CONSUMER WILLINGNESS-TO-PAY FOR A SALINE FISH SPECIES GROWN IN THE MIDWEST: THE CASE OF STRIPED BASS

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Abstract

Striped bass is a saline fish species that has attracted interest in the Midwest region for aquaculture production. The study used willingness to pay information from consumers to assess the potential market for striped bass grown in the Midwest. The results suggest that males and consumers, age 29 years and younger, are more likely to pay higher amounts for striped bass. In particular, consumers who prefer farmed and fresh seafood, those who purchase seafood frequently for home consumption, and those who consume seafood 26 – 50% of the time when eating out have a higher probability of paying higher amounts for striped bass grown in the Midwest.

Keywords: Willingess-to-pay, striped bass, ordered probit

JEL Code: Q13, Q18

Introduction

A study of shoppers' attitudes regarding seafood expenditure patterns on live seafood in the Midwest suggested that purchase of saltwater finfish, shellfish, quality assurance, and high incomes were significant factors that influenced higher seafood expenditures by Midwestern seafood shoppers (Quagrainie et al. 2011). This suggests a potential market for saltwater finfish in the Midwest. Quagrainie et al (2008) also studied consumers' interest in Indiana farm-raised aquaculture products and reported that there was 58% probability that consumers would be "interested" and 24% probability that consumers would be "strongly interested" and would buy Indiana farm-raised aquaculture products. The study reported that consumers who expressed willingness to buy Indiana aquaculture products were those who had previously bought farm-raised aquaculture products and who frequently consumed seafood at home.

Previous studies have reported the importance of regional sourcing and freshness and the high value consumers place on such seafood products (Puduri et al., 2010; Kumar et al., 2008; Quagrainie, 2006). For Midwest seafood consumers, seafood products from the Midwest could probably mean being local and fresh, and would be willing to pay more for such products.

The Midwest region has no marine or saltwater resources therefore seafood products produced from these saline sources need to be shipped over long distances from the coasts making them relatively expensive. There are plans by some Midwest fish farmers to begin farming striped bass, a marine species. In order to develop an effective marketing strategy for striped bass products from the Midwest, it is necessary to examine the willingness of consumers to pay for this product among seafood products offered in the marketplace. Midwestern aquaculture producers can

become competitive with striped bass products if they understand the factors that influence consumers' willingness to pay. Such an understanding will enable them to make strategic and economically sound production and marketing decisions.

When eliciting willingness to pay from consumers, demographic factors and product attributes have often been found to be significant factors (see for example, Umberger et al., 2002; Loureiro and Hine, 2002; McCluskey et al., 2005; Quagrainie, 2006; Kumar et al., 2008). The main objective for this study is to determine the existing and near-term (5-10 years) market for striped bass species in the Midwest region of the US for food consumption using willingness to pay information from consumers in the Midwest.

Data

A randomly generated sample of seafood consumers in the Midwest was surveyed for the study by a market research company, Decipher, Inc., in Fresno, CA. The online survey solicited interests and willingness to purchase striped bass, a marine species to be grown in the Midwest. The survey collected information on how much respondents are willing to pay for Midwestern saltwater seafood, Midwestern striped bass, general seafood preferences, seafood purchasing attitudes, and demographic factors about the respondents and their households. A total of 581 consumers participated in the surveyed and included 88 from Illinois, 40 from Indiana, 33 from Iowa, 77 from Michigan, 46 from Minnesota, 41 from Missouri, 91 from Ohio, 106 from Pennsylvania, and 58 from Wisconsin.

For striped bass species to be grown in the Midwest, respondents were provided with various price categories to choose from, representing how much they are willing to pay for the product. A statistical summary of the selected factors and attributes used in this study is provided in Table 1. About 31% of respondents indicated they would be willing to pay up to $3.99/lb; 23% would pay $4.00 to $4.99/lb; 18% would pay $5.00 to $5.99/lb; and 28% would be willing to pay $6.00 and more. That suggests Midwestern consumers would be willing to pay for striped bass produced in the region.

Other information collected related to general fish preferences of respondents and included seafood production methods, frequency of seafood purchases for home consumption, expenditures on seafood consumed at home, forms of seafood preferred, frequency of eating out, preferred seafood products when eating out, and how often seafood is consumed when eating out (Table 1). The responses obtained indicate that 34% of respondents prefer seafood that is harvested from the wild; 16% prefer seafood produced from farms; and 42% were indifferent to whether fish was wild-harvested or farm-raised. Information gathered on how frequently seafood was consumed at home suggests that 30% of respondents consumed seafood less than once per month; 49% consumed seafood one to three times within a month; and 15% consumed seafood once per week. On the average, respondents spent $14 on seafood purchases for home consumption, and freshness was ranked very high as the most preferred form of seafood for purchase. On a scale of 1 to 3 where 3 is the most preferred, the average ranking for freshness by respondents was 2.5 while the average rank for frozen indicated by respondents was 2.1. (Table 1) Of the respondents, 69% was female, 62% was married, 91% was Caucasian (white), 63% were 50 years and older, and 47% had college degree.

