

## Article

# Consumer Willingness-to-Pay for Sustainable Coffee: Evidence from a Choice Experiment on Fairtrade and UTZ Certification

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**Abstract:** Sustainability labels serve as crucial instruments facilitating the presentation of credible product attributes, enabling consumers to assess various aspects of sustainability in their purchasing decisions. This study aims to evaluate consumers' preferences and willingness to pay for sustainable certifications, specifically Fairtrade and UTZ certification, within the coffee sector in Spain. Employing the choice experiment approach, an online survey involving 547 Spanish consumers was conducted, and a conditional logit model was estimated. The findings indicate that consumers exhibit positive utility towards both sustainability labels examined. Furthermore, the results reveal that consumers are willing to pay a premium of EUR 1.481 per 250 g for the Fairtrade label and EUR 1.379 per 250 g for the UTZ label. The proposed model offers an initial insight into willingness to pay for sustainable coffee in Spain. These results furnish valuable insights for the coffee sector in crafting effective marketing strategies to bolster initiatives promoting sustainable production practices and expanding market access for certified coffee products.

**Keywords:** choice experiment; conditional logit; willingness to pay; Fairtrade; UTZ certification



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## 1. Introduction

Consumer awareness and choices wield significant influence in addressing contemporary environmental, social, and economic challenges. Consumers pay attention not only to price and product quality, but increasingly also to the environmental and ethical aspects associated with their consumption habits. Sustainability labels are regarded as credible tools that facilitate the presentation of important product characteristics. Consequently, consumers can assess the sustainability aspects of their purchases, promoting informed decision-making in the marketplace. Many scientists are of the opinion that sustainability labels play a decisive role in reducing the information gap between producers and consumers regarding environmental and social issues [1,2].

According to the European Commission: “the labelling rules enable the citizens to get comprehensive information about the content and composition of food products. Labelling helps consumers to make an informed choice while purchasing their foodstuffs” [3]. The pivotal role of sustainability labelling in attaining sustainability objectives lies in its pursuit of adding value, securing a competitive edge, and enhancing the efficiency of the value chain to meet consumer demands and preferences more effectively [4]. This approach offers consumers the opportunity to incorporate and assess environmental and ethical considerations into their purchasing decisions. Therefore, due to their impacts, these schemes are often used to empower sustainable rural development [5].

There has been an observed escalation in consumer awareness of sustainability labels, reflecting a favourable disposition toward sustainability attributes present in food products [6]. However, it is noteworthy that this favourable awareness is not consistently

reflected in consumer actions [7]. Numerous studies underscore the importance of understanding and leveraging consumer motivation and knowledge for the use of sustainability information in food products. Van Loo et al. [8] have emphasised the importance of consumer knowledge and motivation in the use of sustainability information about food. While Aprile and Punzo [9] emphasized the importance of food producers adopting environmental sustainability labels and stressed that such initiatives should be complemented by efficacious information policies designed to enhance consumer awareness. Consumers' assessment of certifications is influenced by messaging that distinctly indicates outstanding quality and aligns with an awareness of sustainability challenges [10]. This emphasis on understanding consumer behaviour and cognition is crucial for promoting sustainability in the context of food consumption.

Sustainability has become an important tool for the coffee sector and many other food sectors to differentiate their products, increase profits and meet consumer demand. Coffee stands as one of the paramount commodities globally, requiring a stable climate for cultivation. For farms vulnerable to natural disasters and the impacts of climate change, the adoption of sustainable practices is not merely a strategic choice but a vital means of ensuring survival. Coffee is an important product for many countries around the world, as their economies depend on it, and it provides a livelihood for millions of families [11].

The cultivation of coffee faces many challenges that threaten the survival of this product. Hence, the sustainability of the sector is a support and an incentive for farmers to continue and maintain this agriculture. Spain, being a significant consumer of coffee and one of the foremost direct importers of green coffee beans in Europe, bears a share of the responsibility in both establishing sustainability measures internally and contributing to sustainability efforts externally [11]. The presence of sustainability labels on coffee could potentially enhance the competitiveness of the Spanish coffee sector, particularly amidst the growing awareness among consumers. Consequently, this presents a potential marketing edge for companies producing sustainable coffee.

Many studies have stated that price is the most significant factor deterring consumers from purchasing sustainable products, particularly due to the price differential between sustainable and conventional products [4,12–14], which makes the willingness to pay an important characteristic to be evaluated. Numerous studies have previously examined sustainable labels on food, uncovering variations in consumers' preferences and willingness to pay (WTP) based on the products, types of labels, and countries [4,8,12,14–20]. While previous studies have assessed consumers' willingness to pay for sustainability labels on food using various methodologies, there is a lack of research applying the choice experiment approach to sustainability labels within the coffee sector in Spain. The present study contributes to this research gap by investigating consumers' willingness to pay for sustainability labels on coffee. This study aims to contribute to the existing literature by analysing consumer preferences and willingness-to-pay in relation to two sustainability labels for coffee: Fairtrade and UTZ certification. The choice of these two certifications was based on the findings of the study conducted by Merbah and Benito-Hernández [21] on sustainability labels in the Spanish coffee market, where, unexpectedly, the results showed that the coefficient associated with Fairtrade certification had a negative value, indicating a discount of –27.28%, while the second sustainability label was considered because it is the most prevalent in the Spanish coffee sector. Furthermore, our study contributes by offering practical insights for stakeholders, including coffee producers, retailers, and policymakers, to advance sustainability efforts in the coffee sector. To our knowledge, no other study has assessed consumers' willingness to pay for these types of labels in the coffee sector in Spain.

