attitudes, are willing to pay higher prices compared to conventional products (Pelsmacker et al., 2005). Primarily, Fairtrade certification enables consumers to send out a positive signal about their interest in the well-being of coffee farmers and their pro-social attitudes, which adds symbolic value to the product (Friedrichsen and Engelmann, 2017). Based on this, the following second research hypothesis can be stated: *The WTP of consumers with altruistic tendencies is higher than the WTP of less altruistic consumers* (H2).

Despite the mentioned factors that help Fairtrade coffee to gain increasing popularity, coffee supply is much higher than demand in the Fairtrade market. As a consequence, in 2012, barely 30% of the worldwide produced Fairtrade coffee was sold by certified cooperatives with the Fairtrade label. The remaining 70% were sold as conventional coffee, even though the Fairtrade requirements were fulfilled (Baake et al., 2018). This problem could possibly be solved by establishing lower retail prices for Fairtrade coffee among different sales markets. Assuming that there are no extra costs for transporting, roasting and packaging of Fairtrade-certified coffee compared to conventional coffee, it is still questionable which factors may justify the higher sales price of certified coffee. In order to examine this question from an economic perspective, it can be stated that if imperfect competition is in place due to an oligopolistic market structure, prices may not be Pareto-optimal; instead, they reflect the market power of the market leader/s (Dammert and Mohan, 2014). According to this, the explanation for the roaster's large market power is as follows: In the Fairtrade coffee market there are just a few roasters producing Fairtrade-certified coffee, which means a low level of competition that may cause higher sales prices of certified products. Even retail companies cannot take advantage from the high retail prices, because they are forced to respond to the trend of Fairtrade by offering certified products to influence their general image positively. By doing so, retailers put themselves in a position that lowers their power of negotiating towards the roasting companies. Fairtrade coffee thus generates smaller profit margins for retailers than conventional coffee, which explains the retailer's lower deviation payoffs that are found in studies on profits along the coffee value chain (Naegele, 2019).

Income effects of Fairtrade coffee on farmers
Again, the approach of the Fairtrade organization is to cooperate with democratically organized cooperatives of small farmers and to foster trade union organizations on plantations. This means

that coffee plantations with hierarchical and exploitative structures are formally excluded from the certification.

In order to understand the effect of the Fairtrade system on farmers' income levels and the corresponding cooperatives, it is important to note that Fairtrade certification does not include a guarantee of sale. This is because as the Fairtrade organization only grants label licenses but does not buy coffee beans from the cooperatives. The additional source of income generation within a cooperative through Fairtrade certification thus results from the social premium, as well as the difference between the guaranteed minimum price and the world market price, multiplied by the quantity actually sold under the Fairtrade conditions. If the world market price is set above the minimum price, the additional value added through the certification is limited to the social premium (Baake et al., 2018). In addition, there are costs for certification, which incur annually and are generally independent of the quantity sold (Baake et al., 2018). Although Fairtrade standards guarantee a minimum price and a social premium, these mechanisms do not affect the whole coffee value chain, thus ensuring real fairness among the single networks (Johannessen and Wilhite, 2010). While Fairtrade seeks to improve the lives of farmers in developing countries, it often does not have the predicted impact on the farmers' incomes. Chiputwa et al. document a significant positive impact on the income of coffee farmers in Uganda, whereas van Rijsbergen et al. find a significant negative impact in the neighboring country Kenya (Chiputwa et al., 2015; Van Rijsbergen et al., 2016). According to Baake et al. the positive impact on Ugandan farmers results from the higher value added in the cooperative through own further processing, while the negative impact on Kenyan farmers is conditioned by a low level of diversification among the increasing number of farmer cooperatives. This emphasizes the possibly ambiguous effects of Fairtrade (Baake et al., 2018).

Other effects of Fairtrade coffee

Besides the partly ambiguous income effects, the Fairtrade premium also affects the farmers' lives in several areas, such as productivity, education, and the accessibility of credit. Moreover, Fairtrade certification correlates with an increased level of environmentally-friendly farming (Dragusanu et al., 2014). Fairtrade can also be assessed considering its potential effects on labor markets. If there is low labor demand in rural areas, activities that generate wages below the average market wage are still performed by farmers to generate at least a small income. In this case, Fairtrade production increases opportunities for employment at market wages, but also alters the levels of productivity. Wages may go up in the whole region in response to higher Fairtrade wages, while the social premium, which is invested in health, education and infrastructure, can be beneficial to all actors within the economy (Dammert and Mohan, 2014:

7-8). More specifically, at least $0.05 of the social premium, which represents 25% of the whole premium that is set at $0.20 per pound for all sorts of Fairtrade coffee beans, have to be reinvested in enhancing the productivity and quality or in financing social projects like the construction of educational buildings or infrastructure. Another benefit for farmers is the possibility to be part of a Fairtrade cooperative, which enables them to take advantage through economies of scope compared to single production. Cooperatives profit from easily accessible credit and the transfer of knowledge, which enhance the farmers' productivity and contribute to a stable income (Fairtrade-International, 2019). Still, farmers may get tempted to sell their best quality products on the premium conventional markets, because Fairtrade does not reward the coffee beans' quality, while conventional production does. This might lead to an accumulation of medium-quality coffee, that is sold under Fairtrade conditions at the minimum price (De Janvry et al., 2015).

Effects for roasters and retailers

Based on the distribution of power between roasting and retail companies, we want to analyze the mentioned effects for the coffee market in Germany next. If market competition is less intense, it is also worthwhile for several roasters to offer Fairtrade coffee in an oligopolistic market like the German coffee market, where almost every large roasting company offers both, conventional and Fairtrade-certified coffee. Although the increase in the number of suppliers would usually induce competitive pricing among retailers, the ethical premia are set way above the Fairtrade premium that is paid to farmer cooperatives. This effect results from the possibility of ethical differentiation, which reduces the competitive pressure between otherwise homogenous products, and thus increases retail prices as well as the roasters' profit margins, and makes Fairtrade-certified coffee product to a kind of premium product (Baake et al., 2018). The willingness to pay thereby depends partly on the retailer's perceived level of respect towards producer rights and an effort to voluntarily cater to their needs. If this perception is achieved, consumers are willing to trust Fairtrade products that are sold by such retailers. They trust the retailer to behave in a socially responsible way, so that an increase in WTP is detectable. Let us recall that Fairtrade products that are sold under the retailer's own label are valued most by consumers, as long as the retailer's social reputation is perceived as "good" (see section 2.2.1). Yet, this does not automatically apply to all goods sold. Products whose dominant attribute is quality, taste or usefulness, are less affected by the company's social reputation (Castaldo et al., 2009) than those where, say, only price matters.

