Do consumers value employee ownership? Evidence from an experimental auction

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Abstract

Purpose – The purpose of this paper is to evaluate how the public at large perceives employee ownership, and how public perceptions of employee ownership translate into consumer valuation of goods and/or services produced by employee-owned firms. To the extent that consumer interest regarding the governance and ownership structure of firms matters in their purchasing decision, an employee-owned certification label could be an instrument by firms to segment consumer demand, differentiate products and potentially realize a competitive advantage.

Design/methodology/approach – Three specific questions are evaluated using the fifth price, experimental Vickrey valuation auction. First, the author obtains estimates of willingness to pay (WTP) premia for a specific item (coffee) differentiated in a controlled setting by the certifications labels that signal various non-market attributes. Specifically, the author examines the WTP premium for coffee that is eligible for the Certified Employee-OwnedSM label, the Fair Trade CertifiedTM Certified label, as well coffee that qualifies for both labels. Second, the author introduces a treatment to evaluate how the provision of information produced by the third party certifiers affects WTP estimates. And third, the author exploits the use of a controlled setting to evaluate how passive sensory information (i.e. taste) may influence the WTP valuation of the labels.

Findings – WTP premia for coffee carrying only the EO label only increase by 67 cents relative to conventional coffee, which was not significantly different from zero. Bids for both FT and EO&FT labeled coffee were, however, positive ($1.22 and $2.17, respectively) and are also statistically significant. The circulation of information to subjects about the certification programs resulted in increased bids. These bid differences were statistically significant for FT and EOFT coffee, but again, not for EO labeled coffee. Finally, differences in tastes did not appear to drive significant differences in bidding behavior, suggesting that WTP consumer decisions are strongly influenced by non-market attributes.

Originality/value – Marketers, economists and others have an interest in determining the monetary value individuals place on non-market goods for a variety of reasons; from forecasting new product success to understanding consumer and individual behavior. Unfortunately, many currently available stated preference techniques suffer from hypothetical bias while revealed preference techniques rely on indirect measures. Experimental auctions mitigate some of these issues since they involve individuals exchanging real money for real goods in an active market. WTP valuation has been conducted on a wide variety or products, but none that capture consumer valuation of employee ownership.

Keywords Willingness to pay, Employee ownership, Consumer preferences, Experimental valuation auction

Paper type Research paper

1. Introduction

At least since the 1970s, dozens of opinion polls have been conducted to evaluate how the public perceives different aspects of employee ownership. In total, 30 of these polls are reported in Kruse and Blasi (1999), and overall, they show that the public generally tends to hold positive views of employee ownership, despite not being wholly familiar with the concept[1]. For example, in one poll, a large majority of respondents believe that workers in employee-owned firms both pay more attention to the quality of their work and work harder than workers in non-employee-owned firms. Further, the two-thirds of respondents from another poll say that they would favor working for an employee-owned firm if given the choice. Results from a separate poll, however, show the two-thirds of respondents reported knowing either “not too much” or “nothing” about employee-owned firms. On one hand, the reported unfamiliarity with employee-owned firms is surprising given prevalence of employee-owned firms in the US economy (e.g. Kruse et al., 2010), yet on the
other, it is probably unrealistic to expect poll respondents to accurately recall their experiences with firms of a specific organizational type in the absence of salient, credible, distinguishing signals.

The recently founded Certified Employee-OwnedSM label provides, for perhaps the first time, a way for employee-owned firms to certifiably signal their firm-type customers, potential employees and other stakeholders. Similar to other certification programs that signal non-market attributes related to the production process (e.g. non-GMO, Organic, etc.) a principle aim of the Certified Employee-OwnedSM mark is to raise awareness by influencing the choice architecture of potential consumers introducing a new decision to made between “employee-owned” and “non-employee owned” products. The information signaled through the certification label could appeal to consumers that have an existing preference for (non)employee owned produced goods and services, and also raise awareness among others that have had limited exposure to the concept of employee ownership. Indeed, an employee-owned certification label could be an instrument by firms to segment consumer demand, differentiate products and potentially realize a competitive advantage. Preliminary market research of the Certified Employee-OwnedSM label suggests that this may be possible.

Specifically, in a large, nationally representative online survey, 35 percent of respondents expressed that they are more likely to buy a product bearing the Certified Employee-OwnedSM label, and 48 percent of consumers express a willingness to pay a premium for Certified Employee-OwnedSM products (Ownership Alliance, 2016). Findings from the same survey show “a long tail of respondents who would be willing to pay large premiums […] 28 percent of respondents would pay over 10 percent more, and 11 percent would pay over 30 percent more [for Certified Employee-OwnedSM labeled products].” As encouraging, as these findings are, a sizable body of research suggests that there are often wide divergences between responses to scenarios wherein respondents are asked to provide hypothetical valuation estimates, vs cases where consumers reveal their valuation of a good with real money on the line (e.g. Lusk and Shogren, 2007). While hypothetical valuations might help in establishing a theory of consumer preferences, the principal drawback is that respondents do not have an explicit incentive to be truthful with their response. Further, in the absence of a salient, consequential incentives, respondents might not think carefully when providing a stated, hypothetical valuation. One stark example from List and Gallet (2001) shows that hypothetical valuations can be inflated by up to 20 times in relative to non-hypothetical valuation estimates where real monetary stakes for respondents were on the line.

In an effort to mitigate potential hypothetical bias in valuation estimates for goods bearing the Certified Employee-OwnedSM label, the present research therefore uses an experimental valuation auction. The main difference between an experimental auction and a survey is that in an experimental auction subjects are put in an active market that penalizes stated, hypothetical valuation estimates that diverge from the “true” preferences of the subject. While it is certainly possible that subjects misrepresent their “true” valuation in an experimental auction, an incentive compatible auction makes “untrue” bids privately costly.

In this paper, three questions regarding consumer valuation are examined in a controlled setting. First, as in many other experimental valuation studies, we obtain estimates of willingness to pay (WTP) premia for a specific item (coffee) differentiated in a controlled setting by the certifications labels that signal various non-market attributes. Specifically, we examine the WTP premium for coffee that is eligible for the Certified Employee OwnedSM label, the Fair Trade CertifiedTM label, as well coffee that qualifies as to carry both Certified Employee OwnedSM and Fair Trade CertifiedTM labels (throughout the document, we refer to Certified Employee OwnedSM and Fair Trade CertifiedTM labels as EO and FT). We collect valuation estimates of the Fair Trade CertifiedTM label because it is a ubiquitous
mark with hundreds of licensing partners that can serve as basis of comparison for the Certified Employee OwnedSM label, which is, at the time of that this research was conducted, not yet seen on products in circulation. We chose coffee as the good to be used in our study since it is a product that is heavily labeled and marketed according to attributes alluding how it was produced[2].

Second, we evaluate whether the provision of public information on the respective certifiers for the Certified Employee OwnedSM and Fair Trade CertifiedTM labels has a systematic effect on changing WTP estimates. And finally, we exploit the use of a controlled setting to evaluate how passive sensory information (i.e. taste) may influence the WTP valuation of the labels.

In general, much of the research on employee ownership has focused on how broad-based asset ownership interacts with a wide variety of outcomes, including but limited to profitability, productivity and compensation (e.g. Blasi et al., 1996), turnover, absenteeism, loyalty, worker effort (e.g. Blasi et al., 2008), job satisfaction (e.g. Long, 1980), innovation (e.g. Garrett, 2010), firm survival (e.g. Park et al., 2004; Kurtulus and Kruse, 2017) and inequality (e.g. Carberry, 2010). Other programs have focused on factors that contribute to the incidence of employee-owned firm (e.g. Poutsma and Ligthart, 2017), outcomes that interact with unions (e.g. Hoffman and Brown, 2017), states (e.g. Williams, 2016), multi-national corporations (e.g. Poutsma et al., 2005), while still others have examined how broad-based employee ownership potentially address industrial externalities that affect the environment (Aguinis and Glavas, 2013), health outcomes (Erdal, 2000) and civic mindedness (e.g. Laessig, 2014). Comparatively less is known, however, regarding how the public at large perceives employee ownership, and how public perceptions of employee ownership translate into consumer valuation of goods and/or services produced by employee-owned firms. This research aims to advance our understanding of public perception of employee ownership by collecting valuation estimates using an experimental auction.

