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consumption:
Theoretical considerations and empirical
evidence**

by

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The social economics of ethical consumption:
Theoretical considerations and empirical evidence

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Abstract

Recent years have seen rising discussion of ethical consumption as a means of stemming global warming, challenging unsavory business practices, and promoting other pro-social goals. This paper first lays out a conceptual framework for understanding the spread of ethical consumption, in which heterogeneous preferences and sensitivity to social norms feature centrally. It then presents empirical evidence from a well-known nationally representative survey on factors associated with tendencies to 'buy ethically'. It is found that, *ceteris paribus*, people are more likely to buy ethically when others around them do too, consistent with a role of social norms in promoting ethical-consumption behaviors.

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Introduction

Recent years have seen rising discussion of 'ethical consumption' -- generally taken to refer to people purchasing and using products and resources according not only to the personal pleasures and values they provide, but also to ideas of what is right and good, versus wrong and bad, in a moral sense. Table 1 shows the primary areas of concern. In brief, the key issues are: buying foods produced under environmentally-sustainable methods (organic and local produce); buying coffee and other goods procured via fair-trade arrangements; boycotting companies that use sweatshop labor; favoring products with low carbon emissions (hybrid vehicles, Energy Star appliances); recycling diligently; shunning products with wasteful attributes (bottled water); buying animal products only from suppliers that use humane husbandry methods (cage-free eggs), etc. Broadly, practices singled out as 'wrong' inflict some type of significant harm on people, animals or nature, and/or raise the risks of such harm -- where harm may relate to health, odds of survival, basic material comfort, and other basic elements of a satisfying and dignified life. While data suggest that shares of consumers in North America and Europe who presently make some concerted effort to 'consume ethically' -- for example, trying conscientiously to buy organic products, reduce their carbon footprint, and/or eat only meat from humanely-raised animals -- are relatively small (in the 5-10% range), they have been advancing steadily.¹ Moreover, sales of ethical products have been booming, registering rates of growth of 30-200% per year.²

Some previous economic research has investigated ethical consumption from theoretical and empirical angles, but with many important questions about it still quite unresolved. On the theoretical side, the fact that ethical consumption is a minority behavior that is nonetheless spreading over time suggests that we need some variant of model that takes preferences with respect to a given social, ethical, or environmental issue to be heterogeneous within a population, while also allowing ethical consumption to spread over time via learning and/or changing norms (Sen, Gurhan-Canli, and Morwitz 2001; Janssen and Jager 2002; Brekke,

¹ According to the annual Roper 'Green Gauge' survey, 11% of U.S. households had notable 'green' tendencies in their buying patterns in 2005 (CSRwire 2007). In the U.K., the Co-operative Bank (2007) estimated that, in 2006, 5% of the population could be described as 'committed consumers of ethical products', meaning that they 'shop ethically' on a weekly basis.

² For data on the rise in ethical consumption, see Speer (1997); Worcester and Dawkins (2005); FINE (2006); Rigby (2006); TransFair USA (2006); Hanas (2007); Co-operative Bank (2007); CSRwire (2007); Stevens-Garmon, Huang, and Lin (2007); Electric Drive Transportation Association (2008); and Makower (2008). The Co-operative Bank (2007) estimates that the total value of ethical goods and services sold in the U.K. in 2007 exceeded £32 billion.

Kverndokk, and Nyborg 2003; and Eriksson 2004). On the empirical side, there is a large but inconclusive literature on determinants of ethical consumption, where it has proven difficult to find systematic effects of socio-demographic characteristics, knowledge of the issues, or concern about them (see e.g. Diamantopoulos et al. 2003, Auger and Timothy 2007, and references therein). This poor understanding hampers the formulation of public-policy programs that can effectively promote socially-beneficial behaviors, such as recycling, energy conservation, and use of public transportation.

This paper aims to advance our understanding of ethical dimensions of consumption decisions by developing a conceptual framework in which heterogeneity in preferences and sensitivity to social norms feature centrally, and then testing the implications of the model using data from a well-known, nationally representative survey of the U.S. population. The next section of the paper develops the theoretical framework, which extends a model developed by Brekke, Kverndokk, and Nyborg (2003) by allowing for additional sources of heterogeneity among consumers. The third section then uses the theoretical framework to derive predictions that could be tested using individual-level data. The fourth section describes the data to be used for this purpose, which come from questions on 'ethical buying' asked in the 2004 General Social Survey of the University of Chicago's National Opinion Research Center -- a longstanding, well-regarded survey where considerable efforts are made to ensure that the sample is representative, and where the considerable amount of information collected in the survey gives us a rich set of explanatory variables that can be used to understand determinants of population-wide patterns in ethical buying. The fifth section presents findings, while the sixth section concludes. Among the important results of the study are that: (a) education is a strong determinant of ethical buying, possibly due to the cognitive burden of making consumption decisions with extra considerations in mind; and (b) people are more likely to consume ethically when others around them do too, consistent with social norms heightening their attention to social implications of individual behavior.

Theoretical considerations

To explain differential patterns of involvement in ethical consumption and motivate our empirical work, this section outlines a model based on that of Brekke, Kverndokk, and Nyborg (2003), with some extensions to allow for additional sources of heterogeneity. The model assumes there is a population of M individuals who vary in the benefits and costs they would experience if they decided to 'consume ethically' rather than 'consuming regularly'. Let α be the share of the population that consumes ethically. For a given individual i , variables relevant to the decision to consume ethically are as follows:

v_i	intrinsic value of consuming ethically
$S_i(\alpha)$	incremental 'social' benefit of consuming ethically, which is assumed to vary with α
T_i	total benefit of consuming ethically = $T(v_i, S_i(\alpha))$
C_i	incremental cost of consuming ethically
N_i	net benefit of consuming ethically = $(T_i - C_i) = N(v_i, S_i(\alpha), C_i)$