## 2. Literature Review

The availability of sustainability standards has increased significantly in markets in recent decades. Previously limited to niche markets, sustainable commodities that adhere to internationally recognized standards have been increasingly important compared

to conventional commodities (products sold without any specific certifications or labels indicating special attributes) [22]. According to the Food and Agriculture Organisation of the United Nations (FAO): “Coffee certifications can demonstrate to consumers that coffee has been produced sustainably and can increase its market value, if there is sufficient demand” [23].

Adapting production systems to changing climate conditions and reducing environmental impacts is the responsibility of all producing countries, international organizations, and even consumers who can translate their sustainability awareness into actionable behaviour. Several sustainability initiatives have been launched in the coffee sector, positioning it as a leading indicator of sustainable products. Over the years, voluntary sustainability standards have become a recognized tool for monitoring unsustainable behaviours and ensuring improvements in the coffee supply chain [22,24]. According to Coffee Barometer: “Voluntary Sustainability Standards (VSS) in the coffee sector are key elements of corporate sustainability and CSR strategies across the coffee industry. VSS have a long history and promote better conditions in international trade and production. Although content and scope vary, they all aim to offer guidelines for producing, selling, and purchasing coffee identified as “sustainable”, “responsible”, “ethical”, etc.” [24]. Certified coffee cultivation follows specific guidelines that consider at least one of the sustainability criteria: economic, environmental, and/or social. Additionally, verification by an independent certification body is required [11,25]. These certifications may vary in several aspects, such as standard criteria, audit methods, and consumer marketing [24].

Coffee industry players have constantly sought to meet market demands by adopting more sustainable practises, which has led to an increase in the supply of certified coffee [26]. In addition to the market for certified sustainable coffee, such as Fairtrade and organic coffee, various other certification schemes have emerged. These include Rainforest Alliance, Bird Friendly, and UTZ certified [24,27]. Moreover, there are other verification schemes that are private sector standards (not certifications), such as Starbucks C.A.F.E. Nespresso AAA Practises and Guidelines and 4C, a business-to-business initiative [28]. Fairtrade certification places emphasis on both economic and social sustainability, aiming to guarantee fair working conditions for employed labour and establish a minimum fair-trade price and/or a fair-trade price premium for producers. The minimum price is designed to cover the costs associated with sustainable production for the producer, while price premiums are intended to enable farmers to enhance their quality of life by securing a vital income [29]. With the UTZ certification program, coffee is cultivated using sustainable practices regarding the use of fertilizers, pesticides, water, and energy. Furthermore, the program ensures that employees are treated with respect and provided with decent labour rights, suitable housing, and attention to their health [30].

In comparison to conventional coffee, sustainable coffee is more expensive to produce, as reflected in the additional price added to the final amount paid by the consumer [31]. Farmers’ continued membership in the certification scheme depends on consumers’ willingness to pay. Therefore, if consumers are not willing to pay a higher price for sustainable coffee, it will be challenging for farmers to maintain certification [32]. On the other hand, several studies have indicated that consumers are indeed willing to pay a premium for sustainable food products [33–36]. The diversity in willingness-to-pay (WTP) was influenced by factors such as the study location, the products and their attributes considered, as well as the methods employed for data collection and analysis [37].

A substantial body of literature has employed choice experiments to investigate consumer preferences and willingness-to-pay for various attributes in the food sector, for instance [4,20,37,38]. Choice experiments, also known as choice-based conjoint analysis, are an evaluation method that determines people’s preferences for a set of alternatives described by a relevant set of attributes [39].

### 3. Materials and Methods

#### 3.1. Choice Experiments

Choice experiments, also known as discrete choice experiments, attribute-based stated preference methods, or choice-based conjoint analyses, constitute one of the fundamental statistical methodologies employed across diverse domains of social science research [40]. A choice experiment is a survey approach to determining consumer preferences within hypothetical markets. Respondents are asked to choose between several public or private goods. The underlying assumption is that individuals make these choices by weighing the individual attributes of the available goods and selecting the option that maximizes utility [41].

The choice experiment approach aligns with [42] the theory of consumption, which assumes that the utility of a good results from its set of characteristics. Choice experiments are based on the theory of random utility, which states that a person choosing between different alternatives tries to maximise his utility. Therefore, the consumer chooses the alternative that offers the greatest utility [43,44]. The choice experiment method has been chosen based on a comparison between two different methods: the choice experiment and conventional contingent valuation. In the latter, people are asked directly in a survey how much they would be willing to pay for certain characteristics or services. The choice experiment approach has several features: it enables the simultaneous evaluation of multiple attributes and aligns with Lancaster's random utility theory and consumer demand theory. Another advantage of employing the choice experiment approach is its closer resemblance to the consumer's actual purchase decision. Previous research on consumer preferences for sustainable coffee has highlighted significant variations in preferences across different countries. Table 1 provides a comprehensive summary of previous research endeavours dedicated to investigating consumer preferences for coffee, along with their main findings.