Hence, consumers may be more likely to overestimate the benefits of Fairtrade certification, which leads to our third research hypothesis: *Consumers who overestimate the composed*

Fairtrade benefits have a higher WTP (H3). The benefits of Fairtrade certification result from the sum of the minimum price and the social premium. While the minimum price intends to establish price stability, the social premium fosters projects within the social domain. However, implying an information gap among the consumers, a differentiation on the consumer side between both aspects of the Fairtrade concept cannot be assumed.

2.2.4 Limitations of Fairtrade

Besides all arguable advantages and disadvantages of the Fairtrade concept, there are also given limitations that lower its effectiveness. It is assumed that the increasing demand for retraceable Fairtrade coffee of good quality reduces the chances of small cooperatives to obtain the promoted Fairtrade benefits (Johannessen and Wilhite, 2010). Even for larger cooperatives it becomes more difficult to obtain significant benefits. Since there is no limit for the total number of cooperatives participating in the Fairtrade certification, the decision to be certified is made by every individual cooperative. Based on this, participation in the certification is worthwhile as long as the expected additional income exceeds the certification costs. Yet, the more the cooperatives become certified, the larger the supply of potentially certified coffee will be. This in turn leads to a decrease in the quantity that each cooperative can sell at the guaranteed minimum price. Eventually, it is not profitable for any previously non-certified cooperative to get certified, because the expected Fairtrade revenues are estimated below the Fairtrade certification costs (see section 2.2.1). Only cooperatives that sell an above-average proportion of their products under Fairtrade conditions will be able to profit from the certification, whereas other cooperatives only gain little or nothing from certification, or may even might experience losses if harvest results are unfavorable (Baake et al., 2018). This is still true even if roasting companies are willing to establish long-term relationships with the cooperatives. Although the resulting long-term contracts reduce the risk of fluctuations in the farmers' income, these contracts do not address the problem of an increasing number of certified cooperatives. In other words, at the market equilibrium, a smaller share of the farmers' individual production output will be contractually stipulated by processors in order to spread their risk of shortages. These considerations also apply to the implementation of social projects that depend on the financial support by the social premium. Due to an increasing number of certified cooperatives, market competition increases and sales of individual farmers within the cooperatives decrease. At present, however, several cooperatives still profit from these projects, so that the benefit that accrues can be interpreted as additional non-monetary income which contributes to the farmers' welfare. The earmarking of the social premium can be efficient, as it can help to overcome coordination and free-rider problems in financing public and social projects (Baake et al.,

2018). However, Johannessen and Wilhite state that this is often not the case, since the social premium is commonly used by cooperatives to subsidize further certifications in order to gain competitive advantages (Johannessen and Wilhite, 2010). Based on this, we can conclude that providing information on the presented limitations to consumers may induce a decrease in their willingness to pay. Therefore, the fourth research hypothesis is stipulated as follows: *Providing information on the economic benefits of Fairtrade certification distributed along the value chain have a negative effect on consumer WTP* (H4).

3. Methodology

The following section presents the research methodology and survey design applied in this study. It also includes a presentation of basic calculations, the methodology applied for detecting altruistic tendencies, the framework on which the survey is based on, and the econometric models for the analysis that follows based on the survey results presented.

3.1 Survey design

An online survey, which was distributed through different platforms by a freely accessible link and hosted using the SoSci Survey platform for research (www.soscisurvey.de), was conducted within two weeks. It was shared among social media channels, student fora, and private as well as institutional contacts. The field of study and target persons were not further specified in order to obtain a sample which is representative for a cross-section of society.

In the beginning, the survey presents an introductory text which roughly explains the topic and professes that participants should answer the survey questions according to their personal opinions. Furthermore, it was assured that individual answers will not be published and that inferences about the participants' identities are not possible. That is relevant for the crowding-out effects or biases which may influence the respondents' answers, because generally people are interested in a positive social valuation of their actions. Therefore, people are more likely to choose public actions that are being perceived as fair, while their anonymously taken decisions may often be considered as unfair (Nitzsch et al., 2011).

The survey design is displayed in the Appendix. The first part of the survey aims at quantifying the participants' altruistic tendencies, which is expected to influence the WTP for Fairtrade coffee (the concrete method is explained in section 3.2 below). Afterwards, the subjects are asked to give their perception of the purpose of Fairtrade in a few words, in order to determine the level of accordance to the actual aim of Fairtrade. The following questions deal with how consumers perceive the social and monetary benefits for the farmers to be. They contain an estimation of the minimum price and an estimation of the social premium as a measure for the information gap regarding to benefits within the Fairtrade concept. The

minimum price is presented in categories of an amount of €0.49, which reaches from €0 to "more than €3.99". The options for estimating the social premium reaches from €0.01 to "more than €1.99", while every option contains an amount of €0.19. Additionally, for the social premium, there is a fallback option that allows participants to choose €0 in case they do not think that such a premium exists. Subsequently, participants are asked to evaluate the distribution of monetary benefits along the value chain of coffee, which is reduced to the three actors farmer cooperative, roaster, and retailer. The next question refers to the preferences on Fairtrade or conventional coffee subject to varying prices. The reference product is one pound (~0.45 kg) of 100% Arabica ground bean coffee in premium quality of a renowned manufacturer. The mentioned product is presented to the participant both as a Fairtrade and a conventional product, for which participants need to trade off between the options. For each option, the retail price of Fairtrade coffee decreases in €0.20 steps from €6 to €3.80, while the retail price for conventional coffee remains at €4 for every option. According to to Naegele, the extra value of Fairtrade certification at the retail level (= ethical premium) is around $1.20 per pound, which is equivalent to €1.08. Considering this, the average Fairtrade retail price would be €5.08, assuming that conventional coffee is set at the price level of €4. In order to take the possible price fluctuations into account, the range for Fairtrade coffee is set between €4 to €6. Additionally, there is an option where the retail price of Fairtrade coffee falls below the one of conventional coffee. This trade-off aims at answering the question of whether a participant may oppose Fairtrade at all by choosing the more expensive but non-certified product instead (Naegele, 2019).

Beyond this, there might be an information bias that distorts the consumers' estimations on the farmers' benefits. To test this, the participants received the following information on the distribution of the Fairtrade premium along the value chain, after they made their choice for every option:

For every pound of Fairtrade coffee sold, the farmer cooperative receives an additional price of around €0.24 compared to conventional coffee. This price consists of a social premium of €0.18 and a minimum price of €0.06 above the world market price. However, the selling prices for Fairtrade coffee are on average about €1 above the price of non-certified products.