In the following section, a detailed description of the research methodology and the experimental design used in the study is given. Section 3 provides descriptive statistics from the sample, and in Section 4 the results are presented from the study. Section 5 concludes the paper.

2. Methodology and experimental design

Over the past 50 years, researchers in economics, psychology and marketing have developed several methods to elicit valuation of both market and non-market goods and services. Stated preference methods use questionnaires or comparative choice trials that ask individuals to state ones value for a good or service. The benefit of stated preference methods is that they can accommodate rich vignettes and alternative scenarios for consumers to consider as they simulate a choice they might make under the hypothetical circumstances. The drawback, of course, is that the choices observed are hypothetical. The absence of a “real,” non-hypothetical, stake risks bias in responses (e.g. Johansson-Stenman and Svendsater, 2008; Lusk, and Schroeder, 2004; Murphy et al., 2005; List and Gallet, 2001).

In contrast to stated preference methods, revealed preference methods have been used to try to tease out valuation of different types of goods. For example, the number of bathrooms in a house is not traded independently in the marketplace; but by finding the difference in the price of, say, a 2-bathroom home vs an otherwise identical 1-bathroom home, we can indirectly determine people’s values for an extra bathroom. The benefit of revealed preference methods is that real choices are examined. The drawback is that the valuation is often indirect and the interpretation of empirical patters is susceptible to a number of confounding, unobservable factors.

In consideration of the potential issues that arise with stated preference and conventional revealed preference valuation methods, many applied researchers have
turned to experimental auctions to elicit valuations (e.g. Lusk and Shogren, 2007)[3]. As Lusk and Shogren suggest, the advantage of experimental auctions over stated preference methods is that subject participants are put in an active market environment with real economic consequences for each of their actions. Clearly, this does not eliminate the possibility that some people misrepresent their true valuations for one reason or another. When, however, the auction used to elicit private valuation of a good or service follows an incentive compatible auction mechanism misrepresentation and hypothetical bias in bids are penalized. For example, in the second-price Vickrey auction (one such incentive compatible mechanism), the winner of the auction is the person that had the highest bid. The price the winner of the auction pays, however, is the second-highest price. N-price Vickrey auctions are incentive compatible since the best thing that a participant could do is to bid one’s own value. That is, strategic bidding (i.e. bidding a value that is higher or lower than one’s own value) risk losses. Consider why this is true: if an auction participant bid more for a good than it is worth to her, she may end up having to pay more the good than what she wanted to pay in the first place. Conversely, if she bid less for a good than it is worth to her, she may end up losing out on the good even though she could have bought the good at the price she was actually willing to pay[4]. Experimental auctions therefore provide a straightforward way to identify differences in the direction and intensity consumer valuation driven by the desire for non-market attributes grounded in an incentive compatible mechanism wherein the dominant strategy for each bidder is to submit a bid that is equal to their value of the good.

The WTP estimates collected from an experimental auction are generally thought to be qualitatively externally valid to “real-world” contexts (in direction) but not necessarily quantitatively externally valid (i.e. in the precise magnitude). Kessler and Vesterlund (forthcoming) summarize this common perspective taken within the field well. Specifically, “[the] focus on quantitative external validity is misplaced for many (if not most) experimental studies, however, as the emphasis in these studies is to identify the direction rather than the magnitude of an effect […]. For example, the revenue difference between an English auction and a first-price sealed bid auction in the lab is not thought to be indicative of the quantitative difference one would find between any other set of English and first-price sealed bid auctions. Similarly, despite the clear objective of finding externally valid results, the experiments that tested various designs of FCC spectrum auctions were not aiming to identify magnitudes that would generalize to the field. Instead, they were run with the expectation that the general principles of behavior identified in lab auctions also would be present in the field. The emphasis on qualitative results is in part explained by the fact that all theoretical and empirical models require simplifying assumptions. In constructing these models, we eliminate any factors that we think are not central. A consequence of abstracting away from environments of interest is that we likely fail to capture the precise magnitude of the effect we expect to see in those environments.” The study reported herein, is conducted in this spirit.

Experimental design[5]

The participants for the valuation study were recruited by e-mail that went to students, faculty and staff members at the College of Wooster. The e-mail noted that a marketing study examining preferences for different types of coffee and chocolate was being conducted on campus. The resulting sample was composed of a combination of students and non-students (primarily staff members). We conducted the fifth-price Vickrey auction, in which participants were endowed with “conventional” (non-Employee Owned, non-Fair Trade) coffee and were given the opportunity to participate in an auction over coffee that qualifies for the Certified Employee-OwnedSM label coffee that qualifies for the Fair Trade CertifiedTM label and coffee that qualifies for both certification labels. At the time of this
A study was conducted, no products in circulation carried the newly founded Certified Employee-OwnedSM label. The coffee that carried the Certified Employee-OwnedSM used in the study was sourced from a company in Ohio that qualifies for carrying the label[6]. After an initial auction used to familiarize subjects with the rules and procedures of the Vickrey Auction, “homegrown” willingness to pay values were elicited in Auction 1[7]. Auction 2 elicited WTP values after information taken from the Certified Employee Owned and Fair Trade USA websites that describe their respective certifications were circulated to subject participants. Auction 3 elicited WTP valuations after passive sensory rankings information was recorded. Following Costanigro et al. (2014) and other valuation studies, we did not reveal winners or the winning bid prices until the very end of the study. The experimental design consisted of seven parts, described below. The full set of instructions and procedures are in Appendix 1.

**Part 1: demographic and attitudinal information**

As subjects arrived, they signed into the study and received a subject ID number that corresponded to a similarly numbered experiment station. Each station had an envelope with $16.05, a small candy bar, a downward facing pile of small bid sheets, a pen, a stapled packet that was also facing downward, and the study consent form[8]. Subjects were asked to read and sign the consent form and then to turn the stapled packet at their station over that contained a demographic and attitudinal questionnaire. Subjects were given 6 min to complete the questionnaire.

**Part 2: practice auction**

Following the convention of experimental valuation auctions, we first conducted a practice auction with candy bars in order to familiarize subjects with how the fifth-price Vickrey Auction worked. It is important to run a practice auction to minimize confusion with auction rules and bidding procedures[9]. Subjects were physically endowed with a small chocolate bar (the small chocolate was placed at each subject’s station prior the study) and then submitted bids for three different upgrade candy bars. That is, subjects participated in three simultaneous auctions (one for each upgrade candy bar). After all bids were made and collected, a random process (i.e. a public die roll) determined which of the three separate auctions was binding[10]. After the binding auction was made public, so too were the four winners (those with the four highest bids) as well as the price that they would pay for the upgrade candy bar (the fifth highest price) at the end of the study.

**Part 3: blind-sensory evaluation**

Once the practice auction in Part 2 was complete, the attention of subject participants in the study was directed toward a table in front of their station where four half-pound bags of coffee were placed. Each bag of coffee was in a plain, 8-ounce coffee bag either labeled “A,” “B,” “C” or “D.” The subjects were given 5 min to passively observe/smell the contents of the different bags of coffee knowing only that each of the four coffee samples was a “medium roast” and “ground for brewing.” We opted for a smell/passive observation test in favor of a blind-taste test of the coffee to simulate the conditions a potential customer might face in a retail or wholesale environment. It is almost always not the case that customers are able to taste and compare different coffees prior to purchase[11]. Subjects then ranked their preferences for the different types of coffee from 1 to 4, with a rank of “1” signaling their favorite and “4” as their least favorite. These rankings were then set aside by subjects until Part 6 of the study where coffee types were revealed to all subjects.
**Part 4: auction 1: “Homegrown” values**

Once participants completed the sensory test and ranked their preferences for the different types of coffee, subjects received a new set of instructions that reminded them of how the Vickrey auction worked. Subjects were then told that they owned (i.e. factually endowed) with a half-pound bag of “conventional” non-EO, non-FT coffee. The subjects then participated in simultaneous, fifth-price Vickrey auctions for a half-pound bags coffee that quality for the EO label, the FT label and both the EO and FT labels. The purpose of this initial coffee auction was to collect “homegrown values,” or those values that people bring into an experiment for goods that carry these labels prior to any manipulation (Lusk and Shogren, 2007). We collected bid sheets for the simultaneous auction on the bid sheet “Coffee Auction Set 1” before handing out a second set of instructions for Part 5 of the study. (See Appendix 2 for example bid slips).

