

Basu, Arnab K.; Hicks, Robert L.

**Working Paper**

## Label performance and the willingness to pay for fair trade coffee: a cross-national perspective

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Arnab K. Basu and Robert L. Hicks

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**Label Performance and the  
Willingness to Pay for Fair Trade  
Coffee:  
A Cross-National Perspective**

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Walter-Flex-Straße 3

D – 53113 Bonn

Germany

Phone: +49-228-73-1861

Fax: +49-228-73-1869

E-Mail: [zef@uni-bonn.de](mailto:zef@uni-bonn.de)

<http://www.zef.de>

**The authors:**

**Arnab K. Basu**, Department of Economics, College of William and Mary, Williamsburg, VA 23187; Center for Development Research (ZEF), University of Bonn, Germany and Institute for the Study of Labor (IZA), Bonn, Germany. Ph: (757) 221-1318; E-mail: [akbasu@wm.edu](mailto:akbasu@wm.edu)

**Robert I. Hicks**, Department of Economics, College of William and Mary, Williamsburg, VA 23187. Ph: (757) 221-3707; E-mail: [rob.hicks@wm.edu](mailto:rob.hicks@wm.edu)

# Label Performance and the Willingness to Pay for Fair Trade Coffee: A Cross-National Perspective

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# **Label Performance and the Willingness to Pay for Fair Trade Coffee: A Cross-National Perspective**

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## **Abstract**

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In this paper we investigate how label information detailing the performance of the Fair Trade labeling program with respect to coffee affect consumers' willingness to pay in the United States and in Germany. We provide respondents (University students in the U.S and Germany) information regarding hypothetical benefits of the Fair Trade Coffee program on its intended beneficiaries on the production side (the revenue gains to participating marginal farmers (scope of the program)), and using stated preference conjoint methods test how this performance criterion relates to the willingness to pay for Fair Trade Coffee. Our empirical results identify a "threshold" property of performance-based labels. In effect, the willingness-to-pay for performance-based Fair Trade labeled coffee exhibits an inverted-U shape in the sense that the willingness to pay is positively related to the scope of the program, but only up to a critical level. Thereafter, the willingness to pay declines as the income gains to participating growers increases further. Interestingly, this inverted-U property is exhibited by both the U.S. and German respondents with different critical thresholds.



## Kurzfassung

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Die vorliegende Studie untersucht inwieweit detaillierte Etikettinformationen bezüglich Kaffee, die das Programm des Fair Trade Unternehmens genau beschreiben, sich auf die Zahlungsbereitschaft der Konsumenten in den Vereinigten Staaten und Deutschland auswirken. Wir stellten den Befragten (Studenten aus den Vereinigten Staaten und Deutschland) Informationen bezüglich der hypothetischen Gewinne des Fair Trade Kaffee Programms bereit, welche sich für die Begünstigungen auf der Produktionsseite (die Einkommensgewinne kommen Bauern zugute) ergeben. Die genannten Präferenzen nutzten, verbunden mit methodischen Tests, um auszuwerten inwieweit das Leistungskriterium mit der Zahlungsbereitschaft für fair gehandelten Kaffee in Verbindung steht. Unserer empirischen Ergebnisse zeigen einen Grenzwert bezüglich der leistungsorientierten Marken. Als Wirkung erweist sich die Zahlungsbereitschaft für fair gehandelten in Form eines umgedrehten Us, was bedeutet, dass die Zahlungsbereitschaft mit dem Erfolg bzw. Ausmaß eines Programms in Zusammenhang steht, jedoch nur bis zu einem kritischen Grenzwert. Die Studie zeigt, dass die Zahlungsbereitschaft sinkt, sobald die Einkommensgewinne der Bauern weiter ansteigen. Interessanterweise stellt sich dieses Ergebnis, der umgedrehten U- Form, für die Befragten beider Länder dar, jedoch mit verschiedenen Grenzwerten.

# Label Performance and the Willingness to Pay for Fair Trade Coffee: A Cross-National Perspective

## 1 Introduction

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The history of Social-labeling dates back to the pioneering “White Label” initiative in the United States in 1899. The “White Label” was sponsored and monitored by the National Consumers League and guaranteed manufacturers’ compliance with the maintenance of decent working conditions and the employment of no child labor. In recent years, relatively more recognizable social labeling initiatives include the RUGMARK label which promotes carpets made without child labor originating from India, Pakistan and Nepal, and the “Fair Trade” label, which provides income support to poor producers worldwide for a variety of products<sup>1</sup>.