Afterwards, the participants were asked to evaluate the same trade-off options again. This is necessary to recognize the impact of information and to receive a WTP that does not suffer from information bias.

3.2 Calculation of the Fairtrade premium

The calculations are based on the average coffee price per pound of 'washed arabica milds' from June 2017 to June 2019, which is $1.34, and the minimum (floor) price for these beans, which is set at $1.40 (ICO, 2019; Fairtrade-International, 2019).

$$WMP > FMP_r \tag{1}$$

$$FSP_r = Value\ Added \tag{1.a}$$

where WMP denotes the world market price, *FMP* the real Fairtrade minimum price, and *FSP* the real Fairtrade social premium.

$$WMP < FMP_r \tag{2}$$

$$(FMP_r - WMP) + FSP_r = Value\ Added \tag{2.a}$$

With WMP = $1.34 and FMP$_r$ = $1.40 it follows that eq. (2) is fulfilled:

$$\$1.34 < \$1.40 \tag{3}$$

$$(\$1.40 - \$1.34) + \$0.20 = \$0.26 \tag{3.a}$$

The Euro to US dollar exchange rate of around 0.9 leads to a value added of €0.24 (Onvista, 2019).

To derive the producer welfare from these data it is necessary to assume that median coffee sales of green beans are at 2,108 pounds per year, which leads to a theoretical increase of the farmer's annual income by about $126.48 (excluding the social premium of $0.20 per pound). However, note that cooperatives are only able to sell around 30% of their products under the Fairtrade label (De Janvry et al., 2015). Therefore, the producer welfare through Fairtrade decreases to $126.48 × 0.3, an annual gain of $37.94 (or €34.15). The certification costs thereby depend on the number of members that the certified cooperative has. In 2015, for example, a small cooperative of less than 50 coffee farmers initially paid €1,466 for it and €1,199 annually, while organizations with more than 1,000 members have to pay €3,470 annually. However, these figures are just rough estimates and do not consider all possible aspects that may affect the calculation of the concrete certification fee (FLOCERT, 2019).

3.3 Determination of altruistic tendencies

In social psychology, altruistic behavior is defined by the approach that the helping person does not benefit in a material or psychological way from his or her assistance. Helping another person in need to present oneself as a good person, to avoid feelings of guilt or negative social sanctions for denying help, is not considered as altruistic behavior. These actions can rather be explained by an egoistic motivational system (Batson et al., 1991). Therefore, it seems difficult to distinguish between pure altruistic behavior and behavior that appears altruistic at a first glance, but instead turns out to serve egoistic motivations.

To conduct the subjects' altruistic tendencies, the first part of the survey asks for the preferred behavior in certain situations. The items are adapted from the 'Altruistic Personality Scale', which measures the participant's altruistic tendencies on a 5-point Likert scale (Rushton et al., 1981). This scale has already been used in various studies and can therefore be seen as a reliable and validated yardstick to identify altruistic tendencies. For this paper, its items are translated from German to English.

The results are expected to correspond to the findings of Chiu et al., who find out that people with altruistic tendencies are willing to pay an ethical premium, which is around 42.5 % above the original retail price. Paying a premium for the Fairtrade-labelled products cannot be interpreted as a purely charitable donation, as altruism is only one predictor among several others. Nevertheless, one can assume that consumers who buy a certified product that stands for socially responsible production and trade are more likely to donate to charities, because they are motivated by a pro-social intention (Chiu et al., 2016).

3.4 Expected outcome

Based on the survey conducted, the following four hypotheses derived from the current state of research are examined by distinct analyses on the collected data:

H1: *Consumers over- or underestimate the impact of the Fairtrade label.*

H2: *The WTP of consumers with altruistic tendencies is higher than the WTP of less altruistic consumers.*

H3: *Consumers who overestimate the composed Fairtrade benefits have a higher WTP.*

H4: *Providing information on the economic benefits of Fairtrade certification distributed along the value chain have a negative effect on consumer WTP.*

Hypotheses one and two thereby result directly from the current state of research, while hypotheses three and four are further considerations that are based on the presented literature.

The examination of the previous hypotheses contributes to the answer of the research question on how social preferences and information influence the consumers' WTP for Fairtrade coffee products.

4.   Results

In this section, the data set from the survey and descriptive analysis is presented. Then, based on the collected data, the statistical significance of information provision on consumer WTP is tested. In order to analyze correlations between the selected variables, results from both a linear and a Tobit regression are used.

4.1   Data set

In total, 175 subjects participated in the survey, of which 44% were male and 56% were female. The participants' average age is between 28 and 29 years, while the range reaches from 16 to 79 years. The general matriculation standard was the most common educational qualification (52%), followed by participants with a university degree (30%). This seems to correspond with age distribution of the participants. Due to the high variance in the age distribution of the participants, the median age is used for further analysis. Corresponding to the median age of the participants of 23 years, 42% of the participants have a monthly income of less than €500. This seems to be an important factor considering the WTP, because individuals with higher income might   have   a higher WTP for Fairtrade products (Ubilava et al., 2010). The information bias is addressed by the results to the questions on the knowledge with respect to the minimum price, social premium, and shares of Fairtrade coffee.

The minimum price is set at $1.40 (or €1.26) and is estimated correctly by 17% of the participants, while the majority (69%) underestimates the minimum price. The Underestimators can be subdivided into two groups of participants of nearly equal group size. The first group ($n = 61$) estimates a minimum price of a range between €0 and €0.49, while the second group ($n = 62$) estimates a minimum price of a range between €0.50 and €0.99. The opposite estimation behavior can be recognized for the social premium of $0.20 (or €0.18), where the majority of the participants overestimate the premium. The social premium was estimated correctly by 20% of the subjects, while 80% overestimate it. The profit shares of the ethical premium are misperceived by 85% of the participants ($n = 150$), who do not think that the roasting company gains the greatest share of the higher retail price for Fairtrade coffee.

The willingness to choose Fairtrade coffee before any information was given exceeds the willingness to choose conventional coffee, when the Fairtrade product is offered at a retail price of €5.40 (see Fig. 1). After the participants received information on the distribution of profits along the value chain, Fairtrade coffee is chosen only when its retail price is set at €5 or lower.