**Table 1.** Previous research, exploring consumer preferences for sustainable coffee.

References	Country	Analytical Method	Finding
Schollenberg [45]	Sweden	Hedonic price.	The results point to a considerable premium of 38% paid for Fairtrade coffee, underlining the high public awareness reflected in retailers' pricing policies.
Van Loo et al. [8]	United States	A discrete choice experiment (consumer preferences, willingness to pay, and visual attention to attributes).	The results suggest that consumers who spend more time serving and paying more attention to sustainability attributes value them more.
Wang [46]	United States	Hedonic price.	Differences in prices between labelled and conventional coffee.
Takahashi et al. [18]	United States	Evidence From a laboratory randomized experiment using eye-trackers	The forest illustrations on certified forest coffee labels capture participants' visual attention and significantly boost the actual purchase of certified forest coffee. Specifically, a 1 s increase in visual attention is associated with a 22% rise in the likelihood of purchasing certified forest coffee.
Maaya et al. [12]	Belgium	A discrete choice experiment.	Research on the willingness-to-pay for sustainability labels on coffee has found that environmental and altruistic attitudes significantly influence consumers' willingness-to-pay for both organic and Fairtrade labels.
Liu et al. [47]	Taiwan	A discrete choice experiment.	In terms of specific certification attributes, traceability, organic, graded, environmentally friendly, and fair-trade certifications are ranked in order of highest to lowest willingness to pay.
Birkenberg et al. [48]	Germany	A discrete choice experiment.	German consumers are willing to pay for a carbon-neutral label on specialty coffee.

The first step in conducting the choice experiment involved defining the product attributes and their respective levels. The sustainability labels included in our choice experiment were Fairtrade certification and UTZ certification. We assumed that attributes other than price and label (such as brand name, intensity, etc.) were identical for all products. For each of the sustainability labels, two levels were considered: present or absent.

The use of four price levels is relatively common in the literature on the application of choice experiments. To estimate the willingness-to-pay and make the consumer's choice more realistic, the four levels of the price attribute (EUR 0.99, 3.39, 5.79, and 8.19) per 250 g were selected based on the price results from the earlier [21] study. The chosen price vector reflects the price levels found in supermarkets for 250 g of coffee in the Spanish market, ranging from EUR 0.99/250 g to EUR 8.19/250 g (Table 2). The selected attributes were combined to create hypothetical products presented to consumers as a "set of options" and designed as follows [40,49].

**Table 2.** Attributes and their corresponding levels.

Attributes	Levels
Fairtrade	The coffee is Fairtrade certified The coffee is not Fairtrade certified
UTZ certification	The coffee is UTZ certified The coffee is not UTZ certified
Price	EUR 0.99 EUR 3.39 EUR 5.79 EUR 8.19

The second step was to create a full factorial design, which involved two two-level factors (the Fairtrade label and the UTZ label) and one four-level factor (the price attribute). In a full factorial design, all combinations of the levels of each attribute are included. In our case, there were two two-level attributes and one four-level attribute. The full factorial design encompassed sixteen possible combinations ( $16 = 2 \times 2 \times 4$ ).

The third step was to create a fractional factorial design. This design allows for the estimation of main effects, reducing the number of rows from the full factorial design by half. Subsequently, the choice sets are formed through random selection without replacement. To create a choice set with two alternatives, one alternative from each of the sets of the fractional factorial design is randomly selected without replacement. Each row of the fractional factorial design corresponded to each question in the choice experiments (Table 3), resulting in 13,128 observations, with 547 blocks (547 individuals) having eight sub-blocks (eight questions) and three rows (three alternatives).

**Table 3.** Total option sets excluding the "none of these" option.

Question	Fairtrade	UTZ	Price	Fairtrade	UTZ	Price
Option 1	Yes	Yes	3.39	No	Yes	5.79
Option 2	Yes	Yes	0.99	No	Yes	8.19
Option 3	Yes	No	5.79	Yes	No	8.19
Option 4	No	Yes	5.79	Yes	No	5.79
Option 5	No	No	0.99	No	No	3.39
Option 6	No	No	3.39	Yes	Yes	3.39
Option 7	Yes	No	8.19	No	No	0.99
Option 8	No	Yes	8.19	Yes	Yes	0.99

### 3.2. Data Collection

The data used were derived from an online survey conducted in Spain in January 2023. Online surveys are gaining popularity among researchers due to their cost-effectiveness and the ability to be conducted quickly [8,50].

The questionnaire included queries related to the choice experiment as well as questions about the socio-demographic characteristics of the respondents. Respondents were asked to choose their preferred option from a choice set containing two coffee products. Each set comprised three hypothetical options and included a "none of these" alternative.