Broadly, the net benefits to individual i of consuming ethically, N_i , depend positively on its perceived intrinsic value and 'social' benefits (to be defined shortly), and negatively on its extra costs. Intrinsic benefits come from the personal satisfactions of behaving ethically or advancing a cause that is worthy in one's view. They do not depend on others' values, what others are doing, or expected practical consequences of one's actions. Rather they are rooted in *personal* rewards that individuals experience -- for example, from keeping their behavior aligned with their own ethical, social, or environmental values; imagining the benefits that their ethically-preferred behavior would have on others; reinforcing an emotional affinity with nature and wildlife; avoiding guilt from contributing to environmental degradation, etc.³

Net benefits may also depend positively on the *social* benefits the person receives from consuming ethically, where 'social' in this case relates to social image and social interactions, rather than societal welfare. Conceivably, people may find ethical consumption satisfying partly because it enables them to convey to others that they have 'good values' and make concerted efforts to uphold them in their everyday lives. Such signaling may be rewarding of and within itself, and/or because it has concrete benefits; for example, a person who diligently recycles and drives a Prius may be thought of by neighbors as a 'good citizen', which may make the neighbors more likely to help shovel her car out after a snow storm or look after her cat when she travels. Alternatively, if a given socially-visible ethical-consumption practice (such as recycling) becomes a social norm in a community, one may incur social disapproval and loss of such reciprocal exchange if one fails to respect it, and/or feel guilty or otherwise bad about free-riding on the efforts of others to promote social welfare. Unlike intrinsic rewards, however, social benefits of ethical consumption depend how widely practiced it is: if people

³ See Vining and Ebreo (2002) for discussion and evidence from the environmental-psychology literature. The idea that products with good social, ethical, or environmental attributes have higher intrinsic value than equivalent products without them has motivated a considerable amount of empirical research. In the case of coffee, for instance, it is estimated that people are willing to pay between 5 and 20 percent extra for coffee procured under fair-trade arrangements (e.g. Loureiro and Lotade 2005; de Pelsmacker, Driesen, and Rayp 2005; Arnot, Boxall and Cash 2006). Other studies along these lines include Bjorner et al. (2004), Chern et al. (2002), and Nomura and Akai (2004).

concerned with ethical consumption are rare, then consuming ethically oneself may have minimal social benefits, but as it becomes more common, its benefits may rise, especially if its practices gain the status of social norms.

Finally, net benefits of ethical consumption decline with its extra costs over 'regular' consumption. These may arise because prices of 'ethical' goods tend to be higher than those of regular ones, although this is not necessarily the case; for example, average price premia in the U.S. and Europe are presently negligible for fair-trade coffee, but in the 10 to 100% range for organic fruits and vegetables and other fair-trade products (Oberholtzer, Dimitri, and Greene 2005; FINE 2006; Fridell 2007). Costs of consuming ethically may also be higher because it takes more time and effort than regular consumption. Notably, compared to choosing products based on traditional criteria of cost, convenience, and quality, adding in concerns about social, ethical, or environmental attributes requires extra time to: research alternatives to standard practices, find outlets that carry ethically-preferred products, care for products that are reused rather than thrown away, dispose of items in environmentally responsible ways, etc.

As Brekke, Kverndokk, and Nyborg (2003) show, if all consumers are identical, there are two pure-strategy Nash equilibria which are both evolutionarily stable: one in which no one consumes ethically and another in which everyone does.⁴ However, if there is heterogeneity within the population in the net benefit to consuming ethically, there may be an evolutionarily stable Nash equilibrium where the share of the population consuming ethically is between zero and one. Suppose there are K types of consumers, where type j is a fraction λ_j of the total population. For consumers of type j , the net benefit to consuming ethically is:

$$\begin{aligned} N_j &= T_j(v_j, S_j(\alpha)) - C_j \\ &= N_j(v_j, S_j(\alpha), C_j) \end{aligned}$$

Consider the groups to be ordered such that, for any α , $N_1 > N_2 > \dots > N_k$. If $N_1(v_1, S_1(0), C_1) < 0$, then $\alpha=0$ is still a stable Nash equilibrium, and if $N_k(v_k, S_k(1), C_k) > 0$, so too will be $\alpha=1$.

However, if $N_1(v_1, S_1(0), C_1) > 0$ and $N_k(v_k, S_k(1), C_k) < 0$, there will be a stable Nash equilibrium

⁴ There is also a mixed-strategy Nash equilibrium in which a fraction α' of the population consumes ethically. However, it is not evolutionarily stable, because a tip away from α' on the downside would make ethical consumption disappear, while a tip on the upside would universalize it.

in which α is between zero and one. If for group 1, $N_1(v_1, S_1(0), C_1) > 0$, all members of this group will consume ethically whether or not any one else does. For group 2, the question is whether $N_2(v_2, S_2(\lambda_1), C_2) > 0$; if it is, then ethical consumption will also become universal in this group. Cascading will continue up to group $j+1$ for which

$$N_{j+1}(v_{j+1}, S_{j+1}(\lambda_1 + \lambda_2 + \dots + \lambda_j), C_{j+1}) < 0$$

Thus, even among groups of consumers who do not themselves attach high intrinsic value to ethical products, ethical consumption could spread if the social benefits to it are sufficiently good and/or the extra costs of it are sufficiently small. Potentially this may explain why, for example, research on the role of social norms in explaining the spread of recycling shows such mixed results: when costs of recycling are high (e.g. when recyclables would need to be taken to a recycling station), only a small core of people recycle, and government efforts to create or manage norms have little to no effect; however, when costs decline (as with curbside recycling) and participation seems to be spreading, norm-promoting policies are considerably more effective (Carlson 2000).

Empirical implications

The model also yields predictions for what types of people would be expected to be consuming ethically in a cross-section of consumers at a given point in time. Important variables and their expected effects can be outlined as follows.