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In total, a greater number of people is willing to buy conventional coffee after receiving the information, while the reversed phenomenon is observed for Fairtrade coffee.
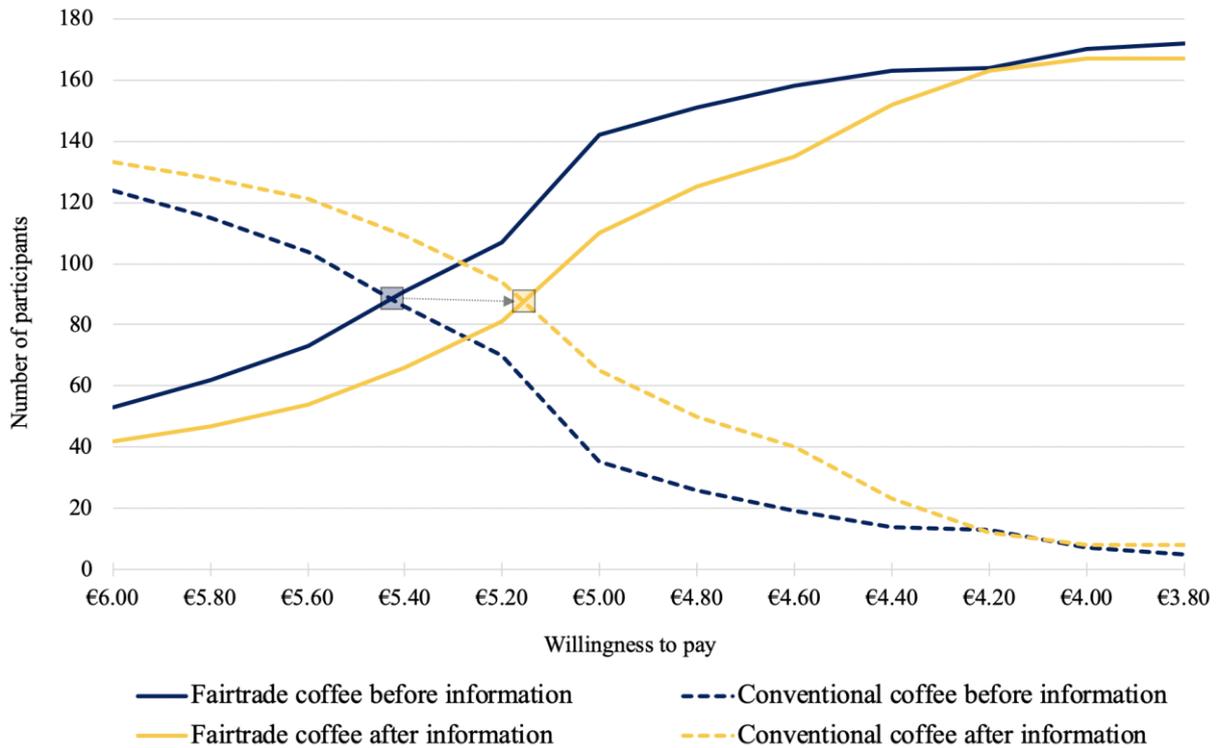

Figure 1: Effect of information provision on the WTP for Fairtrade coffee

Source: Own representation based on the collected data

Moreover, the data suggests that 29.9% of the consumers are willing to pay a price premium of €2 compared to the conventional coffee product, which is assumed to have a constant retail price of €4. After receiving information on the distribution of Fairtrade benefits along the value chain, this amount decreases from 29.9 to to 24%. Note that almost all participants who choose the Fairtrade option in the first trade-off *(Fairtrade coffee for €6.00 OR Conventional coffee for €4.00)* keep on choosing Fairtrade coffee for all further trade-off options. The number of consumers that are willing to pay a price premium of €1 falls from 80.23% to 62.86%, which is the most significant shift observed in the data set upon providing information and suggests a relevant effect of information on the consumer. Nevertheless, whether this effect is statistically significant or not still needs to be tested. At the price level of €4, when the price of Fairtrade coffee equals the price of conventional coffee, 96% of the participants prefer to buy the Fairtrade-certified product before the information is provided. However, at this level where both products have an identical price, the information may not have any relevant impact on consumers' decisions. This idea is supported by the observation that information provision leads to a decrease of only 0.6% of the participants who prefer to buy Fairtrade products. The

number of participants who might oppose (or simply ignore) Fairtrade on purpose by choosing the conventional coffee when the retail price of Fairtrade coffee is at €3.80 and thus cheaper than the conventional coffee, increases from 2.8% to 4.6% after the participants received the information. However, for each group approximately half of the participants seem to oppose (ignore) the Fairtrade-labeled product deliberately, while the other half seems to choose conventional coffee for other reasons. This assumption is made on the choices the subjects indicated for the different trade-off options. On the one hand, participants who prefer not to choose Fairtrade-labeled product options seem to have consistent preferences along the price range the trade-offs included. On the other hand, other participants might be sending a signal on their WTP-type by the level they switch their purchasing preferences. They show the typical behavior of being more likely to choose Fairtrade with a constantly decreasing sales price, but then prefer to purchase conventional coffee when the price of Fairtrade coffee falls below the price of conventional coffee. This behavior may emerge because Fairtrade coffee should benefit the farmers on a higher level than conventional coffee, which seems hardly achievable by a lower sales price of certified coffee *(€3.80)* compared to non-certified coffee *(€4.00)*. Hence, a descriptive investigation of the data provides evidence in favor of hypothesis four (H4); however, it needs to be tested whether this effect is statistically significant.

4.2 Statistical analysis

We first perform descriptive analysis on the collected data. To this end, we first test the statistical significance of the observed differences in WTP and, afterwards, carry out regression analyses. The sample size reduces to $n = 172$ participants for the non-descriptive analysis, when the missing values are dropped.

4.2.1 Descriptive analysis

To analyze the collected data in detail, participants are divided into two groups, which contain either the subjects that under- or overestimate the monetary benefits of Fairtrade. The participant's misperception of benefits is computed by the following equation:

$$(FMP_e + FSP_e) - (FMP_r + FSP_r) = \varepsilon \tag{4}$$

where FMP_e is the estimated Fairtrade minimum price and FSP_e denotes the estimated Fairtrade social premium, $(FMP_r + FSP_r)$ is the real composed Fairtrade benefit, $(FMP_e + FSP_e)$ the estimated composed Fairtrade benefit, and ε the error term.

The composed Fairtrade benefit is calculated as the sum of the minimum price and the social premium to generate one variable that measures the absolute monetary value added by the

Fairtrade concept. Subjects were asked to estimate the current Fairtrade minimum price without considering alternatives. At this point, considerations regarding the differences between minimum price and the world market price can be neglected in order to identify the information gap and the misperception of benefits. This method may distort the results by decreasing the deviation of estimations on an individual level, because besides a correct estimation, the Fairtrade minimum price can be under- or overestimated, while the social premium can only be overestimated or perceived to be zero. A differentiation by consumers between the monetary benefit of the minimum price compared to the monetary benefit of the social premium is often not possible. Based on this, it is necessary to create one variable that measures the consumer's cumulated estimation of all monetary Fairtrade benefits.