**Part 5: auction 2: label information sheets**

Prior to the second coffee auction, subjects received information sheets taken from the respective “about” link posted on the Certified Employee Owned and Fair Trade USA websites. The purpose of this manipulation was to give subjects information issued by the third-party certifiers in their own words, and to test if this information systematically affected changes in the WTP for products eligible to carry the EO and/or FT labels (akin to an information treatment in McFadden and Huffman, 2017). Subjects were allotted 6 min to read the information sheets and to then submit a second set of bids on the bid sheet labeled “Coffee Auction Set 2.” These bid sheets were then collected and recorded as Part 6 while Part 6 of the study was under way.

**Part 6: auction 3: sensory information**

Subject participants were asked to look at the coffee-rankings sheet that they filled out in Part 3 (described above) of the study. The identities of the four different types of coffee from the blind-sensory observation were revealed and subjects were asked to notice how their prior preference ordering aligned with the identities of the coffee. All subjects then entered bids on the bid sheet labeled “Coffee Auction Set 3” that was then collected by a member of the research team.

**Part 7: binding auction determination**

At this point in the study, the research team had collected three different sets of three simultaneous auctions for EO, FT and EO + FT labeled coffee. An initial die-roll determined which of the three auction sets was binding. A second die roll determined which good was being auctioned. After the binding auction was randomly determined, auction losers collected their half-pound bag of ground “conventional” (non-EO, non-FT) coffee and their endowments of unspent money. Winners of the binding auction were announced by subject number. Winners then paid fifth highest bid (which was made public information) and their bag of conventional coffee in exchange for the coffee they won in the auction. We concluded the study by collecting payment for the practice (candy bar auction) following the same procedure (Table I).

<table>
<thead>
<tr>
<th>Step</th>
<th>Task</th>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Demographic and attitudinal information</td>
<td>Subject questionnaire</td>
</tr>
<tr>
<td>2</td>
<td>Practice auction</td>
<td>5th Price Vickrey Auction</td>
</tr>
<tr>
<td>3</td>
<td>Passive sensory observation</td>
<td>Sensory Score Sheets</td>
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<tr>
<td>4</td>
<td>Auction 1: “homegrown” values</td>
<td>5th Price Vickrey Auction</td>
</tr>
<tr>
<td>5</td>
<td>Auction 2: information sheets</td>
<td>5th Price Vickrey Auction</td>
</tr>
<tr>
<td>6</td>
<td>Auction 3: sensory information</td>
<td>5th Price Vickrey Auction</td>
</tr>
<tr>
<td>7</td>
<td>Binding auction determination</td>
<td>Random Process (Die rolls)</td>
</tr>
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3. Descriptive statistics and data overview

Table II shows that the 53 subjects in the sample, while younger on average than the population of Ohio (25.4 vs 34 for the state), were more highly educated (60.38 percent with at least an undergraduate degree vs 26.8 percent for Ohio)[15]. The sample also reported similar gross household incomes relative to Ohio residents with 64.15 percent of participants reporting a gross household income greater than $35,000 compared to 62 percent statewide. Close to two-thirds (64 percent) of the subjects in the sample were female while 43 percent of the sample reported as primary shoppers in their respective household. Most of the participants were also regular coffee drinkers, with 52.83 percent drinking at least one cup of coffee a day[16].

Table III summarizes how much subjects in our study agreed or disagreed with a series of statements designed with the intention of measuring perceptions EO and FT products

<table>
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<tr>
<th></th>
<th>Obs</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
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<td><strong>Gender</strong></td>
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<td>33.96</td>
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<td>Female</td>
<td>34</td>
<td>64.15</td>
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<tr>
<td>Other</td>
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<tr>
<td><strong>Ethnicity</strong></td>
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<tr>
<td>White</td>
<td>34</td>
<td>64.15</td>
<td>64.15</td>
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<tr>
<td>Asian</td>
<td>11</td>
<td>20.75</td>
<td>84.91</td>
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<td>Native Am</td>
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<td>3</td>
<td>5.66</td>
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<td>3.77</td>
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<td>20.75</td>
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<td>20,000–34,999</td>
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<td>7.55</td>
<td>28.30</td>
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<td>35,000–49,999</td>
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<td>7.55</td>
<td>35.85</td>
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<td>50,000–74,999</td>
<td>16</td>
<td>30.19</td>
<td>66.04</td>
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<td>75,000–99,999</td>
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<td>5.66</td>
<td>71.70</td>
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<td>100,000–150,000</td>
<td>14</td>
<td>26.42</td>
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<tr>
<td>More 150,000</td>
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<td>1.89</td>
<td>100.00</td>
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<td><strong>Education</strong></td>
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<td>Secondary</td>
<td>10</td>
<td>18.87</td>
<td>18.87</td>
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<td>39.62</td>
<td>58.49</td>
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<tr>
<td>Bachelor</td>
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<td>22.64</td>
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<td>Some graduate</td>
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<td>7.55</td>
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<td>Graduate</td>
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<td>56.60</td>
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<tr>
<td>Yes</td>
<td>23</td>
<td>43.40</td>
<td>100.00</td>
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<td></td>
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<td><strong>Drink coffee how often</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Less than once/week</td>
<td>13</td>
<td>24.53</td>
<td>24.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once/week</td>
<td>4</td>
<td>7.55</td>
<td>32.08</td>
<td></td>
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<tr>
<td>3–4 times/week</td>
<td>8</td>
<td>15.09</td>
<td>47.17</td>
<td></td>
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<tr>
<td>Once/day</td>
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<td>28.30</td>
<td>75.47</td>
<td></td>
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<tr>
<td>More than once/day</td>
<td>13</td>
<td>24.53</td>
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<tr>
<td><strong>Brew coffee how often</strong></td>
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<td></td>
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<tr>
<td>Less than once/week</td>
<td>19</td>
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<tr>
<td>Once/week</td>
<td>5</td>
<td>9.43</td>
<td>45.28</td>
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<tr>
<td>3–4 times/week</td>
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<td>22.64</td>
<td>67.92</td>
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<tr>
<td>Once/day</td>
<td>15</td>
<td>28.30</td>
<td>96.23</td>
<td></td>
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<tr>
<td>More than once/day</td>
<td>2</td>
<td>3.77</td>
<td>100.00</td>
<td></td>
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</table>
Evidence from an experimental auction

### Table III.
Summary statistics for attitudinal data

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>Mean</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 Workers in EO firms more fairly compensated</td>
<td>6.55</td>
<td>1.16</td>
<td>4</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>12 EO firms strengthen the local economy</td>
<td>6.69</td>
<td>1.52</td>
<td>3</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>13 EO firms place a higher value on customer support</td>
<td>6.33</td>
<td>1.64</td>
<td>1</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>14 EO firms more committed to social responsibility</td>
<td>6.64</td>
<td>1.57</td>
<td>2</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>15 EO firms produce higher quality products</td>
<td>5.88</td>
<td>1.83</td>
<td>2</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>16 EO firms lower negative environmental impact</td>
<td>5.77</td>
<td>1.85</td>
<td>1</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>17 EO firms are more trustworthy</td>
<td>5.81</td>
<td>1.81</td>
<td>1</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>18 Workers in EO firms have better work-life balance</td>
<td>5.73</td>
<td>1.74</td>
<td>1</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>19 Workers in EO firms more satisfied with their job</td>
<td>6.43</td>
<td>1.83</td>
<td>2</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>20 FT results in more producer income</td>
<td>6.43</td>
<td>1.78</td>
<td>2</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>21 FT strengthen the local economy</td>
<td>6.37</td>
<td>1.68</td>
<td>2</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>22 FT products give better customer support</td>
<td>6.01</td>
<td>1.53</td>
<td>2</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>23 FT products committed to social responsibility</td>
<td>7.03</td>
<td>1.58</td>
<td>2</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>24 FT products higher quality</td>
<td>5.73</td>
<td>1.67</td>
<td>1</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>25 FT products lower negative environmental impact</td>
<td>6.03</td>
<td>1.59</td>
<td>3</td>
<td>9</td>
<td>5</td>
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<tr>
<td>26 FT products more trustworthy</td>
<td>6.00</td>
<td>1.62</td>
<td>2</td>
<td>9</td>
<td>6</td>
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<tr>
<td>27 Primary suppliers work under safer conditions</td>
<td>6.24</td>
<td>1.69</td>
<td>1</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>28 Primary suppliers more satisfied with their job</td>
<td>6.07</td>
<td>1.65</td>
<td>1</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>29 Buy lowest cost item irrespective of labels</td>
<td>5.39</td>
<td>2.93</td>
<td>1</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>30 Nutritional concern irrespective of labels</td>
<td>6.88</td>
<td>1.93</td>
<td>1</td>
<td>9</td>
<td>7</td>
</tr>
</tbody>
</table>