Income. To the extent that goods with positive social, ethical, and environmental attributes tend to cost more than regular goods, propensities to buy them could be expected to rise with income, *ceteris paribus*. Moreover, the 'warm glow' of buying ethically may be perceived as luxury, making ability to pay for it important; the same could be said of the positive social image that buying ethically may enable people to project (Pedersen 2000). Conversely, however, ethical consumption practices that are intensive in time rather than money (e.g. recycling and reusing materials, commuting via public transportation) may tend to decline with income, if the higher opportunity costs of people's time reduce their activities along these lines. Thus, even if higher-income people are more likely to *buy* ethically than others, it is not clear that they are more likely to adopt a broad array of ethical consumption practices.

Age. There are several possible ways in which age could affect the net benefits of ethical consumption, *ceteris paribus*. Having been educated more recently, younger people may have

a better grasp of problems related to the environment and global warming than older people, so that the intrinsic value they attach to consuming ethically would be higher. Also because of their more recent education, they may perceive the costs of learning about ethical-consumption issues and practices to be relatively small. At the same time, however, even controlling for income level, younger people tend to be less financially secure than those in the 'prime-age' bracket (35-54) due to their lower savings and higher risks of job loss; as such, the opportunity costs of extra expenditures on ethical goods may be relatively burdensome for them. Similarly, the fixed income streams of retired people might also make them less likely to buy ethical goods than those in prime-age, although their greater availability of time may facilitate learning about ethical-consumption issues and/or involvement in time-intensive practices like recycling and reusing materials.

Education. Controlling for income and other factors, education could be expected to raise the likelihood that a person consumes ethically, due to the advantages in acquiring and processing information on social, ethical and environmental issues that it confers, thereby lowering its extra costs over 'regular' consumption. Survey data document significant differences across education groups in consumption of information and understanding of scientific and technical issues. To illustrate, Table 2 provides evidence from the University of Chicago's 2006 General Social Survey -- the survey from which the data of this paper's analysis are drawn, although for a different year -- on how sources of news and information vary across education groups. Whereas 80.7% of college graduates read the newspaper at least a few times per week, only 37.5% of those without a high school degree do. Over two-thirds of respondents without a high school degree identified television as their primary source of news, versus about one-third of college graduates. Only 50.7% of people without a high school degree knew that the earth goes around the sun and not vice versa. These facts highlight that more highly educated people may have 'efficiency advantages' in acquiring and processing information on social, ethical, and environmental issues, potentially lowering the extra costs associated with consuming ethically.⁵

Gender. Given accumulating evidence that women tend to behave more altruistically than men in experimental settings (Eckel and Grossman 1998, Andreoni and Vesterlund 2001, Eckel 2007), it might be expected that women attach higher intrinsic value to consuming ethically than men, *ceteris paribus*. However, it is possible that gender differences showing up in controlled experiments will not be so strong in the domain of ethical consumption: in experimental

⁵ It is also possible that socially-responsible behavior is more favored in educated social circles, given suggestive evidence that education promotes thinking about and action in favor of the public good (e.g. Nie, Junn and Stehlik-Berry 1996).

situations, people interact with anonymous strangers and have the same resources with which to 'play', but in the domain of ethical consumption, they have to balance the ethics of caring for loved ones against those of caring for anonymous others.⁶ A second issue related to gender is that, because women tend to shoulder more responsibility for shopping than men,⁷ they may be more knowledgeable about product choices and price variations related to product characteristics. Conceivably, this may make the extra cost of consuming ethically lower for women than it is for men.

Lifestyle conventionality. There is an important sense in which heterogeneity in preferences may have implications for how costly given types of consumers may find ethical consumption to be relative to 'consuming regularly'. In particular, recent research by Waldfogel (2003) and George and Waldfogel (2003) shows that, in product markets where preferences are heterogeneous and product differentiation entails fixed costs, people in 'thick' market segments will find it easier to find products that match their tastes than people in 'thin' segments, because firms earn higher profits when they develop new products targeted to segments of 'preference space' that are relatively thick. This leads to the expectation that the explosion of new 'green' and 'ethical' products introduced in recent years may cater especially to the preferences of 'mainline consumers' -- such as white, non-Hispanic people living in single-family homes in suburban areas and having children under 18 at home -- as they both represent a 'thick' market segment and have relatively strong purchasing power. People with young children are especially known to favor organic products due to their better health attributes.⁸ Thus, to the extent that this 'targeting' lowers the costs to mainline consumers of buying ethically, we might expect them to do more of it than people with equivalent incomes and education in thinner market segments.

Social values. Potentially, religious upbringing and/or present religious involvement may have important effects on propensity to buy ethically, although the effects are not obvious *a priori*. On one hand, religious background and involvement may cultivate attitudes of caring or responsibility towards others and/or promote involvement in projects that benefit others. On the other, religious traditions that primarily cultivate spiritual and ethical aspects of the individual oriented to rewards in the afterlife may focus little on broad societal problems like global warming (Porritt 2005: 34-37).

⁶ There is, however, some non-experimental evidence of gender differences in other-regarding behaviors, specifically that, *ceteris paribus*, women tend to be more generous in making charitable donations than men (Andreoni, Brown and Rischall 2003; Rooney, Mesch, Chin, and Steinberg 2005).

⁷ Gershuny and Robinson (1988) review data for the U.S. and U.K.

⁸ Thompson and Kidwell (1998) and Loureiro, McCluskey, and Mittelhammer (2001) find evidence of this latter effect.

How political values might correlate with ethical buying is also not clear *a priori*. Although in terms of the U.S. political parties, the social-activist stance implicit in ethical buying might seem more Democratic than Republican in social vision, underlying points of differentiation between the two parties -- such as the appropriate role of government in the economy, the importance of redistributive mechanisms in fiscal policy, or concern with equal access to economic opportunity in the U.S. -- do not figure centrally into the discourse of ethical consumption; on the contrary, although the need for complementary political involvement is often underlined in the latter, the core issues are framed as being solidly humanist and nonpartisan in nature.⁹ As such, interest and involvement in politics may be more important for ethical consumption than the party with which one affiliates.