Differences in the information-related WTP can be analyzed by categorizing participants as "Underestimators" or "Overestimators". While 89 subjects underestimate the benefits of Fairtrade, 78 subjects overestimate them.

The consideration of the distribution of the misperception of benefits suggests that there is some evidence in favor of hypothesis one (H1), because only 2.9% of the participants ($n = 5$) estimated the benefits of Fairtrade correctly. The altruistic tendencies are nearly equally distributed among the two groups. These are measured by the proportion of participants that belong to the corresponding category. In total, five categories can be assumed to classify the levels of altruism (see Table 1).

Table 1: Transformation of altruism scores

Score	**Level of altruism**
[50 – 60)	Very low
[60 – 70)	Low
[70 – 80)	Medium
[80 – 90)	High
[90 – 100]	Very high

We find a correlation between the consumer's level of altruism and their WTP before receiving information on the distribution of Fairtrade benefits. The Pearson correlation coefficient factor indicates a positive relation between the two indicators, which is also significant. This means that an increasing level of altruism might explain an increase in consumer WTP. The WTP differs significantly across the levels of altruism among the participants. Before receiving some information on Fairtrade, subjects with a high or very high levels of altruism are willing to pay an ethical premium that is €1.01 or €0.99 above the non-altruistic participants, whose scores are rated as "very low" (see Table 1; see Fig. 2.1, Fig. 2.2).

In the following, participants who reached an altruism score that can be classified as very low are not further considered due to a non-representative sample size (n = 6).

Figure 2.1 indicates the mean WTP before and after the information provision over the different altruism scores. It further reports whether these differences are statistically significant. While for most of the groups the difference in WTP is statistically significant, for the group reaching an altruism score from 70 to 79 (altruism score mean = 77.99, altruism score median = 78) this is not the case. Our interpretation of this finding is that the information has an effect on WTP for the groups of individuals with weak or strong altruistic preferences, but not for the one with the average altruistic preferences. This result of the descriptive analysis provides suggestive evidence in favor of hypothesis two (H2).
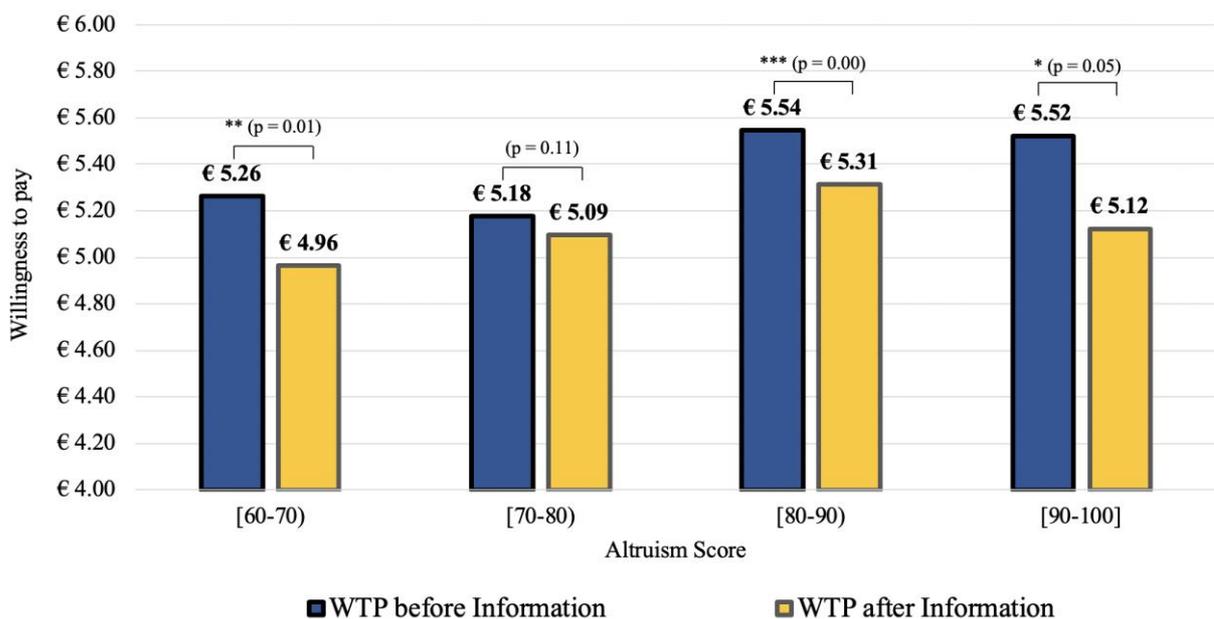

Figure 2.1: Willingness to pay at different levels of altruism before and after information provision

Source: Own representation based on the collected data

After receiving the information on Fairtrade benefits along the value chain, participants' WTP decreases for all levels of altruism except for the "very low" level. This can be explained by the fact that for the individuals in this group, there might be no prior-belief-updating taking place. For this particular consumer segment, individuals would have no pro-socially oriented preferences and, as a result, show no responsiveness to the information provision. Nevertheless, this result might also be due to the small sample size observed within this category. The average decrease among the other groups of altruism (with a score ranging between 60 and 100) is around €0.25, while the strongest decrease in the WTP of €0.37 is observed for the group with a "very high" level of altruism. This may be due to a greater updating in the prior beliefs of