Notes: Attitudinal responses on a nine-point Likert scale (strongly disagree = 1; strongly Agree = 9). In total, 53 survey respondents. Survey items listed are abbreviated. Full questions can be found in the Appendix.
4. Tests of hypotheses and results

The aim of this study is three-fold. First, as in many other valuation studies, we obtain estimates of WTP premia for a specific item (i.e. coffee) differentiated by the certifications labels that signal various non-market attributes. Specifically, we examine the WTP premium for coffee that is eligible for the EO, FT, and EO+FT labels. Second, we evaluate whether the provision of information using language from the third-party certifiers affects WTP estimates. Finally, we exploit the use of a controlled setting to evaluate how passive sensory information (i.e. taste) influences the WTP valuation. We take each of these questions in turn. Table VI summarizes the results from the experiment.

What are the WTP premia for Certified Employee-OwnedSM, Fair Trade CertifiedTM, and Certified Employee-OwnedSM and Fair Trade CertifiedTM coffee?

To evaluate the WTP premia, we use WTP estimates from Coffee Auction Set 1. Recall, that in Coffee Auction Set 1, subjects were endowed with a half-pound bag of non-EO, non-FT coffee and then participated in simultaneous, fifth-price Vickrey auctions for a EO label, FT label and EO+FT labeled coffee. The purpose of this initial coffee auction was to collect “homegrown values,” or those valuations that people bring into an experiment prior to any manipulation (Lusk and Shogren, 2007). Column 1 in Table VI reports Tobit regression results that account for left-censored bids at zero. We suppress the constant term and the coefficients represent the marginal effects.

<table>
<thead>
<tr>
<th></th>
<th>Freq.</th>
<th>%</th>
<th>Cum.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EO&amp;FT</td>
<td>1</td>
<td>20</td>
<td>37.74</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>15</td>
<td>28.30</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>8</td>
<td>15.09</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>10</td>
<td>18.87</td>
</tr>
<tr>
<td>FT</td>
<td>1</td>
<td>14</td>
<td>26.42</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>11</td>
<td>20.75</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>13</td>
<td>24.53</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>15</td>
<td>28.30</td>
</tr>
<tr>
<td>Conventional</td>
<td>1</td>
<td>11</td>
<td>20.75</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>15</td>
<td>28.30</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>20</td>
<td>37.74</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>7</td>
<td>13.21</td>
</tr>
<tr>
<td>EO</td>
<td>1</td>
<td>8</td>
<td>15.09</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>13</td>
<td>24.53</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>12</td>
<td>22.64</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>20</td>
<td>37.74</td>
</tr>
<tr>
<td>Best (B) – Worst (W) Blind Rankings (R)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EO and FT</td>
<td>20</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Conventional</td>
<td>11</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>FT</td>
<td>14</td>
<td>15</td>
<td>-1</td>
</tr>
<tr>
<td>EO</td>
<td>8</td>
<td>20</td>
<td>-12</td>
</tr>
</tbody>
</table>

Note: Kendall’s $W = 0.60$ (for ranking agreement on EO and FT as Best and EO as Worst)
We find that expected bids increase by 67 cents relative to bids made for the conventional coffee. Despite the positive sign, however, the bid difference only meets 20 percent level of significance (rather than the more customary standard of a 10, 5 or 1 percent level) that the bid difference is statistically different from zero. That is, chances are from four to one that consumers have a baseline willingness to pay more for products carrying the EO mark.

Column 1 in Table VI also shows the expected bids for both FT and EO + FT are positive and respectively significant at the 5 and 1 percent level of significance. Expected bids increase by $1.22 for FT labeled coffee relative to conventional, and expected bids increase by $2.18 for EO+FT labeled coffee. The difference in bids between the FT and EO+FT marks was evaluated using a Wald test to evaluate whether the increase from $1.22 to $2.18 (96 cents) was statistically significant from zero. This 96 cent difference in willingness to pay is significant at the 20 percent level of significance again showing that odds are 4 to 1 that consumers have a baseline willingness to pay for EO labeled products.

How does the provision of information produced by 3rd party certifiers (i.e. the certified EO organization and fair trade USA) affect WTP estimates?

To evaluate if the provision of information about the certification labels affects WTP premia, we examine the difference in bids from Coffee Auction Set 1 to the bids in Coffee Auction Set 2. Recall that prior to the second auction round, subjects received information...
The purpose of this manipulation was to give subjects information issued by the third-party certifiers in their own words, and to examine whether the provision of this information systematically affected changes in the WTP estimates. The regression output from Column 2 in Table VI uses OLS to regress the difference of bids from Auction Set 2 and Auction Set 1 (dependent variable DiffA2A1) for the different types of labeled coffee. The results show, that on average, the information treatment had a positive effect on bids for all three types of goods. Specifically, bids increased by an average of $0.10, $0.20 and $0.16 respectively, for EO, FT and EO+FT labeled coffee after the information sheets were circulated. Notice, however, that these differences are only significantly different than zero only the cases of FT and EO+FT coffee (90 percent level of significance). The difference in bids for EO coffee was not significantly different from zero. These general findings are confirmed by non-parametric Wilcoxon test of the equality of matched pairs of observations. The null hypothesis that distribution of bids on each good between homegrown (Set 1) and information treatment (Set 2) are the same is rejected for EO+FT coffee (Prob $\mid z \mid = 0.0107$), FT coffee (Prob $\mid z \mid = 0.0018$), but not for EO coffee (Prob $\mid z \mid = 0.1890$). Though the information sheets did make a difference in subject bids for the Certified Employee-OwnedSM label, they were not significant.

Does passive sensory information (i.e. taste) influence the WTP valuation of certification labels?

At the conclusion of the practice auction (over candy bars), and prior to the final coffee auction, subjects were directed toward a table in front of their station where four half-pound bags of coffee were placed. Each bag of coffee was in a plain, 8-ounce coffee bag either labeled “A,” “B,” “C,” or “D.” The subjects were given 5 min to passively observe/smell the contents of the different bags of coffee knowing only that each of the four coffee samples was a “medium roast” and “ground for brewing.” The subjects then ranked their preferences for the different types of coffee from 1 to 4, where 1 = their favorite and 4 was their least favorite. The identities of the four different types of coffee from the blind-sensory observation were not revealed until just before the final auction. The subjects were asked to notice how their prior preference ordering aligned with the identities of the coffee and then enter bids on the bid sheet labeled “Coffee Auction Set 3.”

Regression 3 reported in Table VI regresses the difference in WTP from Auction 1 (Homegrown) and WTP from Auction 3 (taste preferences revealed) on the three coffee types. The results from the regression analysis show that the differences in Auctions 1 (Homegrown valuation) and 3 (taste preferences revealed) were not statistically significant, suggesting that taste was not a significant driver of average bids, which is notable in consideration of the high ratings given to the EOFT labeled coffee in the blind-sensory test, and the low ratings given to the EO labeled coffee. The results suggest that taste mattered little in driving bid differences, which underscores the importance consumers place on product attributes in valuation of largely homogenous products.