The popularity of social-labeling is primarily based on its market-driven approach to achieve social goals such as poverty eradication for the “Fair Trade”, and elimination of child labor for the RUGMARK label. Based on the increased concern of consumers in the developed world for the working conditions in developing countries as well as the potential of free trade to marginalize poor producers world wide, social labels targets the information distortion created by a lack of information and thus allows consumers to reveal a higher willingness to pay for products that have been produced in conformity with a certain set of minimum social standards. These social standards include minimum wages, reasonable working hours and conditions, no child labor in production and a guaranteed price floor for poor producers<sup>2</sup>.

Nevertheless, empirical evidence on consumers’ willingness to pay for labeled products in Western markets fails to provide conclusive evidence regarding the existence of a positive price-premium. On one hand, empirical studies of the demand for labeled products have shown the existence of price premiums for numerous products ranging from canned tuna to organic textiles (Teisl et al. (2002); Nimon and Beghin (1999); Bjorner et al. (2004)). On the other hand, and in the context of Fair Trade labeled products specifically, a number of recent studies present conflicting evidence. In a NBER survey done in 1999, 80% of United States consumers polled in

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<sup>1</sup> As compared to Social-labels, the proliferation of Eco-labels has been much more rapid. Starting with Germany's “Blue Angel” label, launched in 1978 to denote “environmentally friendly” products, eco-labels promoting environmentally friendly process and production methods (PPMs) like “dolphin-safe tuna”, furniture made from wood harvested from sustainably managed forests, and fish from sustainable fisheries have also entered the market in recent years.

<sup>2</sup> Theoretical studies have attempted to evaluate these claims by investigating the conditions under which eco and social labeling programs can, in fact, “get the tradeoffs right” by allowing consumers to differentiate products according to its associated environmental or social impact. For example, Sedjo and Swallow (2002) and Basu et.al (2003, 2004) investigate the viability of labels and standards in a general equilibrium context for eco-labeled products while Basu et al. (2006) examine the role of social labels in guaranteeing a product was produced without the use of child labor. In these models, equilibrium is based on the price premium an eco or socially conscious consumer is willing to pay to attain a labeled product and the relative costs to the producer of meeting higher production standards. A higher willingness to pay on the part of consumers is seen as a reward to growers in the

interviews claimed that they were willing to pay more for products made under good working conditions (Elliot and Freeman (2003)). Another survey undertaken by the Program on International Policy Attitudes (PIPA) at the University of Maryland in 1999 found that 76% of respondents were willing to pay an extra \$5 for a \$20 garment that was certified free of sweatshop labor (PIPA 2000). Yet, field experiments that have attempted to study the revealed preference of consumers in real life settings regarding their purchase decisions of labeled products made under socially acceptable working conditions paint a different picture.

For instance, Milkman (2004) reports an experiment where t-shirts labeled Sweat-X, a prominent California Fair Trade Cooperative were sold alongside a better known brand All-Star. Even though both labels were priced the same and had the same quality, more All-Star t-shirts were sold. The study concludes that consumers did not trust the Sweat X label. Kimeldorf et.al (2004) at the University of Michigan carried out a field experiment at a department store with plain white socks. One batch of socks (treatment group) were labeled made with good working conditions and no child labor while the other (control group) was unlabeled and priced at \$1.00 a pair. By varying the price of the labeled socks from \$1.00 - \$1.40 in 5 cent increments, Kimeldorf et. al found that 30.3% of consumers bought the labeled socks when the price was higher for the treatment group while 43% of consumers bought the labeled pairs when the price was identical to the unlabeled pairs. Overall, only 26.5% of consumers actually paid more to buy labeled socks. Perhaps, the most robust revealed preference study undertaken to date is by Hiscox and Smyth (2005) in a major New York City retail store for towels, dolls and candles that were labeled as made under good working condition / no sweatshop labor. Hiscox and Smyth found that sales rose for these labeled products, and that consumers exhibited inelastic demand (-0.5%) for price increases up to 20% above the baseline unlabeled product.

This apparent contradiction in the revealed preference studies based on field experiments regarding consumers' willingness to pay for labeled products can be attributed to a number of factors. The credibility of the label itself, the type of product in question, consumer heterogeneity (age, gender, education and income, as examples), quality of the labeled product vis-à-vis their unlabeled counterpart and potential flaws in setting up the experiments itself. However, one of the impediments to observing the existence of a higher price premium for labeled products might be attributed to label transparency, an issue that has received scant attention in the literature. Take the case of label performance as an example. First, in the United States, the "Dolphin-safe Tuna" is an ubiquitous label which guarantees that the Tuna was caught by boats using Seine nets that are not harmful to Dolphins. Yet the label does not specify the impact of this technology on current Dolphin stocks. Second, while it is well known that the "Fair Trade" label for coffee guarantees a price floor to marginal growers in developing countries, the label does not specify either the fraction of poor growers served by the label or the income guarantee received by them. In both these examples it is only natural that consumers' willingness to pay is based on their perception rather than the actual performance of the label.