The latter was added to increase the similarity to a real shopping experience [51]. Participants evaluated eight sets, and an example of the choice set questionnaire is illustrated in Figure 1.

**Option 1**

Coffee A	Coffee B
	
	
<b>3.39 €</b>	<b>5.79 €</b>

- I would buy option A.
- I would buy option B.
- I would not buy any of the products.

**Figure 1.** Example of choice set questionnaire options.

The sample comprised 547 respondents (Table 4), with a gender distribution of 64.4% women and 35.6% men. In terms of age, the respondents covered various age groups: 56.2% were between 18 and 34 years old, 30.7% were between 35 and 54 years old, and 13.1% were more than 54 years old. Notably, our sample predominantly represented a young adult demographic. The focus on young consumers aligns with broader research efforts aiming to promote sustainable consumption among this demographic.

**Table 4.** Sociodemographic characteristics.

Characteristics	Sample (%)
Gender	
Male	195 (35.6%)
Female	352 (64.4%)
Age	
From 18 to 34 years	307 (56.17%)
From 35 to 54 years	168 (30.71%)
More than 55 years	72 (13.12%)
Level of studies completed	
Primary education	23 (4.2%)
Secondary Education	184 (33.6%)
University education	340 (62.2%)
Number of people in the household	
1 person	72 (13.2%)
2 persons	141 (25.8%)
3 persons	126 (23%)
4 persons or more	208 (38.1%)

The young adult demographic is pivotal in shaping the conceptualization and practice of sustainable living, justifying the emphasis of this study on this segment. This approach aligns with other research endeavours, including works by [52–54], since they represent the consumers of the future who could translate their sustainability awareness into tangible behaviour.

In terms of educational level, most respondents possessed a university education, comprising 63%, while those with secondary education constituted 32.8%. Additionally, 4.2% of the surveyed individuals had attained primary education. Turning to household composition, as delineated in Table 4, 37.8% were characterized by a size of four or more individuals, 26% consisted of two individuals, households with three members represented 22.7% of the sample, and 13.5% were represented by one person.

### 3.3. Economic Analysis of Choice Experiment

The conditional logit model is a popular discrete choice model in choice experiment applications (CL) [40]. The probability of individual  $n$  selecting alternative  $i$  from the choice set  $C_n$  in the CL model is as follows:

$$P(i) = \exp(V_{in}) / \sum_{j \in C_n} \exp(V_{ij}) \quad (1)$$

$V_{in}$  is a systematic component of utility that is usually assumed to be a linear additive function of the independent variables  $X_{ikn}$  with coefficients  $\beta_{ik}$ , as follows:

$$V_{in} = \sum_{k=1}^k \beta_{ik} X_{ikn} \quad (2)$$

The conditional logit model has been employed in various prior studies pertaining to the choice experiment for the statistical analysis of responses to questions within the scope of our research. This model is grounded in random utility theory, wherein a respondent's utility is divided into two components: a representative (systematic) component and a random component. The representative utility component for the "none of these" option was normalized to 0, and for the two types of coffee, it was assumed to be as follows:

$$V_j = ASC + \beta_F FT_j + \beta_U UTZ_j + \beta_P LNPR_j \quad (3)$$

where  $V_j$  denotes the representative component of the utility of coffee  $j$  ( $j = A, B$ ).  $ASC$  refers to an alternative specific constant.  $FT_j$  takes the value of 1 if coffee  $j$  was sold with a Fairtrade label and 0 otherwise.  $UTZ_j$  takes the value of 1 if coffee  $j$  was sold with a UTZ certification label and 0 otherwise.  $LNPR_j$  denotes the price of coffee  $j$ .

$\beta_F$ ,  $\beta_U$  y  $\beta_P$  are unknown parameters associated with  $FT_j$ ,  $UTZ_j$  y  $LNPR_j$ , respectively.

The marginal willingness-to-pay for attributes/levels is widely used in research involving conditional logit models. In the CL model (which has a linear utility function), the marginal willingness-to-pay for a non-monetary variable is calculated as follows:

$$-b_{nm} / b_m' \quad (4)$$

where  $b_{nm}$  is an estimated coefficient for the non-monetary variable, and  $b_m'$  is an estimated coefficient for the monetary variable.

## 4. Results

The results of the conditional logit model are presented in Table 5. The model investigated the influence of sustainability labels (Fairtrade label, UTZ certification), and price, on the probability of respondents selecting either option 'A' or 'B', estimated using R studio software (4.3.3).

**Table 5.** Results for conditional logit approach model and willingness to pay.

Variable	Coefficients	WTP EUR/250 g
ASC	0.69814 ***	-
Fairtrade	0.79605 ***	1481
UTZ certification	0.74161 ***	1379
Price	−0.53761 ***	-
Number of observations	13,128	
Log likelihood	−4804.114	−3946.602

\*\*\* Significant at a 99% conf. level.

All variables associated with sustainability labels showed statistically significant positive coefficients. In contrast, the price exhibited the anticipated negative sign, in line with economic theory, suggesting consumers' preferences for a more economical product.