Results summary
In this valuation study, we conducted the fifth-price Vickrey auction, in which participants were endowed with conventional (non-EO, non-FT) coffee and were given the opportunity to participate in an auction over coffee that qualifies to carry the Certified Employee-OwnedSM label, the Fair Trade CertifiedTM label, as well as coffee eligible for carrying both labels. After an initial auction used to familiarize subjects with the rules and procedures of the Vickrey Auction, homegrown willingness to pay values were elicited in Auction 1. Auction 2 elicited WTP values after information sheets taken from the respective Certified Employee Owned and Fair Trade Certified websites were circulated to subject participants.
elicited WTP valuations after passive sensory rankings information was recorded. The purpose of the study was to obtain estimates of WTP premia, evaluate whether the provision of information produced by the third-party certifiers (i.e. the Certified EO organization and Fair Trade USA) about what is behind their respective certifications has a systematic effect on changing WTP estimates and to evaluate how passive sensory information influences the WTP valuation of the labels.

Regarding WTP premia, homegrown bids (measured as marginal effects) for coffee carrying only the EO label only increase by 67 cents relative to conventional coffee, which was significantly different from zero at the 20 percent level of significance. The expected Tobit bids for both FT and EO&FT labeled coffee were, however, positive ($1.22 and $2.17, respectively) and are also statistically significant at the 10 percent level of significance.

The circulation of information to subjects about the certification programs resulted in increased bids. These bid differences were statistically significant for FT and EO&FT coffee, but again, not for EO labeled coffee.

Finally, differences in tastes did not appear to drive significant differences in bidding behavior, suggesting that certification labels do indeed contribute to consumer decisions, and that they are willing to pay for non-market attributes.

5. Conclusion
Product certifiers like Certified Employee-Owned\textsuperscript{SM} redress information deficits that often exist between buyers and sellers of goods and services. In the present study, we find that these labels also increase a consumer’s likeliness to pay more for products carrying the Certified Employee-Owned\textsuperscript{SM} mark.

The general concept of “employee ownership” is intuitive on one level, yet the various forms it takes in practice likely muddies public perception. Continued public education efforts ranging from the traditional forms of popular media (e.g. Beyster and Romero, 2012; Blasi \textit{et al.}, 2013), to efforts in the classroom, the boardroom and also to consumers through certification labels will be required to make broad-based employee ownership a part of the zeitgeist.

The experimental design we use and the results we report offer several opportunities for future research. Although we can estimate the impact and value of the third-party information about the certification program in general, another design approach, such as that used in Costanzigro \textit{et al.} (2014) would use “scientific information” from the academic record that documents claims made about Employee-Owned firms, or Fair Trade certified products. Also, given that at this time, no products carry the Certified Employee-Owned\textsuperscript{SM} label, and that the Fair Trade USA has hundreds of licensed partners, an experiment design that uses Certified Employee-Owned\textsuperscript{SM} and a less ubiquitous label would provide an additional layer of understanding baseline consumer perceptions of employee-owned companies.

Acknowledgement
The author of this paper has not made their research data set openly available. Any enquiries regarding the data set can be directed to the corresponding author.

The author would like to thank to Shephan Kroll, Emily Foley, Erik Olsen, Fidan Kurtulus, Thomas Dudley, and the participants at the 2017 Beyster Summer Symposium for valuable feedback on early versions of this research. The author also grateful to the three anonymous referees for providing excellent comments that improved the manuscript and also to Charlie Holt and Mary Spencer for their help in conducting the experiment sessions and the Kauffman Fund for sponsoring the data collection. The project received IRB approval (Protocol No. 2017/05/1) at the College of Wooster. All errors are the author’s own.
Notes

1. See Kruse and Blasi (1999) for the questions and results of 30 different US public opinion polls taken between 1975 and 1997 on issues related to employee ownership and/or profit sharing. For a recent poll that shows support for employee ownership across the political spectrum, see Public Policy Polling (2015) www.nceo.org/assets/pdf/articles/PPP_results_employee_ownership.pdf.

2. For example, common certifications seen on retail coffee include organic, local, rainforest alliance, shade grown, B-Corp, Kosher, direct exchange, among others.

3. See Lusk and Shogren (2007) for an extensive review of 113 experimental auctions applied to study wide variety of valuation questions ranging from the consumer valuation of food safety, non-GMO goods, value of biodiversity and conservation, bison meat, health risk, omega 3 fatty acid and metal content, value of food coloration, among other applications.

4. See Lusk and Shogren (2007) or any standard game theory textbook for an exposition of an nth-price auction.

5. To remain consistent with accepted research on consumer valuation, we apply the experimental valuation paradigm used in Costanigro et al. (2014) that evaluated direct and complementary effects of local and organic food labels on WTP estimates.

6. The employee owned, non-fair trade coffee was sourced from an Ohio coffee roaster and supplier that is listed on the ESOP online business directory (https://esopb2b.com) and has also appeared on the Ohio Employee Ownership Center “Top 50 ESOPs in Ohio” lists (www.oeocketnt.org). Certified Employee Owned verified that the company was indeed eligible to carry the Certified Employee Owned™ label.

7. The literature on valuation refers to homegrown values as those values that individuals bring into an experiment for real-world goods prior to any experimental treatment or manipulation.

8. Subjects were given $16.05 (two $5 bills, five $1 bills, three quarters, two dimes, one nickel, five pennies) to eliminate the need to make change during payment.

9. Because the data collected from the practice auction is only for teaching subjects the procedures used in the live auction, the data collected on preferences for different types of chocolate are not presented or analyzed.

10. This process for collecting data, called the strategy method, has subjects make decisions in all possible situations knowing that any one of them could be “live.” The procedure optimizes data collected on each subject without compromising incentive compatibility since each auction has the same likelihood of being selected at random.

11. Further, the chemistry of coffee taste is highly sensitive to various aspects of its preparation that we would not have been able to properly control for in our study, including, for example, the water quality used in its preparation (Navarini and Rivetti, 2010), the interaction of bean type with the method of preparation (Navarini et al., 2004) and the temperature at which coffee is served (Zellner et al., 1988).

12. It is important to note that subjects were not physically endowed with coffee in any of the coffee auctions to mitigate biased bids owing to the endowment effect – or the behavioral regularity that individuals ascribe more value to goods in their possession (e.g. Kahneman et al., 1991). A series of experiments in Reb and Connolly (2007) show that “factual ownership” wherein subject are endowed with a good that they never physically possess does not affect ones monetary valuation of the good. Once subjects physical possess a good they own, however, monetary valuation is strongly influenced by the endowment effect.


14. Treatments that introduce various types of information are common in valuation studies. For example, Menkhaus et al. (1992) manipulate the information pertaining to certain types of retail packaging on food in some treatments. Costanigro et al. (2014) introduce a “scientific information”
treatment on the use of pesticides in organic and non-organic certified apples in a valuation study on Organic and Local labels.

15. Sample size for the study determined using calculations for within sample (paired responses) using the formula \( n = \frac{(z_\alpha + z_\beta)^2}{\Delta^2} \) where we assumed an economically relevant minimal difference bids across products to be $0.67 (\Delta), a standard deviation (\( \sigma \)) of $1.50, 95% test of significance (\( z_{0.05} = 1.96 \)) and 90% power (\( z_{0.90} = 1.28 \)). See Lusk and Shogren (2007), pp. 55-56 as a reference for sample size determination of bid comparisons for different goods conducted on the same group of people.

16. Unreported regression analysis shows that preferences are balanced in the sample. That is, no demographic category systematically drives differences in bids in all three treatments.

17. Several MCDM methods, including Analytic Hierarchy Process (AHP), Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS), and Preference Ranking Organization Method for Enrichment Evaluations (PROMETHEE) among others have been developed and are employed in different research protocols. See Rezaei (2015) for a discussion on these methods.

18. See for example, Gibbons and Chakraborti (2011) for a discussion of Kendall’s W and other non-parametric methods.

References


Beyster, M.A. (Producer) and Romero, D. (Director) (2012), We the Owners (Motion Picture), Passage Productions.


Erdal, D. (2000), Employee Ownership is Good for Your Health: People Thrive in a Social Environment Characterized by Employee Ownership, Job Ownership Ltd.


Evidence from an experimental auction


Further reading


(The Appendix follows overleaf.)
Appendix 1. Experiment instructions

Opening Statement
Welcome and thanks again for your participation in the study. At this time, please power down your phones for the remainder of the study.

Just for showing up on time, I will now walk around the room and give you $5. This is yours to keep.

Please read the consent form sitting on your desk and once it is signed the experiment will continue.

[Consent forms are collected].