Social norms. Measuring the role of social norms in explaining propensities to consume ethically is not necessarily straightforward. Taken simplistically, the distinction between intrinsic and social benefits might lead to the expectation that social benefits arise primarily in areas of consumption that are readily visible to others, such as driving a hybrid rather than a sport-utility vehicle. However, studies of specific ethical-consumption behaviors suggest that people care not so much about having their peers see them engaging in socially desirable behavior, as they do about keeping their behavior aligned with what they believe to be the norm in their neighborhood, community, or social group -- suggesting that they feel bad about free-riding on a collective action (Elster 1989) and/or are more likely to join one if they believe it is already off the ground (Schultz 2002). There is, however, evidence that people are more sensitive to perceived norms among people like themselves than among more abstract sets of 'others'; for example, people's likelihood of recycling rises with the share of their neighbors they believe to be recycling and also with the analogous share of people in their city, but the former effect is stronger than the latter (Schultz 2002). Thus, to gauge the influence of social norms on propensities to consume ethically, one would ideally want to know how widely people think it is practiced among some relevant set of peers -- although in the absence of such information, data on its prevalence in their geographic area may be informative as well.

Data from the General Social Survey

Data used for this study come from the General Social Survey (GSS), an annual household survey conducted by the University of Chicago's National Opinion Research Center since 1972

⁹ See, for example, Clark and Unterberger (2007: 6-8).

(Smith 2006). The GSS asks a representative sample of 1,500 U.S. adults questions about a variety of personal, social, economic and political issues. Many questions are repeated in every survey, but various questions are included only once or intermittently. Two questions included in the 2004 questionnaire are relevant for studying ethical consumption. The first was an 'attitude' question that asked people how important they thought it was to "choose products for political, ethical, or environmental reasons, even if they cost a bit more", using a scale from 1 (not at all important) to 7 (very important). The second was a 'behavior' question asking how people viewed various "possible forms of political and social action that people can take", where one of the options was deliberately buying or not buying certain products "for political, ethical or environmental reasons"; possible answers were: (a) have done it in the past year, (b) have done it in the more distant past, (c) have not done it but might do it, or (d) have not done it and would never under any circumstances do it. The questions are not ideal in the sense that they cover ethical buying only, rather than ethical consumption practices more generally (where the latter could include other activities like recycling and biking to work and also buying less). They also provide no sense of a household's depth of involvement in ethical buying: conceivably, option (a) above may be chosen both by some one who conscientiously buys organic produce and clothing and eats vegan, and someone who is always careful to buy dolphin-safe tuna only. Nonetheless, the GSS data have the advantage of coming from a longstanding, well-regarded survey where considerable efforts are made to ensure that the sample is representative of the U.S. population, and where the considerable amount of information collected in the survey gives us a rich set of explanatory variables that can be used to understand determinants of population-wide patterns in ethical buying.

Figure 1 shows basic tabulations from the two questions on ethical buying.¹⁰ Panel (a) of the figure illustrates that, as has been found in other surveys, people tend to report relatively positive attitudes towards the idea of ethical buying: on a scale from one to seven, where one is "not at all important" and seven is "very important", the median response is five, with 62% of respondents reporting values from five to seven. However, as shown in panel (b), less than a quarter of respondents said they had bought or not bought products for political, ethical or environmental reasons in the past year. Another 14% said they had but in the more distant past; one-third said they never had but they might; and the last 27% said they never had and never would. People's stated attitudes and their reported behaviors are correlated; as shown in panel (c), a majority of those who said they considered ethical buying to be "not at all important" also said they had never done it and never would, and a majority who said they considered it to be "very important" had done it at some point. But the correlation between

¹⁰ Sample weights were used to compute the descriptive statistics.

stated attitude and reported behavior is quite imperfect, as many other studies have found (Boulstridge and Carrigan 2000, Auger and Devinney 2007).

In what follows we estimate probit models of attitudes and behaviors towards 'ethical buying', defined in the sense permitted by the survey data as "choosing to buy or not buy goods for a political, ethical or environmental reason", as a function of respondents' characteristics and values. Details of explanatory variables included in the models are shown in Table 3. To get at the question of how income facilitates or constrains propensity to buy ethically, the model includes the log of the household's income in the previous year. About 11% of the survey respondents did not answer the question on income; to avoid the reduction in sample size that would result from dropping them, and because they likely differ from the other cases in systematic ways, we leave them in the data and include a dummy variable to indicate that their income data was missing.¹¹ Also in the event that the preceding year's income was unusually high or low, and to reflect spending standards to which people may think they need to conform, a measure of people's self-reported 'class identification' is included as a dummy variable indicating whether they reported their social class as 'middle' or 'upper', as opposed to 'working' or 'lower'.

A set of dummy variables is included to indicate the respondent's age range: under 35, 35-54 (omitted), 55-64, or 65 and over. Education is measured via three categorical variables: less than high-school diploma (the omitted category), high-school diploma and possibly some college, and 4-year college degree or more. The next set of variables relates to the conventionality of the respondent's lifestyle: whether the residence is a single-family dwelling, whether the respondent's self-identified race is white (as opposed to 'black' or 'other'), whether the respondent is presently married, and whether there are children under 18 in the house. Also included here is a dummy variable indicating whether the respondent was female.

The GSS asks several questions relevant to measuring respondents' social values. Reflecting uncertainty about what aspects of religious background and experience may be relevant to understanding propensities to buy ethically, several measures are included in the probit models: the religion in which the person was brought up, where the options are Protestant, Catholic, Jewish, and 'other' (the omitted category being 'none' or 'don't know'); whether the person attends religious services once a month or more; and whether the person's view of human origins precludes any role of evolution (see Table 3 for details). This last variable may be relevant insofar as world-views grounded closely in the Bible have traditionally not brought

¹¹ This is a standard practice when using the GSS data; see, for example, Glaeser and Glendon (1998).

into focus longer-term environmental problems (Porritt 2005). To provide some information about the extent to which the respondent sees him- or herself as other-regarding, we include some information that the GSS collects in this regard. In particular, respondents are asked whether they could be described as a 'selfish person'; we use a dummy variable to indicate respondents who said this is "not a good description at all" in their case.