In the context of the Fairtrade coffee label, the likelihood of opting to purchase either option 'A' or option 'B' exhibited a notable increase when the Fairtrade label was associated with the product. Similarly, the UTZ label emerged as a significant influencing factor in the choice process. The coefficients for both the Fairtrade and UTZ certification labels were statistically significant and positive, suggesting that the utility associated with Fairtrade and UTZ certification coffees is positive.

Table 5 additionally presents the implicit prices corresponding to each sustainability label. A notably positive mean value of willingness-to-pay was observed for both Fairtrade and UTZ certification labels. This signified that consumers expressed a willingness-to-pay a premium for coffee labelled with Fairtrade and UTZ certifications. Specifically, consumers were willing to pay approximately EUR 1.481/250 g for the Fairtrade label, while the willingness-to-pay for the UTZ label was EUR 1.379/250 g.

## 5. Discussion

This study analysed consumer preferences and willingness to pay for sustainability labels. The sample consisted of over 56% young adults (18–35 years). Young adults play an important role in the conceptualisation of sustainable lifestyles and practises. Additionally, a significant proportion of the sample had a high level of education, as 62.2% of the respondents had a university degree. Respondents were also asked if they knew what certified coffee was, and 61.9% stated that they were not familiar with certified coffee. However, 79.2% of those surveyed identified as coffee consumers. This finding aligns with the study conducted by Annunziata et al. [52], which investigated the efficacy of sustainability labels in influencing the food choices of young adults, revealing a general low level of understanding of sustainability labels.

The findings suggest that the presence of sustainability labels such as Fairtrade and UTZ certification on coffee increases consumers' willingness to pay. This indicates that these labels greatly enhance the likelihood of purchases by consumers. In terms of consumer utility, respondents demonstrated high utility from the Fairtrade label. These findings are consistent with previous research by Bosbach and Maietta [55], who reported approximately a 30% price increase with the Fairtrade label in the Italian coffee market, a 55% increase in the German coffee market [56], and a 15–30% increase in the United States market [46]. However, in contrast, Spain's Fairtrade market appeared less developed compared to other European countries. In 2020, Spanish consumers spent EUR 2.9 on Fairtrade products [57], whereas European consumers spent an average of EUR 15 per inhabitant on these products in the same year [58]. Additionally, in earlier research conducted by Merbah and Benito-Hernández [21], it was found that the Fairtrade label had a negative effect on coffee prices in the Spanish market.

The findings suggest that UTZ certification has a significant impact on consumers' choice of coffee. This aligns with prior research indicating that consumers in various countries, including the Netherlands, Germany, Belgium, Switzerland, and the Nordic Countries, have shown a favourable inclination towards UTZ certification, according to

the Ministry of Foreign Affairs (2021) [59]. Furthermore, this finding is consistent with the research of Merbah and Benito-Hernández [21], which indicates that the UTZ label represents the highest percentage of sustainable coffee in the Spanish market, commanding a premium price of +28.51% compared to conventional coffee.

It is essential to note that the results indicate the UTZ label positively influences consumer utility and is also positively correlated with coffee market prices. Conversely, while Fairtrade certification positively impacts consumer utility and willingness to pay, it is not associated with a premium for coffee in the real Spanish market.

## 6. Conclusions

Sustainability labels hold considerable potential to foster a more sustainable market in Spain. Consumer preferences and their willingness-to-pay for these labels present opportunities to boost demand for sustainable coffees and broaden the consumer base.

The findings enable the identification of key competitive strategies that manufacturers in the Spanish coffee market could adopt, supporting sustainability both internally and externally. Given Spain's prominence in the export of processed coffee, these strategies could further contribute to the sustainability of that sector. The heightened consumer awareness of health and environmental concerns, particularly during the COVID-19 pandemic, creates an opportune moment to translate sustainability into tangible consumer behaviour. Certification labels sought by consumers offer manufacturers a pathway to develop profitable strategies through product differentiation.

From a policy perspective, the government should prioritize sustainable production in its policies, aligning with the growing global and European trend. There is a need to focus on effective marketing strategies for sustainable products and develop methods to encourage sustainable consumption. Public information campaigns can play a crucial role in educating consumers, especially the younger demographic, about the benefits of sustainable foods across the three pillars of sustainability: social, economic, and environmental. Virtual corporate social responsibility (CSR) co-creation has demonstrated its effectiveness as a mechanism for fostering public engagement with corporate-initiated CSR efforts. It is noteworthy that 72% of global companies incorporate social media platforms into their CSR communication strategies [60]. The implementation of virtual CSR co-creation initiatives has the potential to promote green consumption [61]. Moreover, CSR initiatives have been shown to positively impact consumers' willingness to pay [62].

Spain, as a coffee consuming country, and one of the most important direct importers of green coffee beans in Europe, shares the responsibility to establish sustainability internally and externally, which seems to play an important role in influencing the price of coffee.

Our findings emphasize the importance of companies exercising caution when investing in sustainability labels, stressing the necessity of an effective information policy to enhance public awareness. Well-designed labelling practices are essential, as they significantly influence individual perceptions of product sustainability.

