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Consumer reactions to organic food price premiums in the United States

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Introduction

The organic food industry has recently emerged as a rapidly expanding market within U.S. food sales. Organic Foods, as defined by Lockie (2006), et al. are foods grown without growth hormones, chemicals, or artificial fertilizers. The Nutrition Business Journal found that U.S. sales of organic foods have climbed from $3.5 billion in 1997 to $10.4 billion in 2003. By 2010 these figures are estimated to reach $23.8 billion, and are then expected to rise an additional 9% to 16% each subsequent year (Oberholzer, et al, 2007, 75). In reality, organic food sales have exceeded even these expectations; in 2008, organic food sales hit $24.8 billion, rising 17.1% from 2007, and accounting for 3.5% of total U.S. food sales (Organic Industry Survey, 2009). In addition to the transforming food market, the rise of organic food as a legitimate niche within U.S. food sales has the potential to play a significant role in assuaging many environmental concerns such as soil erosion and energy usage.

Lockie, et al. theorize that one of the reasons for the rapid expansion of the organic sector has been the attractiveness of potentially higher margins, which have brought new national retail chains such as Wal Mart into the equation. This has also led to the expansion of national natural food chains such as Whole Foods and Trader Joe's that specialize in the sale of organic foods. Farmers see very little of the price markup charged to consumers with most of the profit being enjoyed by the seller of the goods. In organic sales, supermarkets see about 49% of the profits, specialty stores 48%, and farmers only 3% (Lockie, 2006, 104). This profit margin creates substantial incentive for grocery chains to enter the organic market.

Existing research on organic consumption spans many disciplines, including (but certainly not limited to) Economics, Agriculture, and Political Science. Previous research has shown socioeconomic status and education to play the biggest role in organic consumption with conflicting views on the role that variables such as age and gender play. One issue in need of further exploration is that of the increased prices on organic foods and consumer willingness to pay for organic foods (often referred to as "price premiums" in existing literature). In countries where price markups are lower, the market share experienced by organics is higher than those with high price increases, who typically suffer from a relatively low market share. American consumers generally seem to hold positive views of organics, but will often refrain from purchasing them on a regular basis due in large part to the increased prices that are considerably higher than in many other countries. In the United States, price markups can easily soar to 100% or more, where as in most countries in Europe they hover closer to 20% or less. Worth noting, however, is that Winter and Davis (2006) found that the production costs of organic foods can range anywhere from 10% to 40% more than those of conventional foods. This suggests that price markups of 100% are excessive, particularly if they are excluding a large group of consumers that would otherwise choose to buy organic over non-organic food.

The purpose of this study is to take a closer look at how much more consumers are willing to pay for organic foods as compared to conventional foods, so that we may then determine whether political ideology plays a role in which consumers are willing to pay more for organic foods, and which are not. Within the Political Science discipline, it is important to determine the ways in which citizens may be moving outside of the

traditional forms of participation. The motivation behind a consumer's choice in buying organic food over non-organic is typically thought to be economical, not political. As previous literature suggests, a large portion of consumers view organics favorably, but very few routinely choose to buy organic food over conventional food. It is assumed that this is due to, among other things, a disparity in socioeconomic status. However, what if it wasn't just price issues that were motivating consumers? If we look at political ideology, "liberal," by one definition, indicates that an individual can be characterized as being generous. On the other hand, "conservative" is often defined by the term preserve; or to preserve oneself. Might liberals be more likely to buy organics (and pay more for them), because they are concerned for the environment, and for the farmers that would otherwise be exposed to harsh chemicals? Assuming this is the case, then liberals should be less concerned about the increased price of organic foods, since they are taking a somewhat selfless political stand on the issue and giving their concern for others priority over concern for their own financial wellbeing. In addition, if conservatives take more of an individual interest in organic foods (i.e. personal health interests), then the higher cost of such products may weigh more heavily on their decision of whether or not to buy organic over non organic.

For this study, shoppers at four malls in suburbs of Minneapolis, Minnesota were approached at random and asked to complete a short survey on their food purchasing habits; in all, 303 surveys were collected. Consumers were asked to indicate how much they would be willing to pay for a specified gallon of milk. The characteristics of this milk, such as whether it is organic or non- organic, being sold at a Wal Mart or Whole Foods, or if it was locally produced or not, vary with each survey. This survey method

enables more accurate findings to be achieved from a smaller sample size by randomizing which food product each respondent is presented with.

Previous Research

There are numerous variables other than political ideology that could possibly contribute to the probability that a consumer will choose to buy organic food over non-organic food. It is important to discuss the relevance of these additional variables because they help us to understand the context within which to analyze the findings on political ideology.

The natural starting point seems to be how income, or socioeconomic status, affects both the ability and desire of consumers to buy organic foods. Lockie, et al. (2006) asserts that the correlation between organic consumption and wealth is a strong one, but only to a point. They find that income doesn't really play a role in consumer's choices until the income level drops below $35,000 a year. They also observe that while the added expense of organic foods does create a barrier to entry, it is essentially eliminated once a consumer reaches a somewhat moderate-income level. Lockie, et al. used data from the National Food Choice Survey in Australia in coming to their conclusions; the fact that the survey conducted was not only randomized nationally (by telephone), but also had a significant sample size of over 1200 respondents lends itself to the credibility of Lockie's findings. Though the study focuses solely on Australian consumers, the similarities between both average organic price increases and overall consumer wealth allow for a worthwhile comparison.

Both Byrne, et al. (1991) and Misra, Huang and Ott (1991) agree that the cut-off for the income barrier to entry is most likely a bit higher, or somewhere around $35,000 to $40,000 a year (equivalent to about $55,000 in 2010), with Byrne finding that those with an income of more than $40,000 are 3.95% more likely to purchase organic produce.