On the desk in front of you, you will find an envelope with $16. This money is also yours to keep. You will also find a small KitKat Bar, a pen, a small pile of white sheets of paper turned face down, a blue sheet of paper that is face down, and small packet paper that is stapled and face down.

This study consists of 6 parts and will last for approximately 45 minutes. Please turn the small packet that is face down on your desk over. At the top it is labeled, “Part 1: Survey Sheet.” Please take 5-7 minutes to complete the questionnaire. When you are finished, please put the questionnaire face-down and a member of the team will come over to collect it.

Part 1: Survey Sheet
Subject ______

Please Answer the following questions in the space provided.

1. What is your age?
2. What is your gender identity?
3. What is your ethnic background (please check all that apply)?
   _____ Asian  _____ White/Caucasian
   _____ Native American  _____ Hispanic/Latino
   _____ Black or African American  _____ Other
4. What is your gross household income?
   _____ Less than $20,000  _____ $50,000 – $74,999
   _____ $20,000 – $34,999  _____ $75,000 – $99,999
   _____ $35000 – $49,999  _____ $100,000 – $150,000
   _____ Greater than $150,000
5. What is the highest level of formal education have you completed? (CHECK ONE)
   _____ Primary (K-8th grade)  _____ Bachelor’s degree
   _____ Secondary (High School/GED)  _____ Some graduate school
   _____ Some College  _____ Advanced or graduate degree
6. Are you the primary shopper in your household?
7. Approximately how often do you drink coffee?
   _____ More than once a day
   _____ Once a day
   _____ 3-4 times a week
   _____ Once a week
   _____ Less than once a week

8. How often do you make your own coffee at home?
   _____ More than once a day
   _____ Once a day
   _____ 3-4 times a week
   _____ Once a week
   _____ Less than once a week

9. When you are shopping for coffee, do you typically notice the certification labels on coffee brands.
   (Organic, Fair-Trade, B-Corp, Rainforest Alliance, Kosher, Shade Grown, All-Natural etc)?

10. When you are shopping for coffee, do you consciously make decisions based on at least some of these
     labels? If so, which, if any tend to influence your choices?

For each of the following items, please rate your responses on a scale of 1 to 9 by circling one of the
     numbers, where 1 means “I strongly disagree” and 9 means “I strongly agree.”

11. Workers in Employee Owned firms are more fairly compensated than workers in conventional firms.
    (Strongly Disagree = 1; Strongly Agree = 9)
    1 2 3 4 5 6 7 8 9

12. Employee Owned firms strengthen the local economy more than conventional firms. (Strongly
    Disagree = 1; Strongly Agree = 9)
    1 2 3 4 5 6 7 8 9

13. Employee Owned firms place a higher value on customer support than conventional firms. (Strongly
    Disagree = 1; Strongly Agree = 9)
    1 2 3 4 5 6 7 8 9

14. Employee Owned firms are more committed to social responsibility than conventional firms.
    (Strongly Disagree = 1; Strongly Agree = 9)
    1 2 3 4 5 6 7 8 9

15. Employee Owned firms produce higher quality products than conventional firms. (Strongly Disagree
    = 1; Strongly Agree = 9)
    1 2 3 4 5 6 7 8 9

16. Employee Owned firms make less of an environmental impact than conventional firms. (Strongly
    Disagree = 1; Strongly Agree = 9)
    1 2 3 4 5 6 7 8 9

17. Employee Owned firms are more trustworthy than conventional firms. (Strongly Disagree = 1;
    Strongly Agree = 9)
    1 2 3 4 5 6 7 8 9
18. Workers in Employee Owned firms have better work-life balance than workers in conventional firms. (Strongly Disagree = 1; Strongly Agree = 9)
   1 2 3 4 5 6 7 8 9

19. Workers in Employee Owned firms are more satisfied with their job than workers in conventional firms. (Strongly Disagree = 1; Strongly Agree = 9)
   1 2 3 4 5 6 7 8 9

20. Fair-Trade Certified products results in more income/unit to farmers than conventional products. (Strongly Disagree = 1; Strongly Agree = 9)
   1 2 3 4 5 6 7 8 9

21. Fair-Trade Certified products firms strengthen the local economy more than conventional firms. (Strongly Disagree = 1; Strongly Agree = 9)
   1 2 3 4 5 6 7 8 9

22. Fair-Trade Certified products place a higher value on customer support than conventional firms. (Strongly Disagree = 1; Strongly Agree = 9)
   1 2 3 4 5 6 7 8 9

23. Fair Trade Certified products are more committed to social responsibility than conventional products. (Strongly Disagree = 1; Strongly Agree = 9)
   1 2 3 4 5 6 7 8 9

24. Fair Trade Certified products are higher quality products than conventional products. (Strongly Disagree = 1; Strongly Agree = 9)
   1 2 3 4 5 6 7 8 9

25. The environmental impact of growing conventional coffee is greater than it is for Fair Trade Certified Coffee. (Strongly Disagree = 1; Strongly Agree = 9)
   1 2 3 4 5 6 7 8 9

26. Products that carry the Fair Trade Certification are more trustworthy than conventional products. (Strongly Disagree = 1; Strongly Agree = 9)
   1 2 3 4 5 6 7 8 9

27. Farmers that supply to Fair Trade farms work under safer working conditions farmers than farmers that supply coffee to conventional firms (Strongly Disagree = 1; Strongly Agree = 9)
   1 2 3 4 5 6 7 8 9

28. Fair Trade Certified farmers are more satisfied with their job than workers on conventional farms. (Strongly Disagree = 1; Strongly Agree = 9)
   1 2 3 4 5 6 7 8 9

29. I tend to buy the lowest cost item when shopping irrespective of certified labels, or non-certified labels, or no labels at all. (Strongly Disagree = 1; Strongly Agree = 9)
   1 2 3 4 5 6 7 8 9

30. I am concerned with the nutritional value of items when shopping irrespective of certified labels, or no labels at all. (Strongly Disagree = 1; Strongly Agree = 9)
   1 2 3 4 5 6 7 8 9

[Survey Sheet 1 is collected, and a set of instructions (Part 2) is distributed to participants].
Part 2: Auction for Candy Bars (Practice Round)

Introduction

There should be a small KitKat bar at your seat. This small KitKat bar is yours to keep, but please do not eat it just yet. Here in the front of the room, we have other candy bars: four full-size KitKat Bars, four full-size Snickers Bars, and four packets of Orbit gum. We are interested in your preferences for upgrading from your small KitKat bar to each of the three other options.

Please follow along as I read these instructions aloud to you. We will read the set of instructions together, and then you will be asked to make three (3) different bids on upgrades from the small KitKat Bar.

Auction Rules

Today we will use a specific type of auction (a Vickrey auction) to auction off the upgrade goods. You will have the opportunity to win one of the upgrade candy bars in exchange for your small KitKat and additional money.

In just a moment, you will be asked to indicate the most you are willing to pay (if anything) to purchase each of the upgrades by writing your bids on an enclosed bid slip. Let me explain how the auction will proceed.

1) Please remove the bid slip labeled “Candy Auction Bid Slip” from your packet. In a moment, you will be asked to write the most you are willing to pay for upgrading your small KitKat Bar to each of the following:

a) upgrading from the small KitKat Bar to the full size KitKat Bar

b) upgrading from the small KitKat Bar to the full size Snickers Bar

c) upgrading from the small KitKat Bar to the Orbit gum

Note: You will make 3 total bids (one for each bar) on the “Candy Auction Bid Slip.” Your bids for the upgrades are private information and should not be shared with anyone.

2) After you have finished writing your bid on the bid slip, you will turn your bid-sheet over and a member from the team will collect all bid slips.

3) After we collect all of the bid slips from all participants, we will enter the bids for the three different goods into a spreadsheet. These bids will then be ranked from highest to lowest for each upgrade good being auctioned (you are participating in 3 different actions).

4) Even though you are bidding and participating in 3 different auctions (one for each upgrade to the small KitKat bar) only one of these auctions will be binding. To determine the binding auction, we will roll a 6-sided die after you have made your bids, and after the bid slips have been collected.

If the die lands on 1 or 4, the binding auction is over the Regular KitKat Bar

If the die lands on 2 or 5, the binding auction is over the Regular Snickers Bar

If the die lands on 3 or 6, the binding auction is over the Orbit Gum.
The important thing to note is that each auction is equally like to be binding.