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developing countries and should alter the latter's incentives toward the eco or socially preferred methods of

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In a pioneering study, Hicks (2006) used stated preference methods to investigate the impact of performance attributes on consumer willingness to pay for fair trade coffee. By varying the percentage of poor farmers served and the income guarantee to them on the product label presented to respondents, Hicks found that consumers are willing to pay a premium over unlabeled coffee only when participation reached a certain threshold. In a subsequent study Basu and Hicks (2008) estimated how consumers willingness to pay vary with performance attributes (participation and income guarantee) contingent on the information provided with respect to the associated benefits and costs of instituting the Fair Trade program. In this paper, we follow Basu and Hicks (2008) in identifying first a key feature of the Fair Trade label with respect to coffee. Unlike, “Dolphin-Safe Tuna” and “Child Labor Free” labels which differentiate similar products into two groups (“good” and “bad”) based on production method, the “Fair Trade Coffee” label is unique in so far as both the labeled and unlabeled coffee from the same country of origin can be produced by marginal growers. This is due to the fact that the Fair Trade Coffee label has strict eligibility criteria and selects only a percentage of poor growers as members. Thus, the Fair Trade Coffee label sort poor farmers into two groups from the same country-of-origin: the participating poor eligible for a guaranteed price floor who constitute the first group under the Fair Trade label, and the non-participating poor who along with rich growers constitute the second group whose coffee remains unlabeled.

We provide respondents (University students in the United States and in Germany) with initial information that alludes to the above sorting effect of the Fair Trade Coffee label, and then offer a set of hypothetical choices that relates the price of labeled coffee to either of the two performance metrics: the scale (percentage of participating poor growers) and the scope (level of the income guarantee to participating poor growers). Our study has two main objectives. First, we seek to study consumers’ willingness to pay as a function of the scope of the Fair Trade Program for a given scale, and conditional on the initial information regarding the sorting effect of Fair Trade Coffee alluded above. Second, test whether there are any significant cross-national differences in the willingness to pay when the same set of performance information regarding the scope and scale of the label is provided to the US and German respondents.

In so far as our first objective is concerned, the initial hypothesis that we test is whether consumers are indeed averse to poverty and inequality. Given that the Fair Trade Coffee label sorts marginal growers into two categories - the participating and non-participating growers - consumers might be willing to pay more for Fair Trade Coffee when the income level of participating growers increase, since this group is relatively better off as compared to the rich growers (poverty aversion). It could also be the case that the willingness to pay decreases with income increases to the participating growers since non-participating marginal growers are becoming worse off in comparison to their participating counterparts (inequality aversion). Of

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production.

course, if consumers are indifferent to both poverty and inequality, then their willingness to pay would be independent of the income level of the participating growers.

Second, and to the best of our knowledge, experiments to explore any cross-national differences in the willingness to pay for Fair Trade products has yet to be undertaken. Cross-national differences in the willingness to pay based on identical performance metrics might arise due to the distance of consumers from production origins (Germans are more aware of Ethiopian coffee while US consumers are more aware of Columbian coffee), distance to countries where poverty is a serious concern (German consumers by their proximity to Africa are in general more aware of the issues of poverty and inequality as opposed to their US counterparts, particularly in the East Coast), social awareness and peer effects (Germans are relatively more aware of the Fair Trade Labeling Organization (FLO) and a larger variety of Fair Trade products are easily accessible in Germany)<sup>3</sup>. In the context of our study, it is thus interesting to check whether consumers' willingness to pay is indeed driven by concerns related to poverty and inequality aversion across both the United States and Germany. And if indeed so, do consumers in one country attach a relatively greater weight to poverty eradication as opposed to inequality aversion in their willingness to pay?

The organization of the paper is as follows: In section 2 we delineate the Fair Trade Labeling Organizations eligibility criteria for participation in the program. Section 3 explains the econometric model, section 4 discusses the empirical results while section 5 concludes the paper.