Given the limited scope of our study, it is imperative that future research endeavours aim to comprehensively explore the coffee preferences of Spanish consumers. This could be achieved by incorporating additional characteristics beyond sustainability certifications, such as nutritional and sensory attributes. Furthermore, future investigations could validate our findings by examining sustainability certifications in conjunction with other food products in the market, taking into consideration a sample that includes all segments of the population. Furthermore, one limitation of our study is that the choice experiments involve hypothetical scenarios, which may introduce hypothetical bias. This occurs when respondents' stated preferences do not align with their actual behaviour, potentially affecting the validity and reliability of the results. However, future research could enhance the robustness of our findings by testing them against real market data, such as through test market data.

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## References

- Nikolaou, I.E.; Kazantzidis, L. A sustainable consumption index/label to reduce information asymmetry among consumers and producers. *Sustain. Prod. Consum.* **2016**, *6*, 51–61. [CrossRef]
- Shao, J. Are present sustainability assessment approaches capable of promoting sustainable consumption? A cross-section review on information transferring approaches. *Sustain. Prod. Consum.* **2016**, *7*, 79–93. [CrossRef]
- European Commission. Labelling and Nutrition. Available online: [https://food.ec.europa.eu/safety/labelling-and-nutrition\\_en](https://food.ec.europa.eu/safety/labelling-and-nutrition_en) (accessed on 19 November 2022).
- Erraach, Y.; Sayadi, S.; Parra-López, C. Measuring Preferences and Willingness to Pay for Sustainability Labels in Olive Oil: Evidence from Spanish Consumers. In Proceedings of the XV EAAE Congress “Towards Sustainable Agri-Food Systems: Balancing between Markets and Society”, Parma, Italy, 29 August–1 September 2017.
- Belletti, G.; Marescotti, A.; Paus, M.; Reviron, S.; Deppeler, A.; Stamm, H.; Thévenod-Mottet, E. *The Effects of Protecting Geographical Indications: Ways and Means of Their Evaluation*; Swiss Federal Institute of Intellectual Property: Bern, Switzerland, 2011; Volume 7.
- Eldesouky, A.; Mesias, F.J.; Escribano, M. Perception of Spanish consumers towards environmentally friendly labelling in food. *Int. J. Consum. Stud.* **2019**, *44*, 64–76. [CrossRef]
- Goryńska-Goldmann, E.; Adamczyk, G.; Gazdecki, M. Awareness of Sustainable Consumption and Its Implications for the Selection of Food Products. *J. Agribus. Rural Dev.* **2016**, *10*, 41. [CrossRef]
- Van Loo, E.J.; Caputo, V.; Nayga, R.M.; Seo, H.S.; Zhang, B.; Verbeke, W. Sustainability labels on coffee: Consumer preferences, willingness-to-pay and visual attention to attributes. *Ecol. Econ.* **2015**, *118*, 215–225. [CrossRef]
- Aprile, M.C.; Punzo, G. How environmental sustainability labels affect food choices: Assessing consumer preferences in southern Italy. *J. Clean. Prod.* **2022**, *332*, 130046. [CrossRef]
- Kaczorowska, J.; Prandota, A.; Rejman, K.; Halicka, E.; Tul-Krzyszczuk, A. Certification labels in shaping perception of food quality—Insights from polish and belgian urban consumers. *Sustainability* **2021**, *13*, 702. [CrossRef]
- Bozzola, M.; Charles, S.; Ferretti, T.; Gerakari, E.; Manson, H.; Rosser, N.; von der Goltz, P. *The Coffee Guide*; International Trade Centre: Geneva, Switzerland, 2021.
- Maaya, L.; Meulders, M.; Surmont, N.; Vandebroek, M. Effect of environmental and altruistic attitudes on willingness-to-pay for organic and fair trade coffee in flanders. *Sustainability* **2018**, *10*, 4496. [CrossRef]
- Grunert, K.G. Sustainability in the Food Sector: A Consumer Behaviour Perspective. *Int. J. Food Syst.* **2011**, *2*, 207–218. [CrossRef]
- Van Loo, E.J.; Caputo, V.; Nayga, R.M.; Meullenet, J.F.; Ricke, S.C. Consumers’ willingness to pay for organic chicken breast: Evidence from choice experiment. *Food Qual. Prefer.* **2011**, *22*, 603–613. [CrossRef]
- Bou Fakhreddine, L.; Martínez, M.G.; Sánchez, M.; Schnettler, B. Consumers’ willingness to pay for health claims during the COVID-19 pandemic: A moderated mediation analysis. *J. Agric. Food Res.* **2023**, *11*, 100523. [CrossRef] [PubMed]
- Lingnau, V.; Fuchs, F.; Beham, F. The impact of sustainability in coffee production on consumers’ willingness to pay—new evidence from the field of ethical consumption. *J. Manag. Control* **2019**, *30*, 65–93. [CrossRef]
- Khaliqi, M.; Ramadhani, A.; Pane, T.C.; Sinaga, F.H.; Darmansyah, D.; Sari, I.R.M. Indonesian Consumers’ Willingness to Pay for Organic Coffee. In *IOP Conference Series: Earth and Environmental Science*; IOP Science: Bristol, UK, 2023; p. 012019.
- Takahashi, R.; Todo, Y.; Funaki, Y. How Can We Motivate Consumers to Purchase Certified Forest Coffee? Evidence from a Laboratory Randomized Experiment Using Eye-trackers. *Ecol. Econ.* **2018**, *150*, 107–121. [CrossRef]
- Lombardi, G.V.; Berni, R.; Rocchi, B. Environmental friendly food. Choice experiment to assess consumer’s attitude toward “climate neutral” milk: The role of communication. *J. Clean. Prod.* **2017**, *142*, 257–262. [CrossRef]
- Tait, P.; Saunders, C.; Guenther, M.; Rutherford, P.; Miller, S. Exploring the impacts of food label format on consumer willingness to pay for environmental sustainability: A choice experiment approach in the United Kingdom and Japan. *Int. Food Res. J.* **2016**, *23*, 1787–1796.
- Merbah, N.; Benito-Hernández, S. Sustainability labels in the Spanish coffee market: A hedonic price approach. *Span. J. Agric. Res.* **2023**, *21*, e0102. [CrossRef]
- Julia, L.; Jason, P.; Gregory, S.; Bernhard, S.; Gabriel, H.; Vivek, V.; Helga, W.; Joseph, W.; Duc, D. *The State of Sustainable Markets 2018 Statistics and Emerging Trends*; International Trade Centre: Geneva, Switzerland, 2018.