Methodology

The analytical framework used to determine the market for striped bass species in the Midwest is in the form of a consumer's willingness to pay (WTP) for striped bass species. Following economic theory of consumer choice, a consumer is assumed to obtain utility, *U* from obtaining a product or service, and in this case, the purchase of striped bass fillets. If a consumer's utility increases with a purchase, it suggests they may be willing to pay more for the product provided an increase in the product price does not lower utility beyond some base level. The theory of consumer choice also assumes that a consumer's WTP is influenced by their individual tastes, preferences, attitudes and perceptions towards seafood products, as well as demographic factors. In this context, a consumer's WTP can be expressed as a function of the change in utility arising from the choice of a product among alternative products. The choice of one product over another is discrete and modeling WTP is usually specified with limited dependent variable or latent variable approaches (Cranfield and Magnusson, 2003, Kaneko and Chern, 2005; Quagrainie et al., 2008, 2011). Specifically, a consumer's WTP is a function of the change in utility expressed as:

(1) $WTP = f(\Delta U)$, where ΔU is the change in utility and $f' > 0$

The utility obtained from choosing an i^{th} alternative (U_i) among a set of alternatives, is composed of a deterministic component, which are observable factors and attributes (X_i) that influence the level of utility realized by choosing the i^{th} alternative; and a random component representing unobservable factors, such as unobservable variations in preferences, random individual behavior and measurement error (ε_i), i.e., $U_i = X'_i\beta + \varepsilon_i$. In this context, the i^{th} alternative is chosen if and only if the change in utility is positive, i.e., $\Delta U = U_i - U_j > 0$ or $U_i > U_j$ for all $j \neq$

i. Thus, assuming WTP reflects the extent to which utility changes with a choice of an alternative, willingness to pay – WTP can be written as

(2) $\text{WTP} = X'\beta + \varepsilon, \quad$ where $X = X_i - X_j$ and $\varepsilon = \varepsilon_i - \varepsilon_j$

The expression in (2) suggests that a larger increase in utility is a reflection of consumers' willingness to pay more. This relationship between WTP and factors / attributes can be used to predict the probability (Pr) of a consumer's WTP being greater than a specified lower bound willingness to pay ($\underline{WTP}$) and less than a specified upper bound ($\overline{WTP}$). The probability that a consumer's WTP falls between the defined levels of willingness to pay can be expressed as:

(3) $\Pr(\underline{WTP} < WTP \leq \overline{WTP}) = \Pr(X'\beta + \varepsilon \leq \overline{\gamma}) - \Pr\left(X'\beta + \varepsilon \leq \underline{\gamma}\right);$

where ($\overline{\gamma}$) and ($\underline{\gamma}$) are threshold changes and β is a vector of regression coefficients associated with the observable factors.

Respondents were provided with various price categories to choose from, representing how much they are willing to pay for striped bass grown in the Midwest, i.e., up to $3.99/lb, $4.00 to $4.99/lb, $5.00 to $5.99/lb, and $6.00 and more. Since WTP takes the form of ordered multiple qualitative responses, the ordered probit model is adopted to determine the effects of selected factors on the probability of a consumer's WTP. Willingness to pay for striped bass grown in the Midwest is modeled to be affected by seafood production methods, frequency of seafood purchases for home consumption, expenditures on seafood consumed at home, forms of seafood preferred, frequency of eating out, preferred seafood products when eating out, how often seafood is consumed when eating out, and demographic factors about the respondents and their households.

The use of an ordered probit model allows for an estimation of predicted probabilities for each WTP category and marginal effects. The modeling approach also allows simulation to predict probabilities for a factor or attribute of interest at selected levels. These predictions provide valuable insights and interpretations into consumers' willingness to pay, which helps to determine potential market for striped bass species produced in the Midwest region.

Results

The threshold parameters ($\underline{\gamma}, \overline{\gamma}$) estimated from the model were 1.14 and 2.14; both are positive and highly significant indicating that the four categories of WTP amounts are indeed ordered. Though there are four alternatives of WTP amounts, only two threshold parameters were estimated because J - 2 = 4 – 2, with the first normalized to 0.

The predicted probabilities for each WTP category evaluated at the means of the variables were calculated as 30% for WTP up to \$3.99/lb (y = 0); 22% for WTP \$4.00 to \$4.99/lb (y = 1); 19% for WTP \$5.00 to \$5.99/lb (y = 2); and 28% for WTP \$6.00 and more (y = 3). The calculated predicted probabilities suggest that there is a strong willingness of the average seafood consumer to pay for striped bass grown in the Midwest.