individuals towards the effectivity of their pro-socially intended behavior (see Fig, 2.1, Fig. 2.2).
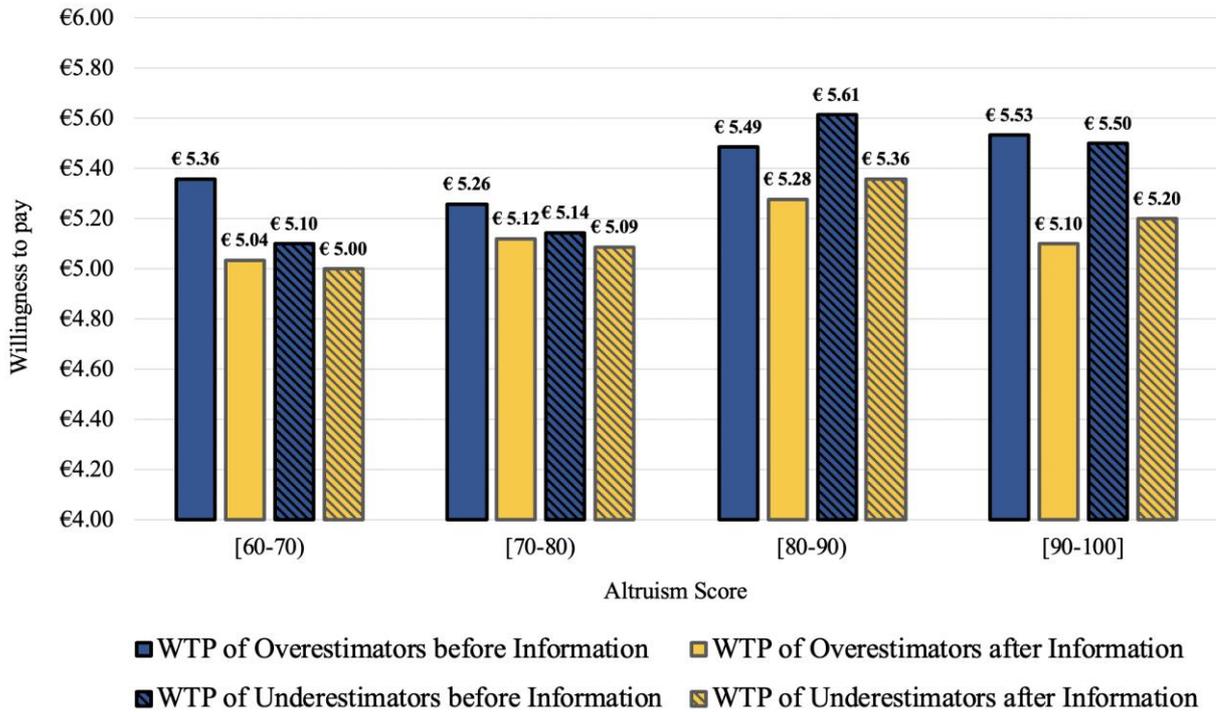

Figure 2.2: Over- and Underestimators' willingness to pay at different levels of altruism before and after information provision

Source: Own representation based on the collected data

In this context, it is important to see how the Fairtrade benefits are estimated among the different altruism groups. At first, it can be stated that there are small differences between Under- and Overestimators. For both groups, the highest share of participants, which is 80% for Underestimators and 78% for Overestimators, reaches a score that ranges between 70 and 90 altruism points. The range of underestimations is between €1.19 to €0.10, while the range of overestimations spans from €0.10 to €5. The average misperception of benefits among the Underestimators is €0.60, while Overestimators have an average value of €1. In order to consider the distribution of the misperception of benefits, it is sensible to compare the group medians: these show an underestimation of €0.50 for the first and an overestimation of €0.60 for the second group.

These misperceptions of the composed Fairtrade benefit may lead to a different WTP between under- and overestimating groups. The data suggest that the Underestimators are, on average, willing to pay a price of €5.27 per pound of 'premium ground bean arabica' coffee, whereas Overestimators are willing to pay €0.11 more. This implies a WTP of €5.38 (see Fig. 3). The might result from the belief that the farmer cooperatives will gain a higher share of the

retail price, which might have a positive effect on consumer WTP. Providing information about the real benefits of the Fairtrade concept reduces the WTP in both groups. The Underestimators' WTP decreases from €5.27 to €5.13, which is a drop of €0.14. Overestimators are only willing to pay €5.16 after receiving the information, which implies a decrease of €0.22. Descriptive analysis indicates suggestive evidence in favor of hypothesis three (H3).
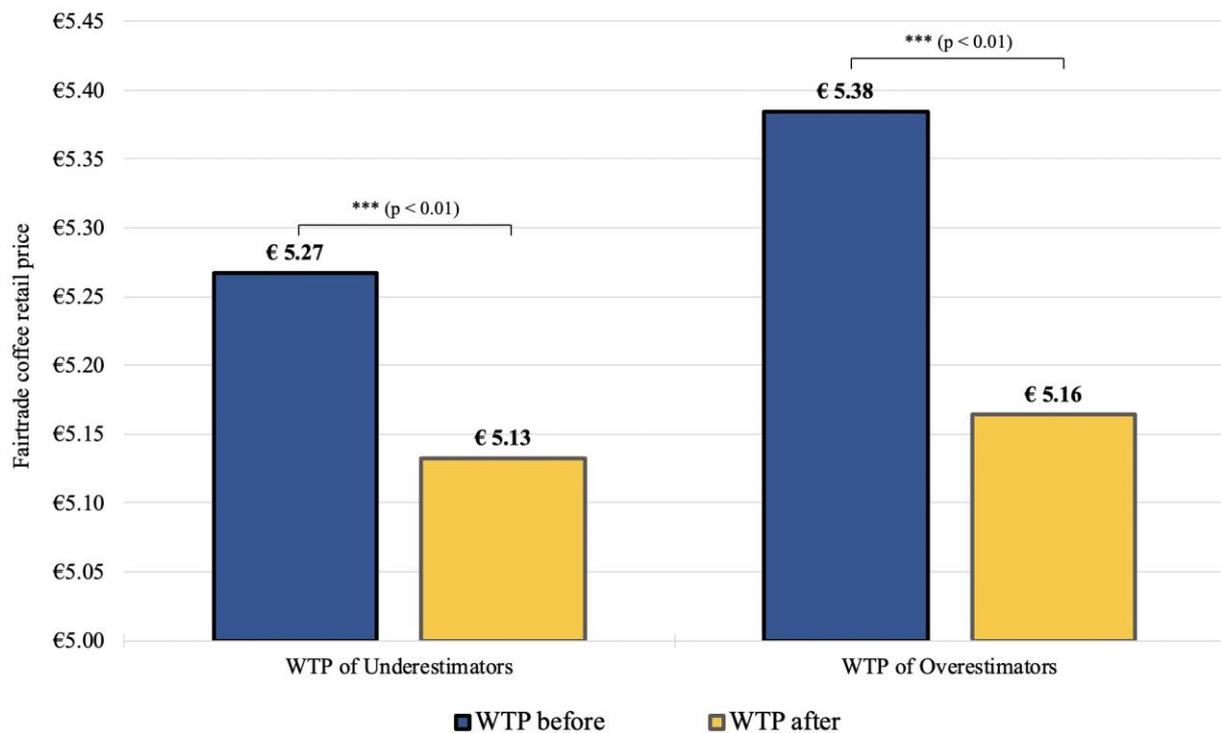

Figure 3: WTP before and after the information provision among Under- and Overestimators of Fairtrade benefits

Source: Own representation based on the collected data

Notes: Standard deviations, underestimators: WTP before: 0.61; WTP after: 0.62; overestimators: WTP before 0.57; WTP after: 0.67.