23. FAO. *Crops and Climate Change Impact Briefs. Food and Agriculture Organization of the United Nations*; FAO: Rome, Italy, 2022.
24. Panhuysen, S.; Pierrot, J. *Coffee Barometer*; Hivos: Hague, The Netherlands, 2020.
25. Guhl, A. Café, bosques y certificación agrícola en Aratoca, Santander. *Rev. Estud. Soc.* **2009**, *32*, 114–125. [[CrossRef](#)]
26. Ministry of Foreign Affairs Coffee Market. *The European Market Potential for Certified Coffee*; Ministry of Foreign Affairs Coffee Market: Hague, The Netherlands, 2021.
27. Dragusanu, R.; Giovannucci, D.; Nunn, N. The economics of fair trade. *J. Econ. Perspect.* **2014**, *28*, 217–236. [[CrossRef](#)]
28. Kolk, A. Mainstreaming sustainable coffee. *Sustain. Dev.* **2013**, *21*, 324–337. [[CrossRef](#)]
29. ITC. *The State of Sustainable Markets 2020 Statistics and Emerging Trends*; International Trade Centre: Geneva, Switzerland, 2020.
30. UTZ. UTZ Coffee. Available online: <https://utz.org/what-we-offer/certification/products-we-certify/coffee/> (accessed on 21 May 2019).
31. Lentijo, G.M.; Hostetler, M. *Evaluating Certified Coffee Programs*; UF/IFAS Extension: Gainesville, FL, USA, 2011.
32. Giovannucci, D.; Byers, A.; Liu, P. *Organic Agriculture Certification. Value-Adding Standards in the North American Food Market*; Trade Opportunities in Certified Products for Developing Countries; 2008; pp. 33–49. Available online: <http://mpr.ub.uni-muenchen.de/17174/> (accessed on 19 November 2022).
33. Janßen, D.; Langen, N. The bunch of sustainability labels—Do consumers differentiate? *J. Clean. Prod.* **2017**, *143*, 1233–1245. [[CrossRef](#)]
34. Lombardi, A.; Carfora, V.; Cicia, G.; Del Giudice, T.; Lombardi, P.; Panico, T. Exploring willingness to pay for QR code labeled extra-virgin olive oil: An application of the theory of planned behavior. *Int. J. Food Syst. Dyn.* **2017**, *8*, 14–31. [[CrossRef](#)]
35. Li, S.; Kallas, Z. Meta-analysis of consumers’ willingness to pay for sustainable food products. *Appetite* **2021**, *163*, 105239. [[CrossRef](#)]
36. Ammann, J.; Arbenz, A.; Mack, G.; Nemecek, T.; El Benni, N. A review on policy instruments for sustainable food consumption. *Sustain. Prod. Consum.* **2023**, *36*, 338–353. [[CrossRef](#)]
37. Rotaris, L.; Danielis, R. Willingness to pay for fair trade coffee: A conjoint analysis experiment with Italian consumers. *J. Agric. Food Ind. Organ.* **2011**, *9*. [[CrossRef](#)]
38. Gracia, A.; Barreiro-Hurlé, J.; Pérez, L.P. Assessing the benefits of sustainability certification of biofuels: How much are consumers willing to pay? *New Medit.* **2020**, *19*, 3–18. [[CrossRef](#)]
39. Louviere, J.J.; Hensher, D.A.; Swait, J.D.; Adamowicz, W. *Combining Sources of Preference Data*; Elsevier: Amsterdam, The Netherlands, 2000.
40. Aizaki, H. Basic Functions for Supporting an Implementation of Choice Experiments in R. *J. Stat. Softw.* **2012**, *50*, 1–24. [[CrossRef](#)]
41. Koemle, D.; Yu, X. Choice experiments in non-market value analysis: Some methodological issues. *For. Econ. Rev.* **2020**, *2*, 3–31. [[CrossRef](#)]
42. Lancaster, K.J. A New Approach to Consumer Theory. *J. Political Econ.* **1966**, *74*, 132–157. [[CrossRef](#)]
43. Loureiro, M.L.; Umberger, W.J. A choice experiment model for beef: What US consumer responses tell us about relative preferences for food safety, country-of-origin labeling and traceability. *Food Policy* **2007**, *32*, 496–514. [[CrossRef](#)]
44. McFadden, D. Conditional Logit Analysis of Qualitative Choice Behavior. In *Frontiers in Econometrics*; Academic Press: New York, NY, USA, 1973; pp. 105–142.
45. Schollenberg, L. So how much do you pay for ethical consumption? Estimating the hedonic price for Fair Trade coffee in Sweden. *Br. Food J.* **2011**, *114*, 428–446. [[CrossRef](#)]
46. Wang, X. Is Fair Trade Fair for Consumers? A Hedonic Analysis of U.S. Retail Fair Trade Coffee Prices. In Proceedings of the 2016 Agricultural & Applied Economics Association, Boston, MA, USA, 31 July–2 August 2016; pp. 1–16.
47. Liu, C.C.; Chen, C.W.; Chen, H.S. Measuring Consumer Preferences and Willingness to Pay for Coffee Certification Labels in Taiwan. *Sustainability* **2019**, *11*, 1297. [[CrossRef](#)]
48. Birkenberg, A.; Narjes, M.E.; Weinmann, B.; Birner, R. The potential of carbon neutral labeling to engage coffee consumers in climate change mitigation. *J. Clean. Prod.* **2021**, *278*, 123621. [[CrossRef](#)]
49. Aizaki, H.; Nishimura, K. Design and Analysis of Choice Experiments Using R: A Brief Introduction. *Agric. Inf. Res.* **2008**, *17*, 86–94. [[CrossRef](#)]
50. Canavari, M.; Nocella, G.; Scarpa, R. Stated Willingness-to-Pay for Organic Fruit and Pesticide Ban. *J. Food Prod. Mark.* **2005**, *11*, 107–134. [[CrossRef](#)]
51. Lusk, J.L.; Schroeder, T.C. Are choice experiments incentive compatible? A test with quality differentiated beef steaks. *Am. J. Agric. Econ.* **2004**, *86*, 467–482. [[CrossRef](#)]
52. Annunziata, A.; Mariani, A.; Vecchio, R. Effectiveness of sustainability labels in guiding food choices: Analysis of visibility and understanding among young adults. *Sustain. Prod. Consum.* **2019**, *17*, 108–115. [[CrossRef](#)]
53. Aprile, M.C.; Mariani, A. Young people’s propensity to use sustainability labels on food products a case study in the south of Italy. *Qual.-Access Success* **2015**, *16*, 75–79.
54. Fischer, D.; Böhme, T.; Geiger, S.M. Measuring young consumers’ sustainable consumption behavior: Development and validation of the YCSCB scale. *Young Consum.* **2017**, *18*, 312–326. [[CrossRef](#)]
55. Bosbach, M.; Maietta, O.W. The Implicit Price for Fair Trade Coffee: Does Social Capital Matter? *Ecol. Econ.* **2019**, *158*, 34–41. [[CrossRef](#)]
56. Bissinger, K.; Leufkens, D. Ethical food labels in consumer preferences. *Br. Food J.* **2017**, *119*, 1801–1814. [[CrossRef](#)]