Byrne's findings are limited to consumers within the state of Delaware (through a mail survey that achieved 753 responses), while Misra, et al.'s findings are limited to consumers within the state of Georgia (also a mail survey with 389 respondents). Such focused studies provide us with valuable insight, but may lack generalizability. The findings of the Hartman Group (2002) generally add credence to the findings of Lockie, Thompson, Byrne, and Misra in that they observe that organic consumers are not limited solely to higher income levels; they draw their data from a telephone sample with over one thousand respondents.

The general agreement appears to be that income only matters at relatively low levels; in the scheme of things, an income barrier of $35,000 a year (in reality, somewhere between $35,000 and $55,000 in 2010 dollars) means that a majority of consumers don't avoid organic foods due to income restrictions.

The impact of gender on organic buying habits is debatable with some stating that gender has no effect at all on organic consumption and others stating that it is one of the deciding factors in determining organic consumption. Lockie, et al. argue that gender is one of the most important indicators of who will buy organic foods; they found that Australian women were far more motivated to consume food that they deemed to be natural. They believe that this is related to the fact that the role of grocery shopping is typically dominated by women and that "Women's experiences as family food providers and health carers expose them most immediately to both the potential and actual impacts of food consumption practices on family health and the environment" (Lockie, 2006, 135). Govindasamy and Italia tend to agree with Lockie, et al, finding that among those most likely to buy organic food are women (specifically women with children), and that

women are also more likely to pay a premium for organic produce. Byrne, et al. come to a similar conclusion, finding that being a male lessened the likelihood that a person regularly bought organic food by 5.60%, and that males would indeed be 14.27% less likely to rate organic foods higher than conventional foods. Govindasamy and Italia handed out surveys to consumers in five New Jersey grocery stores, primarily utilized questions on their survey that only required a yes or no answer, and received 408 responses. The questions were aimed at general attitudes and did not delve into any specifics on products or prices. This makes it difficult to draw anything but general conclusions from the data, which is a drawback that is addressed in this study.

The only objections to the argument for the significance of gender come from Thompson and Kidwell (1998). Thompson and Kidwell find that gender is not statistically significant, although they do find, along with Oberholtzer, et al. (2007), that households with children under the age of 18 are far more likely to buy organic foods. Thompson and Kidwell's survey methods were unique when compared to the traditional forms of mail and telephone surveys used by others. Thompson and Kidwell only approached people for surveys in supermarkets if they had bought a specific type of produce that was available in both non-organic and organic in that particular store. In doing so, they were able to limit their data collection to those for whom the choice between non-organic and organic is immediately relevant as the choice is fresh in people's minds. Although this study did not go as far as to observe consumers in supermarkets, it took a similar approach by attempting to control for how often consumers indicate they buy organic food.

The point can also be argued that if women are typically the primary food providers of households with children, the relationship between gender and organic consumption presented by Lockie, Govindasamy and Italia is purely spurious in nature. The general consensus seems to be that gender does indeed play a role in organic consumption, but it is still unclear as to whether that role is a result of differing gender attitudes towards organics, or simply the domination of women in the role of family grocery shopper.

Age is one of the few demographic variables that does not appear to have a significant impact on the consumption of organic food, although there is a bit of disagreement as to how minimal its impact actually is. Lockie, et al. observe that (in Australia) age doesn't play much of a role in organic consumption. They do, however, acknowledge that organic consumption generally tends to decline after the age of 60. However, they attribute this more to the customary drop in income at retirement as opposed to any additional factors. Although not addressed by Lockie specifically, one area that could be expanded on is their notion that the decline in organic consumption is more due to income than age. If this could be proven, it could put to rest the disagreements over the true role that age plays in organic consumption.

Oberholtzer, et al., along with Thompson and Kidwell, concur with the findings of Lockie et al., agreeing that age does not play significant enough of a role to be considered an important determinant in organic consumption. Govindasamy and Italia also make a similar general observation that organic consumption increases with younger age groups, while still acknowledging that there are inconsistencies in what role age plays. They find that consumers under the age of 36 are about 52% more likely to be willing to pay some

degree of price premium for organic food than those over the age of 65. They also find that consumers between 36 and 50 are 38% more likely to pay some degree of price premium than those over 65, and those between 51 and 65 are still 28% more likely to pay a potential price premium than those over 65.

Misra, Huang and Ott come to almost the opposite conclusion of Govindasamy and Italia, finding that consumers (in Georgia) between 36 and 60 were far less motivated to pay more for organic foods (specifically foods they deemed to be "safer") than those over the age of 60. The (national) findings of The Hartman Group appear to line up with those of Misra, et al, stating that "the propensity to purchase organics contained a higher-than-average proportion of people 40 years and older" (The Hartman Group, Thompson, 1998, 1116). One explanation for the relative disagreement over the role of age could be that while advancing age increases the likelihood that a consumer will view organic foods favorably, the decrease in income due to retirement keeps most consumer above the age of 65 from acting on their positive view or organic foods.

Education appears to be one of the most significant, if not *the* most significant, deciding factors in organic consumption. Lockie, et al. find education to be one of the most influential factors in determining who is most likely to buy organic foods in Australia. They generally find that those with more education are more likely to be organic consumers than those with less, but also observe that education only matters up to a certain point, which they believe to be a high school degree. While acknowledging that their findings are contradictory, they show that education significantly increased the likelihood that a consumer had purchased organic food over a one year period of time, yet

still argue that this increase can primarily be attributed to a high school education, as opposed to those who didn't finish high school. This does little to discern between those with a high school degree and a bachelors degree.