For political values, we include dummy variables indicating whether people report their party affiliation as being Democratic or Republican (with the omitted category being 'independent', 'other' or 'none'). As mentioned, we might expect people who follow political affairs and have well-defined views on politics, whatever their party affiliation, to be more willing to devote time and energy to a different collective action problem. Thus, also included are dummy variables indicating whether people say they are better informed than others about political matters and whether they often try to change others' political views if their own opinion is strong.

Finally, concerning the role of social norms in encouraging people to buy ethically, the GSS does not provide direct evidence on what people observe others to be doing in this respect, but one can compute from the survey data the share of people in the respondent's Census division that bought ethically in the past year. This captures some notable geographic variation in the prevalence of ethical buying, with the share ranging from about 18% in the South Atlantic and West South Central regions, to 37% in the Mountain states. Thus, a finding that people with *given* characteristics are more likely to buy ethically when it is relatively prevalent in their area would be suggestive of socially-mediated effects in the spread of ethical consumption.

Probit results

Table 4 presents results of probit analyses, with estimated coefficients shown as marginal changes in probabilities associated with the characteristic. Standard errors are estimated robustly and shown in parentheses. Column (a) presents estimated effects of socio-demographic characteristics on the attitude variable -- that is, on the probability of respondents saying they consider ethical buying to be very important. In fact, the attitude variable is not well-explained by included explanatory variables: only one estimated coefficient -- whether the respondent is female -- is statistically significant at a 5% level, and the pseudo-R-squared of the regression is 0.013. This non-finding is consistent with the idea that attitudes towards ethical buying are not highly correlated with ethical-buying behavior, both due to social-desirability response bias and the fact that thinking favorably of ethical buying does not lead directly to practicing it (Auger and Devinney 2007).

Column (b) shows a similar regression for the probability of respondents saying they had bought or not bought something in the past year due to political, ethical or environmental reasons. Here there are many more effects estimated to be statistically significant, and the pseudo-R-squared of the regression is 0.09. The results related to age show that respondents under 35 years of age were not more likely to buy ethically than those in the 35-54 age range (the omitted category), perhaps because any effects of having more recent education or more plastic spending habits are offset by their tighter budget constraints. But people aged 65 and over were almost 10 percentage points less likely to have 'bought ethically' in the past year than those in the 35-54 age range, *ceteris paribus*, with the effect being statistically significant. This may be because this particular generation favors voting rather than buying behavior as the means of expressing socio-political views, and/or because living on a fixed income limits ability to use consumption in this way.

As expected, income has a positive effect on the probability of buying ethically, although the estimated effect is not particularly large: an increase in household income from \$50,000 to \$100,000 would boost the probability of buying ethically by 1.3 percentage points.¹² On the other hand, the probability of buying ethically was about 58 percentage points higher among respondents who did not provide income data than among those who did, consistent with evidence that people failing to report financial variables on surveys tend to be better off than otherwise identical individuals.¹³

Effects of education on ethical buying are positive and statistically significant: compared to those who did not finish a high school degree, those who graduated from high school were 14.7 percentage points more likely to have bought ethically in the past year, while those with a 4-year college degree or more were 29.2 percentage points more likely. This is consistent with our expectation that education facilitates ethical consumption due to information-gathering and -processing advantages. It is also possible that higher levels of secondary education and college-level education foster 'distinction'-related views towards ethical buying, and/or tend to promote thinking about and action in favor of the common good. Living in a single-family dwelling and being white are both associated with a significantly higher probability of buying ethically. While these results do not have a clear interpretation, they are consistent with the idea that ethical products are better tailored and/or marketed to consumers in 'thick' market segments (see above). In this basic specification, being married was associated with a lower probability of buying ethically, although this result should not be over-interpreted as it

¹² $.043 * (\log(100,000) - \log(50,000)) = .0129$.

¹³ Glaeser and Glendon (1998) have a similar result in their analysis of the GSS data.

disappears when other explanatory variables are added to the regression. Having children in the house had no significant effect on ethical buying, consistent with the idea that, although budget constraints of households with children may be tighter than those of counterparts without them, such households may also favor 'green' products due to their health benefits. Finally, female respondents were 5.3 percentage points more likely to have bought ethically in the past year than male respondents, *ceteris paribus*, which is in line with previous findings of stronger tendencies towards altruistic behavior among women than men.

Column (c) presents results for the model including additional information on the respondent. All of the effects estimated to be statistically significant in (b) remain significant in (c), with the exception of the marriage variable which becomes insignificant. Among the newly-included variables, there are several interesting findings. Unexpectedly, the variable indicating whether respondents disagree that they could be described as 'a selfish person' has a significant negative effect on the probability of buying ethically. Perhaps this reflects some tendency for people who are notably giving towards others in their everyday lives to pay less attention to socially distant others, *ceteris paribus*; certainly it suggests a need to be careful not to equate the economist's understanding of 'selfishness' as 'behaving out of self-interest' to its understanding in common parlance. The effects of the variables indicating religious upbringing and attendance at religious services are generally not statistically significant, although the effect of being raised as a Protestant is positive and significant. In contrast, there is a significant effect of views of human origins: people who view evolution as having played no role in the emergence of humans were 6.6 percentage points less likely to have bought ethically in the past year, compared to people who view it as having played some role. This is consistent with Porritt's view mentioned above.

As expected, neither Democrats nor Republicans were significantly more likely than others to have bought ethically in the past year, in line with the political neutrality of core ideas of ethical consumption.¹⁴ However, people who see themselves as relatively well informed about politics were 11.1 percentage points more likely to have bought ethically in the past year, while those who often try to persuade others of their views were 14.6 percentage points more likely, with both effects being statistically significant. This is suggestive of ethical buying being a complement to political participation, rather than a substitute for it, as some have intimated (*The Economist* 2006). It also suggests that people with a robust sense of personal efficacy in political participation may tend to have the same in their buying behavior.