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<sup>3</sup> In fact, cross-national surveys on attitudes towards various economic and business issues do find significant variation. For example, Sirieix and Schaer (1999) surveyed French and German consumers about the image of organic agriculture in the respective countries. Their study shows that German consumers have more confidence in organic foods grown locally as compared to the French, whereas the French consumers gave greater weight to organic produce that was certified by the local French government. Grimes (2004) studied cross-cultural student attitudes towards dishonesty in academics and business. The results show that American students attach a higher

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## 2 Fair Trade Coffee Criteria

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As a Fair Trade product, coffee has the longest history and largest sales volume (James 2000). Following the collapse of the International Coffee Agreement in 1989, real coffee prices fell precipitously to their lowest level in nearly a century while additional countries began producing coffee (e.g. Vietnam). During this time, producers' share of coffee revenues dropped by thirty-five percent as coffee supply increased. In response, the fair trade movement began a labeling campaign aimed at informing consumers that growers received a “fair price” for their product (Transfair USA, 2005) and programs were instituted to “facilitate a wider distribution of benefits to small growers” (Taylor 2005). Fair trade coffee in 2003 accounted for only 1% of the world coffee market, yet represented over one-half million growers in the developing south. In the United States, the fair trade market currently accounts for over 4% of the specialty coffee market and nearly 2% overall (TransFair USA, 2005). More importantly, consumers in the United States and Europe routinely make choices over coffee products that are fair-trade labeled and those that are not while Fair Trade coffee certifying agencies, such as TransFair USA, routinely collect data on performance indicators of their coffee labeling programs. For example, TransFair reports “Coffee Producer Performance” as the “Additional Farmer Income Generated by Fair Trade in the U.S.”, and shows that additional revenues have climbed to over 25 million dollars in 2004. Given farmer participation levels in Fair Trade programs, rough calculations reveal that farmers can expect to receive no less than almost \$70 per year in additional revenues from participating in the program.

In what follows, we summarize the main goals of the Fair Trade labeling Organization in order to motivate our empirical analysis in the following sections<sup>4</sup>.

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standard of honesty towards behavior in academics and business as compared to their Eastern European and Central Asian counterparts.

<sup>4</sup> The purpose of this paper is to link consumers' willingness to pay for Fair Trade Coffee with just the performance metric on producer participation. In order to keep the analysis tractable (and hence avoid irrelevant alternatives in our experimental design) we exclusively provide information to the respondents on the ability of Fair Trade to alleviate poverty, and focus on those specific eligibility criteria that relates to the selection of poor growers into the program and the subsequent benefits accruing to them. But it is worth noting that both the Fair Trade and Organic labels sometimes serve multiple social goals depending upon the certifying agency. As an example, coffee can be certified either organic or Fair Trade. Organic certification focuses on production methods rather than on price guarantees. Furthermore, Fair-trade and organic both fall under the criteria of “ethical” or “sustainable” coffee. Both these two types of coffee claim environmentally and socially acceptable production conditions. Of the two primary organizations that certify sustainable coffee, TransFair USA and the Rainforest Alliance, TransFair mandates that growers receive a fair minimum price while the Rainforest Alliance has a range of certification requirements that include integrated pest and disease management, soil and water conservation, fair labor practices

Fair trade certification: main goal is to establish a minimum price, guaranteeing small scale farmers a living income.

Farmer types: coffee is produced both on large plantations and by small farmers. Typically, Fair Trade farmers cultivate less than 3 hectares of coffee and harvest 1,000-3,000 pounds of unroasted coffee a year, making Fair Trade potentially representative of an estimated 75% of all coffee farmers.

Without the Fair Trade Guarantee, many coffee farmers receive prices for their harvest that can be less than the costs of production, forcing them into a cycle of poverty and debt. They are often forced to sell to middlemen who pay them half the market price, generally between \$.30-.50 per pound<sup>5</sup>.

Majority of the members of the Fair Trade organization should be small scale growers of coffee. By small growers are understood those that are not structurally dependent on hired labor, managing their farm mainly with their own and their family's labor-force.

Eligibility criteria for importers: A guaranteed floor price of \$1.26 per pound for washed arabica is offered to the members. The roaster/buyer is obliged to facilitate the coffee growers access to credit-facilities at the beginning of the harvest season. Credit can be obtained up to 60% of the value of the contracted coffee at Fair Trade conditions at regular international interest rates and the credit will be cancelled upon shipment of the coffee.

Growers and roasters/buyers depend on reliability and continuity. For that reason, relations between them should be based on long term contracts (1 to 10 years).

From this basic eligibility criteria, consumers valuation of Fair Trade Coffee could potentially be driven by three factors: (i) poverty aversion - since the income gap between participating growers and rich growers decrease due to a higher premium paid; (ii) inequality aversion - since non-participating poor growers are worse-off relative to the participating ones due to a higher premium paid and (iii) other attributes of the coffee - consumers could be indifferent to poverty and inequality, and base their willing to pay instead on the credibility of the certifying agency, the country-of-origin and other attributes of the coffee itself.