Dimitri and Oberholtzer, citing numerous unspecified studies by the USDA as well as the Hartman Group, find that education is the “One factor that consistently influences the likelihood of a consumers’ buying organic products” (Dimitri and Oberholtzer, 2009, iii) and that consumers with more education are also more likely to buy organic foods. The one enigma that Dimitri and Oberholtzer find is that while consumers with bachelors degrees are more likely to buy organic than consumers without, those with graduate degrees were far less likely to buy organic food. This enigma returns multiple times, possibly presenting an opportunity for further exploration.

On the other side of the debate are Govindasamy and Italia, and Misra, Huang and Ott. Govindasamy and Italia find that college-educated consumers were 18% less likely to pay a premium for organic food than those with just a high school degree. The findings of Misra, Huang and Ott also suggest that consumers who are college educated are less willing to pay the price premiums associated with organic food. The primary inconsistency within the study of education and organic consumption stems from Thompson and Kidwell, who argue that the education level of a consumer has little to no impact on their organic consumption. The primary agreement among most others is at least that education plays a significant role. Thompson and Kidwell go as far as to say specifically that those consumers who have college degrees “had no statistically detectable effect on the propensity to choose organic produce” (Thompson and Kidwell, 1998, 284). What is most interesting about their research however, is that although they

find a college degree to be insignificant, they do indeed still find that a graduate degree definitely decreases the likelihood that a consumer will choose organic over conventional food. Although Thompson and Kidwell appear to be outnumbered in the debate on education, their methodology might in fact be more sound.

As organic products have spread to conventional supermarkets, the impact of this on consumers and the organic market has become increasingly pertinent. Organic foods are now widely available in supermarkets at chain stores such as Wal Mart, Safeway, and Cub Foods, making them far more accessible to the average consumer. Dimitri and Greene found in 2000 that not only were organic foods available in 73% of supermarkets, but also that more organic food was actually purchased at conventional stores than specialty stores such as cooperatives. In 2007, the Food Marketing Institute found that the availability of organic foods in conventional supermarkets had grown to 82%, close to 10% in 7 years. Blank and Thompson argue that the spread to conventional supermarkets is due to the transition of organic foods from a high-quality premium product to the new market standard, making it something that consumers *expect* to be provided for them. As a result of this expansion to conventional supermarkets, Dimitri and Oberholtzer observe that there are not only *more* firms involved in the organic sector, but also that the size of the firms is generally larger.

It is theorized by Lockie, et al. that the involvement of Wal Mart in the organic foods market is indicative of the increased expansion of organic foods into the conventional market. Oberholtzer, Dimitri and Greene believe that this expansion is primarily due to the increasing consumer demand for organic food products, which also has resulted in the increased availability of pre-packaged and branded organic foods. The

move to the conventional market along with the increase in branding indicates a growing desire by the mainstream (conventional) food industry to cater to the increasing number of consumers clamoring for organic foods. However, Lockie, et al. argue that another strong incentive for conventional supermarkets to carry organic foods are the inherent price increases associated with organic products. If the current price increases were to decrease substantially over the next few decades as some predict they will, this could mean that the increase in conventional market expansion will slow.

In addition to the expansion from cooperatives to conventional supermarkets, the increasing abundance of supermarket chains dedicated solely to natural and organic foods has had a significant effect on organic consumption. Lockie, et al. remark that the creation of chain stores such as Whole Foods and Trader Joe's, that are quite similar to conventional supermarkets in their store layouts, have the potential to affect greatly the size of the organic food market. Lockie, et al find that these specialty supermarkets (Whole Foods, Trader Joe's, etc...) represent one-third of organic retail sales (in the United States). They then argue that far from growing along *with* conventional sales of organics, these organic retail chains have "Provided the platform on which recent retail growth has been built," primarily because they appeal to "countercuisine" consumers who are looking for food that is "Traditional, unadulterated, wholesome and natural, and that is sold by community-focused outlets" (Lockie, 2006, 121).

It is natural to assume that consumers that gravitate towards the countercuisine supermarkets such as Whole Foods are going to differ in consumption patterns than those who primarily shop at conventional supermarkets such as Safeway. The countercuisine movement might very well end up tying in with the idea that political ideology plays a

role in which consumers choose to buy organic and which do not; a countercuisine movement of consumers looking for "community-focused outlets" that are serving "natural" food sounds suspiciously like something that might be inspired by those who identify as being liberal. Indeed, Thompson and Kidwell find that consumers who shop at conventional grocery stores were increasingly less likely to buy organic food as the price difference between the organic and conventional food in the store increased. Consumers who shop at countercuisine supermarkets are not exposed to both organic and conventional products for the most part and are therefore less likely to be influenced by the immediate price difference. They argue that this supports the idea that consumers self-select when choosing at which supermarket to shop, and those that are shopping at countercuisine supermarkets are the same people who were already more willing than most to pay higher prices for organic foods.

The increased prices of organic foods are viewed by many as being the primary barrier keeping organic foods from a larger overall share of the food market. Lockie, et al found that price increases tend to vary widely by country. In Austria and Germany the premiums usually range from 10% to 30%, while in the United States and United Kingdom, premiums can reach over 100%. When the USDA tracked price increases for organic vegetables between 1989 and 1992, they found that organic prices tended to be double that of their conventional counterparts. In Germany and Austria, where the price increases on organic foods are minimal, the market share for organic food is far higher than in the United States, which could account for the disparity between consumer demand and the actual market share currently held by organic foods in the United States.