5) Under the specific auction rules we are using today, the people with the four highest bids will win the auction. The price that these 4 winners will pay for the upgrade good is the bid made by the 5th highest bidder. In the case of ties between, for example, the 4th and 5th highest bidder, we will randomly choose one of the two as an auction winner via coin flip.

6) Once we determine which auction is binding, we will write the subject numbers that correspond to the 4 highest bids on the board. These subjects will have won the auction for the upgraded good. We will also write the price of the 5th highest bidder on the chalkboard for everyone to see. This is the price that the 4 winners will pay for the upgrade.

7) At the conclusion of the experiment session, the four winning bidders will pay the 5th highest bid and will receive the winning candy bar in exchange for the small KitKat bar. Those that do not win the auction will leave with the small KitKat bar.

Important Notes:

- You will have the opportunity to win an auction for one candy bar upgrade. Because we randomly draw one binding candy bar action using a die, you cannot win more than one candy bar upgrade.
- The winning bidders will actually pay money and return the small KitKat to obtain the winning candy bar. This procedure is not for hypothetical stakes.
- In this auction form (a Vickrey Auction), the best strategy is for you to bid exactly what it is worth to you to obtain each of the upgrades. Consider why this is true: if you bid more for an upgrade candy bar than what it is worth to you, you may end up having to pay more for the upgrade than you wanted to pay in the first place. Conversely, if you bid less for an upgrade candy bar than it is worth to you, you may end up losing out on the upgrade even though you could have bought the upgrade at the price you were actually willing to pay. Again, in this type of auction, your best strategy is to bid exactly what each candy bar upgrade is worth to you.
- It is acceptable to bid $0.00 for any candy bar upgrade in any round.

To clarify the auction rules, let’s go through a quick example:

Suppose that there were 6 people participating in 3 auctions just like the ones you are about in over an upgrade from a small KitKat to

a) a regular size KitKat (Auction 1),

b) a regular size Snickers (Auction 2), or

c) a pack of Orbit gum (Auction 3).

Suppose that the 6 participating individuals each made 3 auction bids (one for each upgrade). Further, suppose that after all bids were made by all participants, a random process (e.g. a die roll) determined that Auction 3 (i.e. the auction for the Orbit gum) was binding.

Now, suppose in Auction 3 (the randomly selected auction that is binding for the Orbit gum),

Participant #1 bid $1.10 for the upgrade,

Participant #2 bid $1.25,

Participant #3 bid $1.35,

Participant #4 bid $1.45,
Evidence from an experimental auction

Participant $5 bid $1.50 and Participant #6 bid $1.65.

Who wins the auction?

A: The four top bidders win the auction. In this case, it would be participants #3, #4, #5, and #6 since they made the 4 highest bids.

How much would each of the winners pay?

A: All of the 4 winners would pay the 5th highest bid. In this example, they would all pay $1.25.

How do the bidders know who won?

First, all auction participants would make auction bids. After bids are made, they would be collected and sorted from highest to lowest. The auctioneers would write down the ID numbers of the four highest bidders (Participants #3, #4, #5, and #6) on the board.

How are payments made for the upgraded good?

At the end of the entire study, a member from the research team would collect $1.25 and the small KitKat from each of the four winners in exchange for the auctioned good (in this case, Orbit gum). The non-winner participants (in this case Participants #1 and #2) would not pay anything and would leave with the small KitKat.

Note: These dollar amounts were used for illustrative purposes only and should not in any way reflect what the candy bar upgrades may be worth to you.

Do you have any questions before we begin?

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After bids are collected from the Candy Auction, a research assistant enters the bids into a spreadsheet. While this is happening, the experimenter advances the study by making the following statement, “We will now ask you to turn over the blue sheet of paper out of your packet.”

Part 3: Passive Observation

As you can see, on the table in front of you are four plain, half-pound bag samples of ground coffee. They are respectively labeled “A”, “B”, “C”, and “D”. The contents inside each bag correspond to coffee produced by different companies. Each coffee type is a “Medium Roast.” Please take a few minutes to observe each of the bags of coffee (e.g. look, smell, etc) in front of you.

After observing all of the bags of coffee, please rank the samples in order of your preference with “1” being your favorite, “2” your second favorite, “3” your third favorite, and “4” as your least favorite. If you have any questions, please ask.

After you have completed your ranking, please turn this blue sheet over and set it aside.
(Enter “1” as your favorite, “2” your second favorite, “3” your third favorite, and “4” as your least favorite for the different coffee types in the bags in front of you).

Sample A ____________
Sample B ____________
Sample C ____________
Sample D ____________

**Part 4: Coffee Auction Set 1**

**Introduction**

Now that you have had the chance to learn how the Vickrey Auction works, we now turn to four different kinds of coffee that carry different types of certification labels. Each coffee that you just sampled corresponds to one of these types of real-world coffee brands that are eligible to carry differing certifications.

1) non-Certified Fair Trade/non-Certified Employee Owned
2) non-Certified Fair Trade/Certified Employee Owned
3) Certified Fair Trade/non-Certified Employee Owned
4) Certified Fair Trade AND Certified Employee Owned

<table>
<thead>
<tr>
<th>Fair Trade Certified™</th>
<th>This product meets the requirement set forth by the third-party Fair-Trade Certified USA.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Owned Certified™</td>
<td>This product meets the requirement set forth by the third-party Certified Employee Owned</td>
</tr>
</tbody>
</table>

At the end of today’s experiment, each of you will leave the study with a half-pound bag of Non-Certified Fair Trade/Non-Certified Employee Owned Coffee **unless** you win an auction over one of the three other types of coffee.
Coffee Auction Instructions

As you can see, on the table at the front of the room we have half-pound bags of coffee that carry different certification labels.

We are about to auction off coffee that carries different certification labels. We will not reveal the coffee brands that we are drawing from during the study, but the coffee on this table qualify for the certification labels displayed. All of the different coffee types we are auctioning today were bought in local area retail stores.

Four Types of Coffee (All are medium roast, medium ground)

<table>
<thead>
<tr>
<th></th>
<th>Non – Employee Owned</th>
<th>Employee Owned Certified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non – Fair Trade</td>
<td>What you have right now.</td>
<td>Employee Owned/Non Fair Trade</td>
</tr>
<tr>
<td>Fair Trade Certified</td>
<td>Fair Trade/Non Employee Owned</td>
<td>Employee Owned/Fair Trade</td>
</tr>
</tbody>
</table>

In a moment, you will be asked to indicate the most you are willing to pay (if anything) for each of coffee with different certifications by writing bids down on the bid slips in your packet. There will be 3 total rounds of bidding (details to follow). The procedure for the auction and the auction rules are exactly the same as the auction over the candy bars.

To refresh your memory as to how the auction works, I will briefly go through the instructions again:

1) First, please take out the bid slip labeled “Coffee Auction Set 1” (highlighted in orange at the top). On this sheet you will, in a moment, write the most you are willing to pay for each type of coffee.

Note: Your bids are private information and should not be shared with anyone.

2) We will collect all bids and and then enter them into a spreadsheet.

3) The people with the four highest bids for each upgrade will win the auction and pay the 5th highest bid amount for the upgrade. As before, ties will be broken randomly.

4) We will also conduct 2 additional auction sets (2 total bid slips will be used. We will instruct when to use which bid slip).

5) At the completion of all 3 coffee auction sets, we will have 2 die rolls. The first roll will, like the candy auction, determine which of the three auction sets is the binding auction set:

   A roll of 1 or 4 will make Auction Set 1 binding
   A roll of 2 or 5 will make Auction Set 2 binding
   A roll of 3 or 6 will make Auction Set 3 binding

A second roll will determine which type of coffee auction is binding:

   A roll of 1 or 4 will make bids for the Employee Owned/Non-Fair Trade coffee binding
   A roll of 2 or 5 will make bids for Fair-Trade/Non-Employee Owned coffee binding
   A roll of 3 or 6 will make bids for Employee Owned and Fair-Trade coffee binding
Importantly, please note that all auction permutations have an equally likely chance of being binding.