57. Fairtrade Ibérica. *Memoria Fairtrade Ibérica 2020–2021*; Fairtrade Ibérica: Madrid, Spain, 2021.
58. Goicoechea, Á. ¿Cómo Sería un Mundo en el Que lo Justo Fuera lo Normal? Available online: <https://www.revistaaral.com/texto-diario/mostrar/3365393/como-seria-mundo-justo-fuera-normal> (accessed on 19 November 2022).
59. CBI. The European Market Potential for Certified Coffee. Available online: <https://www.cbi.eu/market-information/coffee/certified-coffee/market-potential> (accessed on 19 November 2022).
60. Zhang, Z.; Yang, Z.; Gu, J.; Kim, M.S. How Does Multinational Corporations' CSR Influence Purchase Intention? The Role of Consumer Ethnocentrism and Consumer Ambivalence. *Sustainability* **2023**, *15*, 5908. [CrossRef]
61. Sun, C.W.; Obrenovic, B.; Li, H.T. Influence of Virtual CSR Co-Creation on the Purchase Intention of Green Products under the Heterogeneity of Experience Value. *Sustainability* **2022**, *14*, 3617. [CrossRef]
62. Narayanan, S.; Singh, G.A. Consumers' willingness to pay for corporate social responsibility: Theory and evidence. *Int. J. Consum. Stud.* **2023**, *47*, 2212–2244. [CrossRef]

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