The general consensus among Lockie et al, Thompson and Kidwell, Krystallis

and Chryssohoidis, and Misra, et al. seems to be that of those consumers that *are* willing to pay price increases for organic foods, the threshold for willingness to pay is somewhere around a maximum of 15%, but more likely to be closer to 10%. Thompson and Kidwell find that price increases tend to range anywhere from 40% to 175%, even though they capped their approximate willingness to pay at 10% (about 35% of consumers were willing to pay up to a 10% increase, while 46% indicated they were willing to pay less than that). Most importantly, Thompson and Kidwell found that 49% of consumers refrain entirely from buying organics because they consider them to be too expensive. This is of particular interest because Thompson and Kidwell observed and surveyed consumers immediately after they had made this decision. This could be taken to suggest that consumers are to the point now where they simply assume that all organic foods are too expensive to purchase, which could predict a dismal future for the organic foods market. That being said, Misra, Huang and Ott found that 46% of their respondents were willing to pay more (although how much more is not specified) for certified organic produce, while only 26% refused to pay any sort of a price premium. They then find that 87% of their respondents were indeed willing to pay a price premium of up to 10%, while only 9% were willing to pay a premium of higher than 10%. The 10% to 15% mark returns time and again as the standard maximum assumption for what most consumers are willing to pay. In Australia, where price premiums are a little lower than in the United States and United Kingdom, Lockie finds that 80% of organic consumers would not be willing to pay a price premium of over 20%, compared with 92% of non-organic consumers.

If the threshold for consumers is no more than 15% and the average price increase

on organic food in the United States is usually around 100% (or more), then the disparity in price is certainly one possible explanation for the relatively small market share experienced by organics. Lockie, et al emphasize this same point in their observation that the price increase in most countries far exceeds what consumers are willing to pay, but especially so in the United States and United Kingdom. Finally, Misra, Huang and Ott provide us with very plausible reason for such low willingness to pay. They theorize that consumers may view food safety as represented by pesticide-free organic foods as a public good and expect the government to provide such goods at no additional price. Whether consumers are doing this knowingly is another question, and it is unlikely that this is occurring on a large scale, but is still certainly something worth exploring further.

Oberholzer, Dimitri and Greene argue that such high price increases are not sustainable over an extended period of time and that once supply outpaces demand, prices on organics will decline substantially. Blank and Thompson agree that a decline in price increases might not be that far off; they argue that price increases for products peak early on and then decline as the supply increases. The assumption then, is that the supply for organic foods will be increasing over the next few decades to a point where extreme price premiums will no longer be viable. The Organic Monitor (2002) provides a perfect example of this in finding that price premiums were almost non-existent for organic milk in some European Union countries after the supply increased substantially. Oberholtzer, et al. also argue that if organics ever hope to gain a larger share of the market, price premiums *must* decrease substantially.

Finally, studies have shown that how often a consumer purchases organic food also impacts how much of a price premium they are willing to pay. Consumers are more

fixated on their final grocery bill than the price premiums on individual items, so consumers that buy primarily organic foods are going to be less willing to pay high price premiums on individual items of food, which will have a cumulative effect on their grocery bill. The National Food Choice Survey finds that the more organic food consumers purchased, the lower the price premium they were willing to pay for it. Along with this assertion is the suggestion by Donaghy, et al. (2003) that consumers care more about the absolute price increase than the price increase percentage. In other words, they might be willing to pay a higher price increase for foods that are typically less expensive and lower price increase for goods that are typically more expensive. Lockie, et al. come to much the same conclusion in stating that the most efficient way to increase organic market share is to reduce the price increase placed on the more expensive items.

When it comes to Political Science, there has been very little qualitative research done on the relationship between consumption and citizenship. Lawrence Glickman (2006) recently published a critique on the book *Personal Influence* (Katz 2005), which addresses precisely this relationship. It asserts that as citizens, people practice politics in every area of their lives and as consumers, people are bound to search for solutions to food safety problems through political means. Consumption has been linked with citizenship for quite some time, although not in the annals of Political Science research. In the 1920s, the National Consumers League viewed consumption as a "site for the exercise of citizenship," particularly as it applied to boycotting products that were viewed as being unsafe, or that were produced under poor working conditions (Glickman, 2006, 208). Glickman points out that consumer activists have, for decades, used the power of consumption to draw attention to the moral and social implications of the choices people

make in their buying habits. Finally, Glickman delves into political theory in stating that since consumption is an inherently social act, it is therefore a political act as well.

Continuing on the same line of thought (unconventional political participation) as Glickman, Bryant and Goodman (2004) argue that we live a world in which people believe they are required to act, but are given few avenues for such action through traditional politics. They then argue that people have adapted to this conundrum by seeking out politicized action wherever they can get it, namely in their everyday habits of consumption. Specifically addressing the consumption of organically grown and ethically traded products, Bryant and Goodman label such products as "alternative commodities" that draw consumers in by advertising their responsible production through "carefully wrought images and texts" (Bryant and Goodman, 2004, 348). In other words, companies selling organic foods have managed to brand their items in such a way that there is no question in the minds of consumers as to how environmentally or health-friendly a product is; consumers have become convinced that they are making a political statement of sorts by choosing to buy specific items.

Food producers have obviously keyed into the moral and social implication concept that Glickman outlines and are specifically catering to those consumers who they believe are willing to line up their buying habits with their political beliefs and are therefore willing to act politically in their consumption. Additionally, Lizabeth Cohen (2004) argues for the idea of "citizen consumers," who choose to assert themselves politically primarily through their purchasing power. She believes that citizens were forced into this new realm of action by governments that have greatly expanded their authority, making it harder and harder for citizens to feel that they are having an impact

politically. Her example of such forced action is that of the African Americans in the 1940s and 1950s that "participated in a broader political culture of dissent where the consumer became viewed as a legitimate and effective agent of protest" (Cohen, 2004, 53). African Americans during this time period mobilized in buying campaigns to support businesses owned by other African Americans and also boycott those businesses that refused to hire African American workers; they were indeed using their buying power in place of their ballot, albeit more obviously than those choosing to purchase organic instead of conventional foods.