¹⁴ Cherrier (2008) also finds that both conservative and liberal political views can lead people to adopt ethical consumer practices, albeit for different reasons.

Finally, the estimated effect of the prevalence of ethical buying in the person's region comes in positive, statistically significant, and moderate in magnitude; the estimated effect is such that a person in New England, which has a medium-to-high prevalence of ethical buying, would be 6-7 percentage points more likely to have bought ethically in the past year than an otherwise equivalent person who lived in the South Atlantic region, a low-prevalence area. The fact that people's probabilities of buying ethically correlate with the behaviors of people around them is suggestive of a role of social norms in mediating the spread of ethical-consumption behaviors.

Concluding thoughts

The key results of our empirical analysis can be summarized as follows. First, buying ethically is positively associated with education, consistent with education conferring 'efficiency' advantages in acquiring and processing information about social, ethical and environmental implications of individual consumption decisions. Second, buying ethically is also positively affected by income, consistent with its extra costs being less prohibitive for those with less binding budget constraints. Third, women are more likely to buy ethically than men, *ceteris paribus*, in line with gender differences in altruistic behaviors documented in other studies. Fourth, while ethical buying is not much affected by religious background or involvement, given other personal characteristics and attitudes, it is less common among people who see the world through a fundamentalist Biblical lens. Fifth, people with relatively strong interests in politics are more likely to buy ethically, suggesting a general influence of pro-active attitudes in socio-political participation. Finally, given people are more likely to buy ethically when they live in an area in which it is relatively common, suggesting an influence of area-specific social norms on individual behavior.

The findings of this paper are broadly supportive of the strategy adopted by several authors for modeling ethical, 'green', or socially-responsible consumption behaviors -- in which there is a core of consumers who consume ethically for 'intrinsic' reasons; another group who may not place the same intrinsic value on consuming ethically, but would begin consuming ethically if it became a social norm; and a last group of people who are neither intrinsically concerned with consuming ethically nor sensitive to social norms related to it (Sen, Gurhan-Canli, and Morwitz 2001; Janssen and Jager 2002; Brekke, Kverndokk, and Nyborg 2003; Eriksson 2004). The theoretical model presented in this paper suggests that ethical consumption may become widespread if the first two groups make up a sizable share of the population and if the actions of people in the first group induce people in the second to also change their behavior. However, if the intrinsically motivated group is relatively small and/or its behavior does not much influence the behavior of others, ethical consumption might remain a niche phenomenon

and/or spread too little to make a dent in the social, ethical, and environmental problems it aims to address (Eriksson 2004).

In this sense, while the present paper identifies some of the factors significantly associated with individuals being relatively likely to consume ethically, understanding whether ethical consumption has the potential to become an economically significant phenomenon requires further research along two key dimensions. The first concerns the composition and depth of people's involvement in ethical consumption. Conceivably, even if all consumers bought and used products with some social, ethical or environmental consideration in mind, if their concerns are highly diverse (as Table 1 suggests) and/or specific to an issue or two only (e.g. staying away from bottled water), it is possible that ethical components of product demand would be too weak and diffuse to have much aggregate effect. Thus, it is important to gain more insight into the dynamics of changes in consumption patterns at the level of the individual, as well as at the social level. If people, having made one pro-social change in consumption, bask in the 'warm glow' and do nothing further, then ethical consumption is unlikely to bring about much in the way of aggregate change. However, if making one change makes it easier to make further changes (for example, by virtue of having found good information sources or good outlets for buying ethically-preferred goods), there is more scope for ethical consumption to have aggregate effects.

The second open question concerns the role of social dynamics in the spread of ethical consumption. While our findings suggest that social norms significantly affect tendencies to buy ethically, we know very little about whether their role is primary or secondary in prompting people to incorporate social, ethical or environmental considerations in their consumption practices, nor do we have much grasp of the actual mechanisms by which new norms arise and spread. Thus, it would be very valuable for future research to investigate the social and time dimensions of the diffusion of ethical-consumption practices, aiming to identify what new sources of information, what observations of the behavior of others, what perceptions of others' judgments of one's own behavior, etc., prompted people to modify their consumption practices, and how in turn their changes in behavior may have influenced others to modify theirs. Such research would not only help establish the potential for ethical consumption to address social, ethical and environmental problems, but would also provide interesting insights into the role of social dynamics in collective-action problems (Elster 1989, Durlauf and Young 2001).