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and good community relations. It is thus easy for consumers (respondents) to base their willingness to pay for Fair Trade Coffee on multiple social objectives of the label rather than on one particular performance metric unless explicit instructions are given upfront.

<sup>5</sup> <http://www.globalexchange.org/campaigns/fairtrade/coffee/faq.html>

### 3 Econometric Model

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The discussion in the Introduction posits that the price premium for fair trade coffee is driven by consumer preferences towards poverty and inequality aversion and further, that these preferences may differ according to the cultural context. Thus, the price premium consumers are willing to pay for increased label performance may be increasing, level, or even decreasing. We use choice experiments to examine how consumers' valuation depends on label attributes, including label performance attributes, not found in any current market settings for coffee. In essence, we use stated preference techniques to evaluate consumer preferences for hypothetical Fair Trade coffees with varying information on label performance (for an introduction to this technique, see Louviere et al, (2000)). This methodology has been used for a wide variety of consumer products and has been shown to yield reliable information about the market choices of respondents (e.g. see Ben-Akiva and Morikawa (1990) and Adamowicz et al. (1994)).

In order to investigate 1) consumers' valuation of the Fair Trade label attributes and 2) whether consumer valuation of label attributes differs across countries, we investigate consumer preferences for Fair Trade coffee with an experiment over respondents from the United States of America and Germany. In the experiment, we offer respondents an opportunity to choose among Fair Trade labeled coffees with performance and a non-labeled coffee (for an example choice question given to U.S. respondents, see Figure 1<sup>6</sup>). In addition to the attributes presented on traditional Fair Trade labeled products, the performance label includes two criteria related to the performance of the Fair Trade labeling program: the increased revenue accruing to program participants, and the growth rate of program participation (both in percentage terms). Both of these attributes describe the degree to which the labeled coffee is lifting people out of poverty and provide information far beyond the binary indicator of the traditional fair trade label<sup>7</sup>. It bears emphasis that we treat the term "increased grower revenue" in our experiment design as synonymous with the term "income guarantee" used in the Introduction to extrapolate consumer preferences towards poverty and inequality. We deliberately choose the term "increased grower revenue" in our experiments in order to be consistent with TransFair's stated benefits.

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<sup>6</sup> Both the German and U.S. versions of the survey are available from the authors.

<sup>7</sup> For a comparison of the label we use in this experiment, which provides information on a program's performance and a traditional label, see Hicks (2006) and Basu and Hicks (2008). See also Basu and Hicks (2008) for details on the eligibility criteria, and a theory of the interplay between poverty and inequality aversion in consumers' willingness to pay and identify a range of possible outcomes associated with the scale and the scope performance attributes.



Blocked experimental design techniques were used to select the fifteen sets of 5 questions that maximize the tradeoffs of the coffee choice experiments<sup>8</sup>. The actual levels of the attributes chosen by the experimental design algorithm differ by question, block, and experiment. For details on the design and attribute levels, see Table 1. Respondents from the U.S. and Germany were randomly assigned to one of the fifteen blocks. All experimental design attributes are identical for both U.S. and German respondents except for 1) prices are expressed in dollars for U.S. respondents and in euros for German respondents<sup>9</sup>, 2) the in-country certifier (i.e. the United States Department of Agriculture (USDA) and the German Ministry for Consumer Protection, Nutrition and Agriculture (BMVEL) differ according to country, and 3) the organic label for each country (i.e. the German Bio label and the USDA Organic Label, respectively for each country). At the beginning of the experiment the following information about the Fair Trade label was provided to respondents in both the United States and Germany:

#### What is Fair Trade?

Advocates argue that Fair Trade certified products ensure that farmers, workers, and artisans are paid a fair price for their products or labor, do not use child labor or forced labor, have healthy and safe working conditions, use sustainable and environmentally-friendly production methods, and have long-term and direct relationships with producers and buyers. Others feel that fair trade is discriminatory against producers who are not eligible for the program and countries that do not have the resources to institute a Fair Trade program.

Respondents consisted of students taking large undergraduate classes at the College of William and Mary (U.S.) during the Spring of 2006 and at the Universities of Bonn and Hannover (Germany) in the Spring and Summer of 2007.