4.2.2 Testing statistical significance of the descriptive evidence

Using a paired two-sample *t*-test, we find that the differences in consumer WTP before and after providing information on the Fairtrade benefits, is statistically significantly different from each other (See Fig. 3). This remains also true when considering the different levels of altruism (Fig. 2.1). Only the group of participants reaching an altruism score between 70 and 79 is slightly not significant (p = 0.11).

Moreover, we look into the differences across the different groups of Over- and Underestimators. For each group, the WTP is measured before and after the information is provided (Fig. 2.2), however statistical significance cannot be tested sufficiently due to the small sample size within each group.

Hence, the evidence supports hypothesis four (H4), as we find that the provision of information on the distribution of Fairtrade benefits along the value chain demonstrably decreases the consumer WTP for the Fairtrade-labelled coffee.

4.2.3 Regression analysis

For the analysis, a Tobit regression is used, as the survey data can be considered to be censored. This means that the selection options are limited to a set of possible values. Censorship is possible from below, from above, or on both sides. In the last case (both sides), censorship corresponds to an interval in which the data may distort the outcome. Since the answers on the WTP in the survey of this study are presented in pre-determined intervals [€3.80, €6], a Tobit regression is suitable for the analysis.

The regression model

In this study, consumer's WTP is defined as a dependent variable with values in the pre-determined intervals from €3.80 to €6. Similar to the carrying out the parametric tests for the statistical significance, a distinction between the WTP before and after the Fairtrade information is provided. Hence, two different dependent variables for the regression analyses are examined separately. At first, the dependent variable "WTP-before", which describes the consumer's WTP before information is provided, is regressed on the independent variables "Age", "Gender", "Education", "Income", "Misperception of benefits" and the "Altruism score". Afterwards, the dependent variable ("WTP-after"), which considers consumer's WTP after receiving information, is regressed on the same set of independent variables.

Altruism as an independent variable

The Tobit regression analysis is carried out by using the participant's social preferences, which are determined by the "Altruism score" as regressor, and the WTP as the dependent variable (see Table 2). The results show a significant effect of the altruism score on the "WTP-before", which is indicated by a *p*-value < 0.01. A correlation coefficient of 0.027 implies that an increase of the subject's altruism score of one point, *cet. par.*, increases the WTP by €0.027. The altruistic preferences also have a statistically significant effect on the "WTP-after" ($(P > |t|) = 0.048$). However, the correlation coefficient decreases to 0.017.

   Hence, the evidence supports the validity of hypothesis two (H2), as the results indicate that subjects' altruistic preferences significantly affect their WTP. Since the correlation coefficients have a positive sign, participants who show higher altruistic tendencies are more likely to pay a higher retail price for the reference product.

Table 2: Output regression analysis (Age, Gender, Education, Misperception of benefits, Altruism score)

	Tobit regression [(1), (2)]	
	(1)	(2)
VARIABLES	WTP-before	WTP-after
Age	0.0106**	0.0161***
	(0.00533)	(0.00551)
Gender	-0.184	-0.108
	(0.121)	(0.125)
Education	-0.00700	-0.0287
	(0.0242)	(0.0246)
Misperception of benefits	0.133**	0.121*
	(0.0623)	(0.0717)
Altruism score	0.0270***	0.0173**
	(0.00816)	(0.00867)
Constant	3.141***	3.639***
	(0.660)	(0.701)
Observations	172	172
R-squared	-	-

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3: Output regression analysis (Income)

	Tobit regression [(3), (4)]	
	(3)	(4)
VARIABLES	WTP-before	WTP-after
Income	0.0597	0.100**
	(0.0402)	(0.0387)
Constant	5.280***	4.932***
	(0.150)	(0.148)
Observations	160	160
R-squared	-	-

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Misperception of benefits as an independent variable

The results from the Tobit regression indicate that there is a significant correlation between the misperception of benefits and the "WTP-before". The correlation coefficient of the misperception variable is statistically significant at the 5% level ($p = 0.035$). A regression coefficient of 0.133 suggests that an overestimation of the Fairtrade benefits by €1 would increase participants' WTP by €0.133, *cet. par.*. Again, the effect on the "WTP-after" is not statistically significant (($P > | t |) = 0.093$).

These results provide evidence in favor of hypothesis three (H3). Subjects that overestimate the Fairtrade benefit are likely to pay a higher retail price for the certified products compared to subjects that underestimate the Fairtrade certification benefits.

Demographic aspects as an independent variable

Tables 2 and 3 indicate the effect of the selected socio-demographic variables on the "WTP-before" and "WTP-after". While the results indicate that the WTP between the genders are not statistically significantly different from each other, participants' age increases the WTP with a correlation coefficient of 0.011. This effect is statistically significant at the 5% level ($p = 0.048$). Although insignificant, the correlation coefficient ($\beta = -0.184$) suggests that, on average, male participants are willing to pay less for Fairtrade coffee compared to female participants. Moreover, the education level in the regression does not have a statistically significant effect on the WTP ($p = 0.772$). For the 'WTP-after' case, only the variable "Age" has a significant effect on the dependent variable.

A separate regression is necessary to analyze the effect of the consumer's income on the WTP, because the survey offered a fall-back option for this question. Twelve participants decided not to reveal their income, which reduces the sample size for this variable to $n = 160$. The findings suggest that participants' income does not have an effect on the "WTP-before" (($P > |t|$) = 0.140), but the "WTP-after" (($P > |t|$) = 0.010). For the second dependent variable the coefficient is 0.100, which indicates that a jump to the next higher income class may enhance the "WTP-after" by €0.10.

5. Discussion

In the following, the results of our study are discussed in more detail. This includes a critical discussion of the results as well as a discussion of the possible weaknesses and limitations of the study. Finally, the key findings are summarized and an outlook is given.

5.1 Interpretation of the results

Providing information on the distribution of the Fairtrade benefits in the value chain has an effect on the level of WTP. While the information provision decreases the Underestimators' WTP by €0.14, it decreases the Overestimators' WTP by €0.22. This effect might be explained by the fact that information provision corrects the prior beliefs for subjects who at first overestimated the farmers' benefits. On the other hand, the underestimating subjects may have been willing to pay a higher retail price at the outset, hoping to enhance farmers' benefits that way. However, when the information suggests that farmers gain a fixed price that is independent of the retail price, they might also be willing to pay a smaller ethical premium.