Table 1. Primary issues in ethical consumption			
<i>Issue</i>	<i>Specific concerns</i>	<i>Ethical objections</i>	<i>Ethical practices</i>
Environmental sustainability	Global warming, depletion of natural resource stocks, declining air quality, deteriorating access to safe water, accumulation of solid waste, declining agricultural productivity	Jeopardizes well-being of future generations of people and animals, undermines the beauty and integrity of the earth's scarce and irreplaceable natural resources	Buy organic and local produce; avoid meat; buy less; buy used goods; replace products less frequently; recycle diligently; avoid excess packaging; conserve energy; seek renewable/alternative energy; favor energy-efficient appliances; monitor carbon footprint; avoid driving and flying; take public transportation, walk, or bike; pay carbon offset tax; build 'green'; eco-tourism, etc. Boycott companies with irresponsible environmental records
Biodiversity, nature, endangered species	Over-harvested fish, rainforest development, pollution	Destabilizes ecosystems, ignores intrinsic worth of animals and nature, grossly prioritizes short-term human material wants, irrevocably alters nature's course	Boycotts against companies with problematic practices, no consumption of species-at-risk, political action
Genetically modified crops and animals	Disease-resistant crops that jeopardize local ecosystems, animals bioengineered to raise profits of meat production, low standards for establishing safety	Implies unknown risks to human health and the environment, oversteps bounds of human intervention in nature ('playing God')	Eat organic food, stop eating meat, boycott companies selling GM food or seeds, campaign for restrictions on sales and/or honest labeling
Free trade in tropical commodities	Implies low, insecure living standards for third-world farmers	Exploits poor producers' inability to reject low prices, unjust division of fruits of exchange	Buy certified fair-trade products, which pay decent, secure prices to poor farmers and artisans
Abusive labor practices	Sweatshops, child labor, slave labor	Exploits the economic desperation of the poor, treats them without dignity	Boycotts, preferential purchasing from sweat-free companies
Animal welfare	Inhumane husbandry, inhumane slaughter, animal testing	Inflicts pain and suffering on sentient creatures, imposes low quality of life	Vegetarian or vegan diet, preferential purchasing of personal-care products not tested on animals, protests against fur
Local economy	Destruction of local businesses by inflow of mass-produced goods and services	Destroys enriching social relationships and meaningful livelihoods	Use local currencies, favor local businesses over chains
Repressive regimes	Burma, Sudan, formerly South Africa; Israel	Gross violations of human rights	Boycott companies operating in such places or doing business with their governments
Consumerist lifestyles	<i>Unthinking adoption of high-consumption, long work-hour lifestyles</i>	Runs counter to fundamental values, like family and community; accepts dominance of values propagated by corporations through advertising, leaves human potential unrealized	Annual buy-nothing day, voluntary simplicity movement, take-back-your-time movement, modest holiday gift-giving, charitable donations in lieu of gifts, downshift, change jobs, start a social enterprise

Note: For popularly-oriented discussion of ethical consumption, see Clark and Unterberger (2007) or Jones, Haenfler, and Johnson (2007).

Table 2. Sources of news and scientific information and understanding thereof,
General Social Survey, 2006

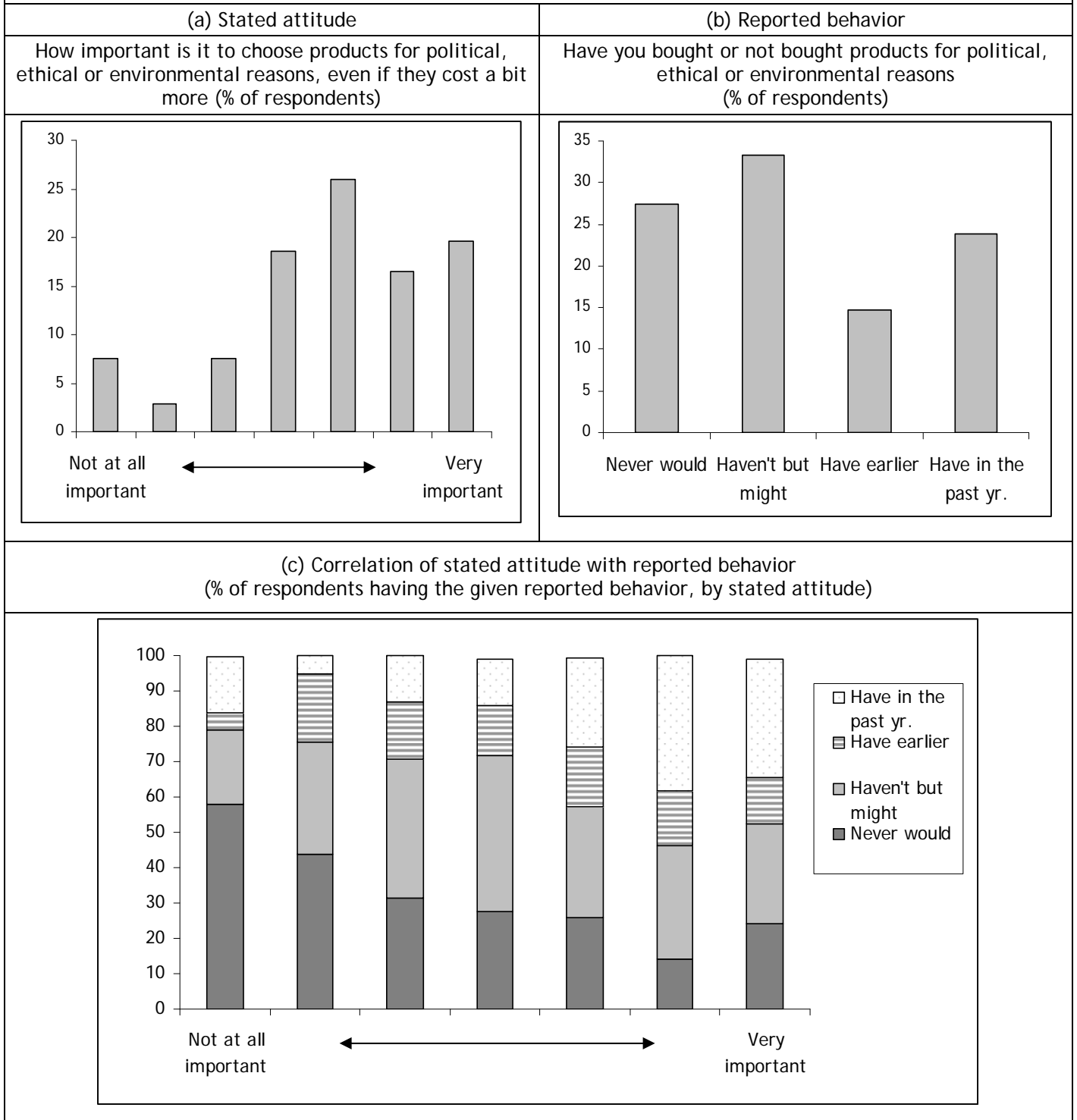
	Percent of respondents, by education		
	No high school degree	High school degree or some college	4-year college or more
<i>How often do you read the newspaper</i>			
Every day	20.8	33.8	48.1
A few times a week	16.7	24.5	22.6
Once a week	21.1	15.9	10.8
Less than once a week	17.9	15.4	12.9
Never	23.5	10.4	5.6
<i>What is your main source of news</i>			
Television	69.1	52.5	35.2
Newspaper	20.7	22.9	26.1
Internet	1.8	11.6	24.8
Radio	2.8	6.3	8.1
Other	5.5	6.8	5.8
<i>Do you have internet access in your home</i>			
Yes	32.4	65.8	89.5
No	67.6	34.2	10.5
<i>What is your main source of information on science and technology</i>			
Television	65.3	42.6	23.5
Newspaper	10.7	10.8	11.6
Internet	5.1	21.1	36.0
Radio	2.1	1.6	3.0
Books	9.1	7.1	6.7
Other	7.7	16.8	19.0
<i>When articles refer to results of scientific studies, how well do you understand what it means</i>			
Clear understanding	11.3	23.9	49.9
General sense	39.4	58.0	43.3
Little understanding	44.9	17.1	6.5
Don't know	4.5	1.0	0.3
<i>Does the earth go around the sun, or the sun around the earth</i>			
Earth around sun	50.7	74.2	87.6
Sun around earth	34.4	18.5	9.3
Don't know	15.0	7.4	3.0
Total	100	100	100
Memo item: Number of observations	226	1,113	522