Before providing an overview of the hypotheses we test in this paper, three observations are in order. First, apart from the unique sorting effect amongst poor growers engendered by the Fair Trade label for coffee, our interest in picking this particular label has to do with the wide familiarity of the label in the United States and Germany. Second, we chose University students as respondents, not just because of the familiarity of this label on University campuses but more importantly, picking this particular group of respondents control for any significant variation in age, income and education that might otherwise compromise our results. Third, our method of conjoint analysis based on stated preference methods is a refinement over revealed preference methods and allows us to (i) include, and observe the opt-out option, i.e., consumers who do not purchase either Fair Trade labeled or unlabeled coffee and (ii) vary the price of Fair Trade labeled coffee with the performance metrics (scope and scale of the program). The latter is particularly difficult to implement in a field experiment / revealed preference study in the real world.

<sup>8</sup> In practice, this means maximizing D efficiency or the determinant  $|X'X^{-1}|$ .

<sup>9</sup> Because of the weaker dollar, we did lower all prices shown to German respondents by .25 euros to make the prices roughly comparable across the experiments and to retain prices in common round numbers in both experiments.

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For estimation purposes, the indirect utility functions for each individual  $n$  and coffee  $i$ ,  $V_{ni}$ , are defined as follows:

$$V_{ni}(\beta) = \begin{cases} X_{Li}\beta_L + X_i\beta' + \varepsilon_{ni} & \text{If } i = A \text{ or } i = B \\ X_i\beta' + \beta_{org}Org_i + \varepsilon_{ni} & \text{If } i = C \\ \beta_{NC} + \varepsilon_{ni} & \text{If } i = \text{No Coffee} \end{cases}$$

The vector  $X_i$  contains traditional coffee attributes including price and country of origin. In our specification, these country-of-origin effects are normalized on Columbian coffee. The researcher is assumed to be able to observe the indirect utility function up to an alternative-specific error term,  $\varepsilon_{ni}$ . Also, since the fair trade coffee definition ensures something very close to organic, an organic effect (denoted by  $Org$ ) can only be estimated on the non-fair trade coffee, only some of which are organic. A constant term is also estimated on the opt-out alternative denoted by  $\beta_{NC}$ . The vector  $X_{Li}$  contains the fair trade label (whether FLO, a certifying government agency, or an in-country grower certification) and the performance attributes on grower revenues and participation rates with quadratic terms). In our empirical model, we estimate two models for respondents from the U.S. and Germany.

Our experiments are designed to present different combinations of coffee choices associated with more product variation than could be observed in retail coffee markets today. To model consumer choice, we estimate a conditional logit model (for a discussion, see Train (2003)). The probability of individual  $n$  choosing coffee  $i$  can be written as

$$P_{ni} = \frac{e^{V_{ni}(\beta)}}{\sum_{j=1}^J e^{V_{nj}(\beta)}}$$

Notice that the  $J$  coffee choices over which the model is defined correspond to the four coffee options available to respondents, Coffee A or B (both labeled), Coffee C (not labeled), and the so-called “opt-out” choice if the respondent chooses not to buy any coffee.

## 4 Results

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Using the experimental design presented above, we estimated a conditional logit model of product choice for respondents from each country. In our application of the model, there are coffee attributes familiar to respondents (i.e., price, country of origin, and a no purchase constant) and coefficients on label attributes. We hypothesize that less expensive coffees, that organic non-fair trade coffee, and higher performing Fair Trade coffees will be preferred. For attributes such as country-of-origin effects and Fair Trade label certifier we have no priors. Table 2 shows the results from experiments conducted in the United States and Germany. Recall that the experiments performed in each country are identical except for where noted in Table 1 and only where cultural context dictates necessary differences (e.g. the in-country government certifying agency).

Price, negative and significant, indicates that as the price of a coffee increases the probability of choosing the coffee decreases, *ceterus paribus*. Relative to a Columbian coffee, Brazilian coffee is less likely to be chosen by U.S. respondents (although the Costa Rican country of origin effect is not significant in the performance label experiment), and while not significant, there is some evidence that Brazilian coffee is preferred to both Colombian and Costa Rican by German respondents. Overall, there is very little evidence that country of origin is an important determinant in coffee choice. Recall, that respondents are directed to choose coffee in the experiment assuming that coffee quality is identical across coffees. In actual purchasing decisions, coffee quality may be correlated with country of origin. Our results suggest that respondents were able to hold coffee quality constant and treat label attributes on their own merits. The opt-out coefficients capturing the degree to which respondents tend to buy no coffee regardless of label attributes are always negative and significant. This shows that respondents are more likely to choose one of the coffee alternatives.

The coefficients in the model associated with fair trade and organic attributes can also be found in Table 2. First, consider the organic label coefficient on the non-fair trade coffee. For both U.S. and German respondents, the coefficient is not significant. In both countries, it appears that respondents who chose the generic coffee tended to ignore the organic feature of the coffee. Next, consider the effect of certifying agency for the fair trade coffees. In both the U.S. and Germany, the Fair Trade Labeling Organization (FLO) had the strongest effect relative to the in-country certifying agency and local growers associations.