Michele Micheletti (2003) also champions the idea that shopping decisions are ripe with social, ethical, and political consequences. Much like Cohen's citizen consumer, Micheletti presents us with the concept of the "political consumer," who by definition considers the products that they buy as things that must fit in with their political persuasion and philosophy of life. She also comes to much the same conclusion as Bryant and Goodman in finding that many labeling institutions and consumer campaigns have made it their goal to not only inform consumers, but to also market specific goods to them by labeling and promoting them as being eco-friendly and ethically produced. Micheletti argues that, "There is…a politics of consumer products, which for growing numbers of people implies the need to think politically privately" (Micheletti, 2003, 2). She refers to this as a form of subpolitics that empowers citizens and allows them to feel like they are more directly involved politically, and also more directly responsible for the "collective well-being" (Micheletti, 2003, 9); in other words, it has become the epitome of individualized collective action.

Through all of these arguments for political consumerism, the idea that is clearly agreed upon is an unpopular one in Political Science - that political participation has likely spread beyond the accepted and traditional acts to consumption. Although this concept has only been addressed seriously within the past few years, it is obvious that citizens have utilized their consumption and buying habits as a form of political participation for decades through actions such as boycotts and buying campaigns. The concept of citizen consumerism isn't unpopular within the Political Science discipline because it's untrue; it's unpopular because it has proven to be nearly impossible to measure. This being said, it is important to at least understand the prevalence and likelihood of citizen consumerism when addressing which products consumers buy and why.

Organic consumption has been addressed thoroughly within and outside of the Political Science discipline. The ways in which gender, education, socio-economic status, and age affect organic consumption have been studied to the point of exhaustion. The main area of study that has shown to be lacking is solid data on *exactly* where the price premium barrier lies; up until now, most have simply guessed on what the maximum allowable premium is. What is also interesting is the level of discord among those studying each of the variables. There are very few attributes of organic consumers for which there is a consensus. This is most likely due to the fact that regional and local research is continually used in an attempt to draw national conclusions. It is quite clear that organic consumption habits and attitudes vary considerably depending on the region of study and it is perhaps pointless to attempt to apply these findings to multiple regions within a country. As a result, this paper study will attempt to address solely the organic

price premium attitudes of those in the Midwestern United States and will draw no conclusions on the country as a whole.

Theory and Hypothesis

Supermarkets and co-ops in the United States are charging substantially more for organic foods than what most consumers are willing to pay. Prior estimates put willingness to pay somewhere around 20% more than conventional prices, which if proven to be correct indicates a need for reduction in organic food prices because organic prices routinely reach over 100% of their conventional counterparts.

Liberals will indicate that they buy organic food more often and display a higher willingness to pay) than conservatives and it is assumed that this is attributable to the traditional concept of liberals being generous and concerned for the welfare of others; in this case, most likely due to a concern for the environment. Conservatives will not buy organic food as often as liberals because they place more weight on the increased price of organic food. In general, consumers will not be willing to pay as much for an organic gallon of milk than what is typically charged, because a 350% price increase over non-organic milk is too much for most consumers to bear.

Although previous studies have shown income to have a relatively minimal effect on willingness-to-pay, the current economic climate should lend itself towards maximizing the effect of income. When the difference between organic and conventional staple food products is a 100% mark up or more, consumers weary of a recession will tend to be more cautious than they would be otherwise.

This theory leads me to three hypotheses.

Hypothesis 1: Liberals buy organic foods on a more regular basis than conservatives.

Hypothesis 2: Liberals will be willing to pay more on average for organic foods than conservatives.

Hypothesis 3: Overall, respondents will be willing to pay far less for the organic gallon of milk in the example than what is typically charged for a similar gallon of organic milk in grocery stores.

Data and Methods

To test these hypotheses survey data was collected in the winter of 2010. Participants were 303 shoppers approached at random at four malls in the Minneapolis area. Participants were asked questions regarding their food consumption habits and preferences, as well as their demographic characteristics. Shoppers under the age of 18 were excluded from participating and no reward was offered to participants.

The participants surveyed for this study provided a relatively balanced sample of varying political views, socio-economic status, age, and gender. Roughly 66% of the sample was female, with approximately 52% identifying as being Democrats, 19% as Independents, and 22% as Republican. Unfortunately, socioeconomic status was not quite as balanced as the other variables, with only 10% of respondents identifying as being in the lowest income bracket making under $30,000, 38% in the middle income bracket, and about 52% identifying as making $70,000 or more.

The dependent variable is the willingness to pay for organic food demonstrated by respondents. This was operationalized by prompting participants to indicate how much they would be willing to pay for a specific food item. The nature of the food item varied in each survey (being sold at Wal Mart/ Whole Foods, Organic/ Non organic, Locally produced/ Not locally produced). To measure the control variables of age, education, gender, ideology, political party, organic purchase frequency, socioeconomic status, and weekly milk purchases, respondents were provided with self-report questions. Race was not included as a control variable because it was not of interest in this particular study and has not been shown to be a significant factor in organic consumption.

Ideology was only measured on a three-point scale of liberal, moderate, and conservative, so as to maximize the number of responses and avoid confusion. The same approach was taken with party ID, where the only options were Democrat, Independent, Republican, and "Other". To gauge how often participants purchase organic food products, they were asked two separate questions, "how often do you buy organic foods at the grocery store?" and "how many of these gallons (of milk that you buy in a typical week) are organic?" Socioeconomic status was divided into 3 categories, $29,999 and less, $30,000 to $69,999, and $70,000 and up in an attempt to capture the general boundaries of the lower, middle, and upper- class consumer. [1]

[1] For survey instrument see Appendix A, for codebook Appendix B.