6) After we have collected all 3 auction sets and we have used a random process to determine the binding auction and good, we will conclude the study by determining who won the binding auction. At this time, we will write down the winning bidders’ ID numbers on the board. The winners of the binding auction will pay the 5th highest bid amount for the coffee from the binding auction. Subjects that do not win the auction will not pay anything and will receive the bag of non-Certified Fair Trade/non-Certified Employee Owned coffee.

Important notes:

- Under no bidding scenario will you take home more than one bag of coffee.
- The winning bidders will actually pay money to obtain the upgrade. This procedure is not hypothetical.
- As in the previous auction, the best strategy is to bid exactly what each upgrade is worth to you. Consider why this is true: if you bid more for a good than it is worth to you, you may end up having to pay more the good than you really wanted to pay in the first place. Conversely, if you bid less for a good than it is worth to you, you may end up losing out on the good even though you could have bought the good at the price you were actually willing to pay. In the type of auction we are using (a Vickrey Auction), your best strategy is to bid exactly what each good is worth to you.
- It is acceptable to bid $0.00 for any upgrade in any round.

Do you have any questions before we begin?

At this time take out the bid sheet marked “Coffee Auction Set 1” to enter your bids. When you are finished we will collect the bid sheets.

[Once bid sheets are collected, a second set of instructions are handed out to subjects].

Part 5: Coffee Auction Set 2

We have just completed the first of three auction rounds. Before we proceed with additional auction rounds that follow the same auction rules as before, we would like to give you some information about the different kinds of coffee we have to help you make a more informed bid. In order to do this, we are providing introductory information that has been taken directly from the respective Certified Employee Owned and Fair Trade Certified websites. Please take a few minutes to read the information sheets that follow and await instruction to make bids on the bid slip labeled “Coffee Auction Set 2” (highlighted at the top in green).

1) Certified Employee Owned (taken from https://www.certifieo.com/eo/about)

Employee Ownership (EO)

Employee ownership is when an employee has an ownership stake in their company. For example by owning company stock or holding stock options. EO is a common-sense, widespread practice that benefits businesses and employees.
Employee-owned Companies

For a company to be employee-owned, it takes more than just having some employee ownership. A company is said to be employee-owned when its employees have a significant and broad-based ownership stake. Significant means that employees own at least 30% of the business. Broad-based means that meaningful access to ownership is open to every employee and that concentration of ownership is limited.

Fast Facts

Employee Owned companies operate in every industry in the economy and every state in America. They range in size from a few employees to over 180,000. From less than one million in revenue to over twenty billion.

<table>
<thead>
<tr>
<th>Number of companies</th>
<th>Number of employee owners</th>
<th>Combined Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,000</td>
<td>1,500,000</td>
<td>&gt; $200 Billion</td>
</tr>
</tbody>
</table>

Benefits

There’s a lot to like. Employee-owned companies have been shown to be more productive than regular companies. They get competitive advantages from having highly engaged employees and low turnover. EO companies also provide a number of benefits to their employees, their customers, and their local community. Last, but not least, EO companies make the American economy more productive and spur economic growth.

<table>
<thead>
<tr>
<th>Fair Compensation</th>
<th>High Quality</th>
<th>Local jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees receive fair compensation and benefit from a stable, secure job. When the company does well, they do well.</td>
<td>Customers benefit from high-quality products and employees who place a high-emphasis on customer service. Imagine a business where everyone you deal with thinks and acts like an owner.</td>
<td>Communities benefit from businesses with strong local roots. EO companies provide stable jobs that will not be outsourced. Profits made by EO companies are re-invested in the local economy.</td>
</tr>
</tbody>
</table>

Engagement, Governance, and Culture

While significant and broad-based ownership is the hallmark of EO companies, many complement their ownership with:

- Employee engagement practices such as open book management, self-directed teams, and input on strategic goals
- Employee governance such as voting for members of the board (on a per-share or even per-person basis)
- Ownership culture that ensures all employees think and act like owners

Common Types of EO Companies

Employee-owned companies are organized in a number of different ways:

<table>
<thead>
<tr>
<th>Employee Stock Ownership Plan</th>
<th>Worker Cooperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESOP companies are the most common type of EO company in America.</td>
<td>Worker cooperatives combine employee ownership with employee governance.</td>
</tr>
<tr>
<td>Perpetual Trust</td>
<td>Direct Share Ownership</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>Perpetual trusts are a new form of employee ownership in the US based on the UK’s John Lewis Partnership.</td>
<td>Direct share ownership (DSO) companies are the most flexible type of EO company.</td>
</tr>
</tbody>
</table>

While these companies differ in key ways, they all have significant and broad-based employee ownership.

2) *Fair-Trade Certified* (Taken from [http://fairtradeusa.org/what-is-fair-trade/faq](http://fairtradeusa.org/what-is-fair-trade/faq))

**What is Fair Trade?**

Fair Trade is a global trade model and certification allows shoppers to quickly identify products that were produced in an ethical manner.

For consumers, Fair Trade offers a powerful way to reduce poverty through their everyday shopping. For farmers and workers in developing countries, Fair Trade offers better prices, improved terms of trade, and the business skills necessary to produce high-quality products that can compete in the global marketplace. Through vibrant trade, farmers and workers can improve their lives and plan for their futures. Today, Fair Trade benefits more than 1.2 million farming families in 70 developing countries across Africa, Asia and Latin America.

Globally, the Fair Trade network certifies coffee, tea and herbs, cocoa, fresh fruit and vegetables, sugar, beans and grains, flowers, nuts, oils and butters, honey and spices, wine and apparel, and certified ingredients are now used in ready-to-drink beverages, body care products and spirits. In the United States, Fair Trade Certified™ products are available in more than 50,000 retail locations.

Fair Trade principles include:

- Fair prices and credit: Democratically organized farming groups receive a guaranteed minimum floor price (or the market price if it’s higher) and an additional premium for certified organic products. Farming organizations are also eligible for pre-harvest credit.
- Fair labor conditions: Workers on Fair Trade farms enjoy freedom of association, safe working conditions and sustainable wages. Forced child and slave labor are strictly prohibited.
- Direct trade: With Fair Trade, importers purchase from Fair Trade producer groups as directly as possible to eliminate unnecessary middlemen and empower farmers to develop the business capacity necessary to compete in the global marketplace.
- Democratic and transparent organizations: Fair Trade farmers and workers decide democratically how to invest Fair Trade premiums, which are funds for community development.
- Community development: Fair Trade farmers and farm workers invest Fair Trade premiums in social and business development projects like scholarships, schools, quality improvement and leadership training, and organic certification.
- Environmental sustainability: Harmful agrochemicals and CMOs are strictly prohibited in favor of environmentally sustainable farming methods that protect farmers’ health and preserve valuable ecosystems for future generations.
Part 6: Coffee Auction Set 3

Before we conduct the final auction round, we would like to once again take out the blue sheets that you used to rank the coffee before the first coffee auction. We will now reveal which coffee is which on the board. We’ll give you a few minutes to consider this information before you make your third and final bid using the bid slip labeled “Coffee Auction Set 3” (highlighted at the top in purple).

After the third and final Coffee Auction Set is collected, the bids are entered into a spreadsheet by an assistant. While all bids are being entered the binding auction is determined by a random process in front of all participants. The binding auction is then announced, winners are determined and receive their good for the 5th highest price bid. All non-winner subjects receive non-employee owned, non-fair trade coffee and leave the study with their show-up fee ($5 and their endowment of $16.05).
### Appendix 2. Example bid slips

**Coffee Auction (Set 1)**  
Subject ____________

Bid for  
Certified Employee Owned (Non-Fair Trade) $________________________

Bid for  
Certified Fair Trade (Non-Employee Owned) $________________________

Bid for  
Certified Employee Owned Certified Fair Trade $________________________

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**Coffee Auction (Set 2)**  
Subject ____________

Bid for  
Certified Employee Owned (Non-Fair Trade) $________________________

Bid for  
Certified Fair Trade (Non-Employee Owned) $________________________

Bid for  
Certified Employee Owned Certified Fair Trade $________________________

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**Coffee Auction (Set 3)**  
Subject ____________

Bid for  
Certified Employee Owned (Non-Fair Trade) $________________________

Bid for  
Certified Fair Trade (Non-Employee Owned) $________________________

Bid for  
Certified Employee Owned Certified Fair Trade $________________________

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