We next turn to the performance attribute (denoted by Revenue and Participation in Table 2). Notice that we have a linear term and a second order term for each. This attribute is instructive as to how the performance of the Fair Trade labeling program, and the associated change in poverty, impact consumer willingness to pay. First, we see that as revenue increases,

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the probability of choosing a coffee increases. The quadratic specification allows the data to determine whether there is a non-linear impact on how increases in this attribute impacts the probability of choosing a coffee. We notice similar patterns across the German and U.S. respondents. For both sets of respondents receiving the performance label experiment, we find that both first (second) order terms on mean revenue increases to respondents was positive (negative) and significant. This results in preferences towards willingness to pay that increase and then at some critical level decrease with respect to increasing income accruing to program participants.

We use the estimated coffee-specific indirect utility functions to calculate the price premia consumers are willing to pay over and above \$1 for a fair trade coffee Colombian grown coffee, relative to a \$1 non-labeled Colombian Coffee that is not organic. In Figure 2 we hold participation increases at 10% and examine how the price premium varies for different levels of grower revenue increases. The peak premium occurs at approximately 75% (for U.S.) and 55% (for German respondents), beyond which it declines. The results show that for some regions of label performance, our respondent's willingness to pay is increasing as the program increases revenues accruing to participants (poverty aversion). However, as performance continues to increase, the willingness to pay peaks and declines for further revenue increases to program participants, providing evidence that respondents are sensitive to the notion that non-participants in the fair trade program are becoming relatively worse off (inequality aversion). German respondents appear to be more sensitive, and therefore their willingness to pay declines more as relative inequality increases. Sensitivity of German respondents to the inequality deepening aspect of the Fair Trade Coffee label alludes to a preference bias towards a more egalitarian distribution of income<sup>10</sup>.

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<sup>10</sup> Alternative explanations of a decline in the willingness to pay with increases in grower revenue can be attributed to (i) free riding and (ii) consumers' perception that poverty eradication has been achieved past a certain income guarantee to participating growers. Free riding can take the form of either respondents opting out of the Fair Trade Coffee choice (by choosing either unlabeled coffee or not buying coffee at all) for grower revenues past a threshold or choosing a Fair Trade option with a lower price. Our results suggest that the former form of free riding can be ruled out. The second form of free riding is observationally equivalent to consumers' perception that poverty eradication has been achieved past a certain income guarantee. We choose to ignore this interpretation simply because it would be pure speculation based on the information we provide at the beginning of the survey. Recall that at the beginning of the survey we explicitly point out to the respondents the pros and cons of the Fair Trade label for coffee: poverty alleviation (as the benefits) and inequality aversion (as the costs incurred by farmers who cannot join the program). With this information in the experiment we can reasonably claim that a lower willingness to pay when income guarantee passes a threshold can be associated with inequality aversion.

## 5 Conclusion

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In this paper we examined consumer preferences including their willingness to pay for fair trade labeled products. More importantly, we analyze how this willingness to pay changes with more information about a fair trade program's performance. Further, we examine cross-national differences in the United States and Germany and find that for common label attributes, including price, fair trade certifier, and countries of origin, consumer choice responds in similar ways.

Our results show that in both the U.S. and Germany, the Fair Trade Labeling Organization (FLO) had the strongest effect relative to the in-country certifying agency and local growers associations. Perhaps more interestingly, we show that respondents exhibit an inverted-U shape relationship between their willingness to pay for Fair Trade Coffee and the income guarantee (revenue increases) received by participating growers. Based on the initial information regarding the benefits and costs of instituting a Fair Trade program the explanation for the inverted-U alludes to the interplay between poverty and inequality aversion as participating growers in a Fair Trade program becomes better-off. However, we find that the turning points with regard to the size of the revenue increases differ across these two countries. For respondents in the United States, the turning point is approximately at 75% of grower revenue increases while it is 55% for the German respondents. This result shows that German respondents are more inequality averse than their United States counterparts.

As a market based intervention to alleviate poverty, the Fair Trade label has been recognized to have had a major impact on the livelihoods of poor farmers worldwide. Needless to say, a major driving force behind the success of this label has been the Western consumers' willingness to pay a price premium for Fair Trade labeled coffee. However, the potential for the Fair Trade label to alleviate poverty by incorporating more poor farmers into the program or increasing the guaranteed price floor to the participating members depends crucially on how consumers process information regarding the true benefits engendered by the Fair Trade label on its' constituents. In this regard, our paper aims to pin down the value of information to consumers on one particular aspect of the Fair Trade Program --- the label performance in terms of grower revenue increases and the subsequent ability of the program to alleviate poverty.