In section 3.3 above it was stated that Chiu et al. (2016) find that altruistic preferences can increase a subject's WTP as an ethical premium. The data used in our study suggests that, on average, nearly 27% of the participants are willing to pay an ethical premium of €2. Moreover, almost all participants who choose the Fairtrade option in the first trade-off *(Fairtrade coffee for €6.00 OR Conventional coffee for €4.00)* keep on choosing the Fairtrade option for all further trade-offs. It was assumed that this phenomenon might result from altruistic preferences (see section 4.1). Moreover, it shows, at least within the price range selected in this study, that a significant portion of the consumers show consistent preferences for purchasing Fairtrade coffee products regardless of the price premium. The results from the regression analysis confirm a significant positive correlation between a participant's WTP before the information provision and her altruistic tendencies. This supports the assumption that highly altruistic people may consistently be willing to pay a higher sales price than less altruistic consumers, making the value of the label per se more salient for this group. In addition, altruistic preferences also seem to influence the WTP upon receiving the information on Fairtrade benefits, which can be expected to be the reason for the small decrease (~6%) in the number of people who are willing to pay the highest ethical premium of €2 (see section 4.1). Moreover, for the participants with strong altruistic preferences, the salience of the Fairtrade label might be more prominent. Hence, they might have a higher valuation for the label per se and not deliberately attend to the information on the certification process. Moreover, highly altruistic individuals might demonstrate a significantly higher WTP even for smaller benefits allocated to the farmers.

The estimation of the composed Fairtrade benefit (examined by the misperception of benefits) shows a significant correlation with the WTP before information, which seems plausible, because subjects who overestimate the impact of their payment on the farmers' incomes are probably willing to pay higher ethical premia to support farmer cooperatives in developing countries. To give an interpretation of the socio-demographic variables included, both "Age" and "Income" are found to have positive effect on the WTP (after the subject received information on Fairtrade). In other words, a higher age and income level leads to a higher WTP. The reason behind this relation might be that participants of a higher age demonstrably have a higher monthly income, which results in a greater purchasing power and may cause a decrease in price sensitivity. On the contrary, younger participants usually have a lower income, which presumably lets them reconsider their WTP, after receiving information on the actual distribution of benefits along the Fairtrade value chain. The influence of the variable "Age" can also be recognized before providing information to participants. It is shown

that older people generally are willing to pay a higher retail price for Fairtrade products than younger ones.

Besides, there is a measurable influence of social preferences as well as of information on the consumers' WTP. The altruistic tendencies may be understood as a willingness to help underprivileged producers in developing countries by the additional ethical premium. Thereby, it does not seem to be relevant that the greatest share of this premium is paid to the roaster instead of the producer. The influence of information can be reduced to an information bias the consumer is confronted with. It may be caused by an information asymmetry between processor and retailer on the one hand and the end-consumer on the other hand. This would be a sufficient answer to justify the decreasing WTP after eliminating the information asymmetry by providing information to the consumer.

5.2   Critical appraisal and limitation of the method

The results in this study indicate correlations between the examined variables, but no causalities. Therefore, the drawing of conclusions from the presented results needs some caution.

Although the total number of interviewees is comparable to earlier studies, deficits can be identified with regard to individual characteristics of the participants. Despite of the fact that the gender distribution is nearly equal between male and female subjects, age and income are distributed unevenly. Hence this needs to be taken into consideration, especially when interpreting the effect of the variables "Age" and "Income". Furthermore, in the design of the survey, the relative WTP for the Fairtrade coffee was measured by hypothetical choices. A number of vouchers as a lottery option has been distributed among all the participants as a monetary incentive; however, participants did not face any financial consequences for indicating choices on their relative WTP of the Fairtrade products. Hence, this might have led to measurement errors, as participants' preferences were stated rather than revealed.

Another important limitation of the survey design is the non-randomized treatment of information provision. In order to eliminate the selection bias, the survey design could have been improved by a random allocation of the information treatment. A random allocation of participants into treated and untreated groups would enable a causal interpretation of the information provision on the WTP. A differences-in-differences regression would have been an analysis tool to measure the impact of information more reliably. The strategy of this approach examines how the change in the dependent variable over time differs between a treatment group and a control group. (Kugler et al., 2014). However, such an analysis would have required to create two distinct groups from the outset, as indicated above. Conceptualizing

the survey in a different way, as described above, would enable a causal interpretation for the research hypotheses investigated in this study but had to be left for future research.

6. Conclusion

This study addresses how consumers' social preferences and information on distribution of benefits along the value chain determine consumer WTP for Fairtrade coffee.

Over the past decades, a growing public interest in social, economic, and ecological issues encouraged for-profit and non-profit organizations to initiate extensive projects on sustainable production. Thereby, Fairtrade represents one of these forms of sustainable production in developing countries. It can be seen as a certification tool for labor and environmental production standards and as an essential framework for improving the trading conditions. It explicitly aims to generate benefits to enhance the welfare of producers.

However, the evidence from our study suggests that consumers fail to estimate the financial benefits for farmers, which is utilized by processors and retailers to charge higher retail prices for certified products than it is advantageous for the certified farmers. This raises the question of whether alternative approaches would benefit producers more. It is necessary to reduce the entry barriers (e.g., certification costs) for small and local cooperatives into the Fairtrade market to enable them to profit from the premium. The focus thus should lay on assisting local producer cooperatives entering these markets and on increasing their institutional capacities. This may be an effective way to improve the distribution of benefits.

Otherwise, it would be possible to offer a voluntary donation to consumers that would be transmitted to a non-governmental organization providing development aid work in impoverished countries. However, it may be difficult to ensure the purpose-related use of these donations. Therefore, it is questionable whether this option would really help to provide higher profits to the farmers. Another approach which can secure compliance with given production regularities and foster transparency within the value chain would be governmental monitoring.

To conclude, it can be said that in the current market, large multinational companies control most of the supply chain in the coffee market, which causes a shift of value and surplus to consuming countries. At the same time, consumers seem to be unable to estimate or identify the benefits of Fairtrade that are actually transmitted to the farmer, which is likely caused by the non-transparency of the certification process and the information asymmetry existing in the Fairtrade markets. We find that by removing this potential information bias by a simple information provision, the WTP decreases. This is because the provision of the simple information corrects the wrongly-formed prior beliefs of the consumers and shows that Fairtrade's symbolic message of providing an alternative to the conventional market does not

deliver the promised benefits regarding higher social and economic standards for producers in developing countries. Although Fairtrade aims at providing producers with access to a wholesome fair market, the bottom line states that large multinational companies are often using the Fairtrade system to gain financial and competitive advantages by "fairwashing" their products. This demonstrably leads to a higher willingness on the consumer side to pay an ethical premium that is not necessarily justified.

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