Results

The figures that follow are all contingency analyses displayed in table format. Within each cell are either one or two numbers, the top representing the column percentage, the bottom number representing the row percentage (as designated in the upper left cell). For example, in Table 1 28.57% of conservatives indicated that they never buy organic foods, while 9.86% of moderates indicated they buy organic foods very often.

To test the first hypothesis that liberals buy organic foods on a more regular basis than conservatives, a contingency analysis was run. A contingency analysis seemed most appropriate for the majority of the data in this study due to the nature of the variables, as most all of them were ordinal and nominal, not continuous.

Table 1
Contingency of Organic Purchase Frequency by Ideology

Col %	Conservative	Moderate	Liberal
Never	28.57	23.94	17.86
Occasionally	57.14	52.11	48.21
Often	14.29	14.08	10.71
Very often	0.00	9.86	23.21

As shown in Table 1, participants identifying as liberals were far more likely than conservatives and slightly more likely than moderates to buy organic foods very often. Of those that indicated they were liberal, 33% bought organic foods somewhat regularly

("often" or "very often"), while the same held true for about 24% of moderates and 14% of conservatives. In other words, as the respondents' political views grew less liberal, they were less likely to buy organic foods on a regular basis. The majority of all three groups however, indicated that they bought organic food at least occasionally.

To test the second hypothesis that liberals will be willing to pay more on average for organic foods than conservatives, a contingency analysis was run between the ideology and price premium (stated willingness to pay) variables. Participants given the non-organic control were excluded in order to isolate willingness to pay to organic milk only.

Table 2
Contingency of Price Premium by Ideology

Col %	Conservative	Moderate	Liberal
0%	38.10	21.13	23.21
5%	0.00	1.41	1.79
10%	19.05	8.45	3.57
15%	4.76	1.41	3.57
25%	4.76	5.63	5.36
30%	0.00	1.41	1.79
40%	0.00	11.27	8.93
50%	9.52	26.76	19.64
75%+	23.81	22.54	32.14

In Table 2, we see that the relationship between price premium (willingness to pay) and ideology is less than clear. Of the participants that identified as being liberal, 32% indicated that they would be willing to pay a price premium of at least 75%, compared with 23% of moderates and 24% of conservatives, which indicates a

difference, though not a large one. Of the participants that identified as being conservative, 38% indicated that they were not willing to pay any price premium, compared with 21% of moderates and 23% of liberals. There was however, a more pronounced difference in overall willingness to pay. About 34% of conservatives were willing to pay a price premium of at least 40%, compared with 61% of moderates and liberals. This allows us to say with a moderate degree of certainty that conservatives are willing to pay less for organic foods than liberals and moderates.

To test the third hypothesis that consumers will be willing to pay far less for the organic gallon of milk in the survey example than what is typically charged for a similar gallon of milk in grocery stores, a contingency analysis was run between willingness to pay (PrcPrm) and the milk type (FdType). The percentages in the first column of Table 3 represent the percentage of price premium, or price markup, that the participant indicated they were willing to pay.

Table 3
Contingency of Price Premium by Food Type

Col % Row %	Nonorganic	Organic
0%	33.12 57.95	24.83 42.05
5%	0.00 0.00	1.34 100.00
10%	17.53 69.23	8.05 30.77
15%	1.30 33.33	2.68 66.67
20%	0.65 100.00	0.00 0.00
25%	1.95 27.27	5.37 72.73

Table 3 (continued)
Contingency of Price Premium by Food Type

30%	0.65 33.33	1.34 66.67
40%	11.04 56.67	8.72 43.33
50%	19.48 48.39	21.48 51.61
75%+	13.64 35.00	26.17 65.00

Table 3 shows that approximately 47% of participants who were provided with the hypothetical product that was organic were willing to pay a price increase of at least 50% for a gallon of the organic milk. About 62% of the same participants stated a willingness to pay of at least a 25% price increase, with about 56% of participants willing to pay a price increase of 40% or higher. A considerable number of participants, 34%, stated a willingness to pay of 10% or less for the organic product. One anomaly in this analysis was that participants presented with the non-organic gallon of milk were in many cases also willing to pay a higher price than average (which, as seen in the survey instrument, they were provided with). Approximately 45% of participants presented with the non-organic products indicated that they would be willing to pay at least 40% more than the average price provided to them.

Discussion

Although this survey was given at random, most subgroups were represented well with a few obvious exceptions. Age was evenly distributed among the four categories as was education. Socioeconomic status was a bit lopsided with the majority of participants falling under the category of $30,000 to $69,999 and $70,000 and above, however there were enough respondents making under $30,000 per year to draw conclusions from. There were about twice as many female participants as male, but this discrepancy was somewhat anticipated due to the fact that surveys were distributed at shopping malls; according to an Emory study on shopping habits, women are responsible for 83% of consumer spending in the United States (Wharton School, 2007). What was both surprising and problematic was the degree to which liberal and moderate participants outnumbered conservatives; there were only 50 conservative participants, to 134 moderate and 118 liberal. This discrepancy held with party ID as well, with 159 Democrats, but only 59 Independents and 66 Republicans.