In the above regard, two final comments are in order. First, from standpoint of a policy formulation and / or marketing strategy this paper offers a couple of interesting observations: (i) performance labels can reward producers but only up to a minimum threshold level. In this sense, a hybrid labeling approach might be the best strategy where performance information is selectively provided over a certain range of revenues accruing to growers and (ii) performance labeling may decrease the reliance on certifying agencies when performance is easy to observe.

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Second, it bears emphasis that this paper, both in terms of the questions posed as well as the methodology, needs to be viewed as a starting point for a number of open questions regarding the role information plays in a consumers' private valuation of a public good. In this respect, an experiment that compares consumers' valuation based on the *perception* of a label's performance with their valuation based on *actual* performance is a logical first step that would allow for a disentangling of the various attributes of a label that drives consumers' willingness to pay a price premium.

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## Appendix

Table 1: Variable Descriptions and Attribute Levels

Attribute	Description	Label Attribute Levels
Price	Per Cup of Coffee (US, dollars)	Labeled: (2.00,2.25,2.50,2.75) Non-labeled: (1.00,1.25,1.50,1.75)
	Per Cup of Coffee (Germany, euros)	Labeled: (1.75,2.00,2.25,2.50) Non-labeled: (0.75,1.00,1.25,1.50)
Brazil	Grown in Brazil	(0,1)
Costa Rica	Grown in Costa Rica	(0,1)
Organic	Non-fair trade labeled coffee labeled as organic (US, USDA Organic)	(0,1)
	(Germany, Bio Label)	(0,1)
Government Agency	Certified by the USDA (US)	(0,1)
	Certified by the BMVEL (Germany)	(0,1)
FLO	Certified by the Fairtrade Labeling Organisation International	(0,1)
CGA	Certified by the Country of Origin's Coffee Growers Association	(0,1)
Revenue	Increased Grower Revenue for Program Participants	(3%,25%,50%,75%)
Participation	Increased Grower Participation in Fair Trade Program	(3%,25%,50%,75%)

Table 2: Parameter Estimates

Table 2: Parameter Estimates ( $\ddagger$ ,  $\dagger$ , and \* denotes significance at the 1%, 5%, and 10% levels, respectively). Standard errors in parenthesis.

Variable	U.S.	Germany
Price	-1.6099 $\ddagger$ (.1642)	-1.1353 $\ddagger$ (.1960)
Brazil	-.1945 $\dagger$ (.1070)	.0164 (.1309)
Costa Rica	.0543 (.1042)	-.0426 (.1291)
FLO	.9210 $\ddagger$ (.2482)	.5383* (.3047)
Government Agency	.7087 $\ddagger$ (.2530)	.3325 (.3118)
Organic	.0179 (.1541)	.2338 (.1756)
Opt Out	-3.3120 $\ddagger$ (.2693)	-2.2731 $\ddagger$ (.3189)
Revenue	3.3009 $\ddagger$ (.7576)	2.8350 $\ddagger$ (.9681)
Revenue <sup>2</sup>	-2.3511 $\dagger$ (.9127)	-2.8216 $\dagger$ (1.1842)
Participation	1.4424* (.7576)	.0565 (.9671)
Participation <sup>2</sup>	-1.0355 (.9270)	.0098 (1.1904)
Respondents	187	157
Observed Choices	842	716

# Label Performance and the Willingness to Pay for Fair Trade Coffee: A Cross-National Perspective

Figure 1: Example Performance Label Survey

Figure 1: Example Performance Label Survey





<u>Coffee A</u>	<u>Coffee B</u>	<u>Coffee C</u>
\$2.50	\$2.25	\$1.00
		
This Brand's Fair Trade Performance	This Brand's Fair Trade Performance	No Information Available
Increased Grower Revenue: 75% Increased Grower Participation: 25%	Increased Grower Revenue: 50% Increased Grower Participation: 3%	
Certified Fair Trade by the United States Department of Agriculture. Grown in Brazil	Certified Fair Trade by the Colombian Coffee Growers' Association. Grown in Colombia	Grown in Costa Rica
		
↓	↓	↓
<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>	<input style="width: 40px; height: 20px;" type="text"/>
Choose Coffee A	Choose Coffee B	Choose Coffee C
I wouldn't buy any of these <input style="width: 40px; height: 20px;" type="text"/>		

Figure 2: Price Premia and Label Performance: Revenue Increase

Figure 2: Price Premia and Label Performance: Revenue Increases