<i>Variable</i>	<i>Definition [R=respondent]</i>	<i>Mean</i>
R rates buying ethically as fairly to very important	When asked how important buying or not buying products for 'political, ethical or environmental reasons' was to the R personally, R rated it a 6 or 7 on a scale from 1 (least important) to 7 (most important)	0.361
R 'bought ethically' in the past year	R reports having bought or not bought products for 'political, ethical or environmental reasons' in the past year	0.239
Age < 35	Respondent's age is under 35	0.295
Age 35-54 (omitted)	Age is 35-54	0.395
Age 55-64	Age is 55-64	0.157
Age ≥ 65	Age is 65 or over	0.152
Below H.S. (omitted)	Did not complete a high school diploma	0.129
High school diploma	Has a high-school diploma and possibly some college, but not a degree from a 4-year college or university	0.578
College degree	Has a degree from a 4-year college or university or more	0.293
Income (log)	Log of before-tax household income, recoded by the GSS from range variables to constant 2000 dollars	9.956
No income data	Respondent was unwilling or unable to report household income	0.111
Self-identifies as lower- or working-class (omitted)	Self-identifies social class as "lower" or "working"	0.480
Self-identifies as middle-to-upper class	Self-identifies social class as "middle" or "upper"	0.520
Single-family home	Residence is single-family dwelling	0.642
White	Self-identifies race as white	0.786
Married	Presently married	0.542
Female	Female	0.554
Children under 18	Children under 18 live in the house	0.325
Not selfish	Describing R as selfish is "not a good description at all"	0.346
Brought up Protestant	Religion in which R was raised is Protestant or Christian	0.569
" Catholic	" Catholic	0.293
" Jewish	" Jewish	0.027
" other religion	" other (Muslim, Hindu, Buddhist, Inter-denominational, etc.)	0.025
No religious upbringing (omitted)	Not brought up in any religion or "don't know"	0.092
Attend religious services monthly or more	Attends religious services once a month or more frequently	0.483
No role of evolution in human origins	R's view of human origins is that "God created man mostly in his present form in the past 10,000 years" (as opposed to "man developed over millions of years from less advanced forms of life," with or without God playing a role)	0.414
Democrat	Party identification is Democrat or strong Democrat	0.346
Republican	Party identification is Republican or strong Republican	0.289
Other or no party affiliation (omitted)	Party identification is independent, "other", or "don't know"	0.365
Better informed about politics than others	Disagrees or strongly disagrees that other people are better informed about politics	0.515
Often try to change others' political views	Often tries to persuade friends, relatives or fellow workers to share her view when she holds a strong political opinion	0.123
Share of others in census division who 'bought ethically' in past year	Share of other respondents in the census division saying they bought ethically in the past year, as computed from the survey data	0.239

Table 4. Probit results, marginal effects			
	R rates buying ethically as fairly to very important	R 'bought ethically' in the past year	
	(a)	(b)	(c)
Age < 35	-.026 (.031)	.027 (.028)	.028 (.028)
Age 55-64	.028 (.040)	-.003 (.033)	-.016 (.033)
Age ≥ 65	.077+ (.042)	-.097* (.030)	-.100* (.029)
Log income	.008 (.014)	.043* (.014)	.042* (.014)
No income data	.071 (.173)	.578* (.174)	.593* (.178)
Self-identifies as middle-to-upper class	.007 (.028)	.032 (.025)	.024 (.025)
High school diploma	.048 (.040)	.147* (.041)	.116* (.042)
College degree	.086+ (.048)	.292* (.057)	.202* (.058)
Single-family home	.015 (.029)	.075* (.024)	.065* (.024)
White	-.009 (.032)	.104* (.025)	.093* (.027)
Married	-.036 (.029)	-.054* (.026)	-.039 (.026)
Children under 18	-.032 (.030)	-.014 (.026)	.008 (.026)
Female	.077* (.026)	.053* (.022)	.079* (.022)
Not selfish			-.054* (.022)
Brought up Protestant			.085* (.041)
" Catholic			.025 (.046)
" Jewish			.126 (.094)
" other religion			.061 (.094)
Attend religious services monthly or more			-.012 (.024)
No role of evolution in human origins			-.066* (.024)
Democrat			.033 (.028)
Republican			-.008 (.028)
Better informed about politics than others			.111* (.023)
Often try to change others' political views			.146* (.038)
% in census division who 'bought ethically' in past year			.751* (.205)
Pseudo R-squared	.013	0.094	0.151

Notes: Robust standard errors in parentheses. * = statistically significant at 5% level.
+ = statistically significant at 10% level. The number of observations is 1,469.

Figure 1. Responses to questions about ethical buying, General Social Survey, 2004



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