As suggested in the first hypothesis, it was indeed the case that liberals buy organic foods on a more regular basis than conservatives. The data shows that consumers become progressively less likely to buy organic foods regularly as they become less liberal, with 33% of liberals indicating that they buy organic food often or very often, and 24% of moderates and 14% of conservatives stating the same. As stated previously, it is nearly impossible to pinpoint exactly what is motivating consumers to purchase organic food instead of non-organic food, however such a clear divide in organic purchase frequency by ideology suggests that there is something more at work here than simply economical decisions.

One possible motivation may be that liberals consider it socially acceptable to buy organic due in part to environmental benefits, while conservatives avoid organics for precisely the same reason (if buying organic is viewed as being a "liberal" trait, conservatives might be tempted to avoid organic food). Another possible motivation could be described as being purely political. At the root of this is most likely the fact that liberals are attracted to organic food because it appeals to the assumed priority they place on generosity. The fact that organic food is perceived to be better for the environment, as well as for the farmers who grow the food is something that traditionally would be very appealing to liberals. On the other hand, conservatives could be avoiding organic food because they are historically more sensitive to fiscal issues and may not want to pay more for a product that's benefit to them is unproven, as there are no complete long-term studies on the impact of pesticides or growth hormones in food on humans. Although the precise motivations are unclear, the fact that organic consumption is divided by such sharp political lines strongly suggests that politics is playing a relatively large role in a consumers' decision on whether or not to buy organic food.

The second hypothesis, that liberals will be willing to pay more on average for organic foods than conservatives, the findings were not as clear-cut as those on organic purchase frequency. There was not a sizeable difference among the three ideologies when it came to willingness to pay the highest price increase of 75% or more, however there was substantial overall difference in willingness to pay. Moderates and liberals were almost twice as likely as conservatives to be willing to pay a minimum price increase of 40%. This suggests that regardless of motivations, once a price increase reaches a certain point, consumers are going to stop buying the product; but up until that point, politics

does indeed play a role in how much consumers are willing to pay, which also ties in quite nicely to the idea that conservatives are probably more sensitive to fiscal concerns such as price increases than liberals.

The third hypothesis states that overall, participants will be willing to pay far less for the gallon of milk in the example than what is typically charged for a similar gallon of milk in grocery stores. As it turns out, the median price premium that participants were willing to pay was 40%. This suggests that consumers are already predisposed to believe that organic foods are either worth the price increase, or they aren't; there isn't much of an in-between. However, the majority, or 60%, of consumers were willing to pay a price premium of at least 10%. This suggests that it would be worth the organic food industry's time to investigate lowering price increases a few notches, especially considering the fact that most price premiums on organic foods in the United States typically exceed 100% (and in the case of milk, it's closer to 300%), when only 26% of participants indicated that they would be willing to pay a price premium of 75% or more.

The consensus among Halpin and Brueckner, Lockie et al, Thompson and Kidwell, and Krystallis and Chryssohoidis that the likely threshold is somewhere around 10% appears to be correct. This is obviously a far cry from the price increases of 100% or more that are currently experienced in the United States and suggests that price increases are almost certainly the stumbling block keeping organics from enjoying a larger market share. In fact, many participants in this study indicated, unprompted, that they would buy organic food far more often if the prices came down.

When considering some of the variables addressed in previous research such as gender, education and socioeconomic status in conjunction with this study, some

interesting conclusions were reached. Gender, as suggested by Oberholtzer, Dimitri, and Greene and Thompson and Kidwell appears to have no affect on organic purchase frequency, and certainly isn't the deciding factor in purchasing organics, as Govindasamy and Italia and Lockie, et al. argue.

The previous research on education argued that although it is a very important determinant of organic purchasing likelihood, the barrier to entry is most likely a high school degree. In this study, it did not appear that education played a role in organic consumption, however, all of the participants indicated that they had attained at least a high school degree. Therefore, it is impossible to tell if Lockie's findings are correct. Based on previous research, it was expected that a graduate degree would lead to a drop off in the frequency of organic food purchases, but this was not the case. The likelihood that a participant will buy organic food was approximately the same for those with a bachelors and graduate degree.

Finally, there was considerable disagreement in previous research on socioeconomic status, with Lockie et. al, Thompson, Byrne, et al. and Misra, Huang and Ott all agreeing that the barrier to entry is most likely somewhere around $35,000 per year. This study suggests however, that Govindasamy and Italia were more correct in their assertion that the barrier is actually closer to $70,000 per year. Of those that made at least $70,000 per year, 29% indicated that they bought organic food often or very often, compared to 14% of those making $30,000 to $69,999 per year and 19% of those making less than $30,000 per year. More importantly, 84% of those in the highest income bracket bought organic food at least occasionally, compared to only 60% in the middle-income bracket and 55% in the lowest income bracket.

Conclusion

There are a few issues with this study that deserve to be addressed. As was mentioned early on, it is impossible to draw overarching conclusions from a sample of Minnesotans. It is largely accepted that attitudes on organics vary widely based on region, making the scope of this study smaller even still. Surveying a more diverse geographical sample would certainly help to eliminate the limited scope of this study, although if organic attitudes truly do vary as much by region as believed, there might not be many worthwhile conclusions to be had from a national survey.

It would have, of course, been preferable to have more conservatives and Republicans represented in the sample. This is impossible to control for when conducting a random sample, but is certainly an issue that sample size would most likely solve. This brings us to the inevitable issue of sample size. A sample size of 303 is not particularly small in the scheme of things, but in the world of social science research, it is tiny when compared to studies containing a minimum of 1000 respondents. Due to the unique survey method and large number of variables used in this study, the analysis definitely would have benefited from a much larger sample size.

The ramifications of higher priced organic foods extend beyond the realm of political ideology though. When considering the fact that growing foods organically is better for the environment and perhaps people's health, public policy aimed at the price increase on organic foods or subsidizing production of organic foods might be worth considering. Regardless of consumer's motivation for buying organic foods, they are obviously more likely to buy organic regularly if it is closer to the price of conventional food. If there was a way to control the price, then we could increase the percentage of

consumers buying organic, thereby benefiting both the environment and the health of citizens.

This study has shown that political ideology does indeed play a role in determining who buys organic food, as well as how much consumers are willing to pay for it. It has also shown that consumers are not willing to pay as much for organic foods as what is typically charged. The approach to this study was unique; instead of simply being asked to answer a series of general questions, respondents were asked to indicate exactly how much they were willing to pay for a specific organic and correspondingly non-organic product. This enabled a more exact determination of how much of a price increase consumers are actually willing to pay. Although it will prove nearly impossible to ever truly measure people's motivations in choosing organic foods over non-organic, this study helps us take a step in the right direction. It is clear that political ideology is correlated somehow to the decisions people make about organic food with liberals indicating that they choose to buy organic far more often than conservatives. Once we know that ideology plays a role, it becomes easier to hypothesize as to why people are choosing to buy, or not buy, organic over non-organic. This leads us to new questions.

Is it really the perceived increased generosity and concern for the environment of liberals that leads them to purchase more organic food?

Is it really the perceived self-interest and financial concerns of conservatives that lead them to not purchase organic food on a regular basis?

Or have all of these perceptions about who *should* be buying organic food simply led consumers to draw a line in the sand, with liberals buying organic because

they think it’s what liberals are supposed to do, and conservatives avoiding organics because they don’t want to be associated with liberals.

If we are able to come up with a reliable method of measuring motivations in the future, it would be a worthwhile topic to delve into.

Appendix A

Organic Food Survey Questions

[Organic foods are believed to be far more beneficial for your health than non-organic foods. The organic label provides you with the assurance that your food is free of the pesticide residue that other foods often contain, and also carries the guarantee that food has not been genetically modified. Repeated exposure to pesticides can be disastrous for your health, and the potential long term effects of genetically modified foods haven't even been studied.]

[The environmental impact that non-organic foods can have is astounding. Pesticides used to increase yields of non-organic produce have been proven to harm local ecosystems, poisoning soil, water, and animals. Organic farming, on the other hand, decreases both soil erosion and energy usage.]

[Both]

[Neither]

For questions 1-3, please consider the hypothetical food product listed, and indicate how much, if anything, you would be willing to pay for each product.

1. About how many gallons of milk do you buy in a typical week? _____

2. How many of these gallons are organic? _____

3. A gallon of Sunshine Valley milk typically costs $1.78 at Wal Mart and $6.49 at Whole Foods. How much would you be willing to pay to buy a gallon of this milk at **[Whole Foods, Wal Mart]** that is **[organic, non organic]** and was **[locally produced, not locally produced]**? _____

4. Where do you typically buy your groceries? _____

5. If given the choice between Wal Mart and Whole Foods, at which would you choose to shop?

   A. Wal Mart
   B. Whole Foods

6. How often do you buy organic foods at the grocery store?

   A. Very often
   B. Often
   C. Occasionally
   D. Never

7. The following is a three-point scale on which the political views that people might hold are arranged from liberal to conservative. Where would you place yourself on this scale?

   A. Liberal
   B. Moderate
   C. Conservative

8. Generally speaking, do you usually think of yourself as a REPUBLICAN, a DEMOCRAT, or an INDEPENDENT?

   A. Republican
   B. Democrat
   C. Independent
   D. I don't know
   E. Other, please specify: _____

9. What is your gender?

   A. Male
   B. Female

10. In what year were you born? _____

11. Please look at the list below and indicate the letter of the income group that includes the income of all members of your immediate family in 2009.

   A. None-$29,999
   B. $30,000-$69,999
   C. $70,000 and over

12. What is the highest degree that you have earned?
    A. High School degree
    B. Associate's degree
    C. Bachelor's degree
    D. Graduate degree

Appendix B

Codebook

Variable Name	***Question Content***	***Column No.***
AGE	Participant's age 1 18-24 2 25-40 3 41-54 4 55 and over	1
EDU	Participant's degree 1 High school 2 Associate's 3 Bachelor's 4 Graduate	2
FDTYPE	Milk type given to P 1 Non organic 2 Organic	3
GENDER	Participant's gender 0 Female 1 Male	4
GROC	Where P typically shops 1 Big box store 2 Traditional store 3 Natural foods chain store 4 Co-op	5
GROCCHCE	Choice between Wal Mart and Whole Foods 1 Wal Mart 2 Whole Foods	6
IDEOL	Participant's ideology 1 Conservative 2 Moderate 3 Liberal	7
LOCPROD	Milk type given to P 1 Not locally produced 2 Locally produced	8
ORGFREQ	How often P buys organic food	9

	0 Never 1 Occasionally 2 Often 3 Very often	
ORGMLK	How often P buys organic milk 0 0 per week 1 1 per week 2 2 per week 3 3 or more per week	10
PARTY	Participant's political party 0 I don't know 1 Republican 2 Independent 3 Democrat	11
PRCPRM	Willingness to pay of P 0 0% 1 5% 2 10% 3 15% 4 20% 5 25% 6 30% 7 40% 8 50% 9 75% and above	12
PROMPT	Info. on organics give to P 0 Neither 1 Health 2 Environment 3 Both	13
SES	Participant's income 1 None - $29,999 2 $30,000 - $69,999 3 $70,000 and above	14
WFWM	Location of hypothetical product 1 Wal Mart 2 Whole Foods	15

WKLYMLK	Gallons of milk P purchases each week	16
	0 0	
	1 1	
	2 2	
	3 3 or more	

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