The model involved 32 variables with corresponding estimated coefficients; 16 coefficients are found to be statistically significant. The estimated coefficients are not reported; instead the marginal effects of the explanatory factors on the probability of consumers' WTP falling into the various categories are reported in Table 2. The sign and magnitude of estimated coefficients in ordered choice models do not provide clear indications of the direction and effects of the

explanatory variables on the various levels of WTP. The marginal effects do provide a more meaningful measure of the effect of an explanatory variable and the distribution of predicted probabilities for the various levels of WTP. For continuous variables, the marginal effect represents the change in the predicted probability of WTP levels as a result of a unit change in the explanatory variable, all other factors held constant. For the binary variables, the marginal effects are the differences of the two predicted probabilities, with and without the variable.

Marginal effects are calculated at the mean values of all explanatory variables. Thus, the marginal effects show the change in the predicted probability for each WTP category for an average consumer. The marginal effects for each explanatory variable across the four WTP categories sum to zero by default because the predicted probabilities for the four WTP categories sum to one. All the explanatory variables are binary except 'average seafood expenditure' and 'WTP more for Midwest saltwater seafood.[1]'

From Table 2, the demographic variables that appear significant have positive marginal effects for the lower two WTP categories, i.e., WTP up to $3.99/lb and WTP $4.00 - $4.99/lb, but a negative effect on the other WTP categories, i.e., WTP $5.00 - $5.99/lb and WTP at least $6.00/lb. Moreover, these marginal effects tend to be stronger for the first and last WTP categories ($y = 0$ and $y = 3$). For example, the marginal effects for females indicate that they are 13% more likely to be willing to pay up to $4.99/lb for Midwest striped bass relative to males and 14% less likely to be willing to pay at least $6.00/lb relative to males. It suggests that males are more likely

[1] WTP more for Midwest saltwater seafood was incorporated as a continuous variable as follows: not WTP more = 0; WTP 2% more = 0.02, WTP 4% more = 0.04, WTP 6% more = 0.06, WTP 8% more = 0.08 and WTP 10% more = 0.1.

to pay higher amounts for Midwest striped bass than females. Similarly, relative to consumers who are 29 years of age and younger, older consumers are more likely to pay at most $4.99/lb for Midwest striped bass. The marginal effects for the age groups are positive for WTP up to $4.00/b ($y$ = 0) and $4.00 - $4.99/lb ($y$ = 1) for Midwest striped bass. It also suggests that consumers who are 29 years of age and younger are more likely to pay higher amounts for Midwest striped bass than older consumers.

From Table 2, a number of variables positively affect the probability of consumers' willingness to pay higher amounts (y=2 and/or y=3). An alternative interpretation is that these variables significantly reduce the probability of willingness to pay lesser amounts for Midwest striped bass (y=0 and y=1). The variables include preference for farmed seafood; preference for fresh seafood; seafood purchase frequency of 1 to 3 times per month; seafood purchase frequency of once per week; eating out 1 to 3 times per month; eating seafood 26 – 50% of the time when eating out; and eating mostly shrimp and salmon when eating out. From table 2, consumers who prefer farm-raised seafood are 10% less likely to pay up to $4.00/lb but 10% more likely to pay at least $6.00/lb relative to consumers who do not know the source of their seafood. The likelihood is the same for consumers who buy seafood 1 to 3 times per month for home consumption relative to consumers who buy seafood for home consumption less than once per month. For consumers who buy seafood once a week, they are 16% less likely to pay up to $3.99 but 20% more likely to pay at least $6.00 relative to consumers who buy seafood for home consumption less than once a month (Table 2). Freshness is found to positively affect willingness to pay at least $6.00/lb for striped bass.

The results from table 2 also show that consumers who indicated their willingness to pay more for Midwest seafood and those who purchase seafood once per week have a very strong probability of paying at least $5.00 for Midwest saltwater striped bass. Consumers who eat seafood 26 – 50% of the time when eating out are 9% less likely to pay $3.99 and less for Midwest saltwater striped bass but 10% more likely to pay $6.00/lb and more relative to consumers who eat seafood at most 25% of the time they eat out. Consumers who purchase mostly shrimp when eating out have similar and opposite probabilities for the first WTP (-8%) and last WTP (8%) amounts and also for the two middle WTP categories (2%) compared to consumers who purchased other species than shrimp.

In addition to the interpretations from the marginal effects of variables that would increase the likelihood of consumers' willingness to pay higher amounts for Midwest saltwater striped bass, we also simulated predicted probabilities at each level of three relevant variables, i.e., 'buys seafood about 1 to 3 times per month for home consumption;' 'buys seafood once per week for home consumption;' and 'eats seafood 26 – 50% of the time when eating out' (Table 3). These variables represent frequency of purchase and consumption of seafood products. The results reported in table 3 show the probability distribution at particular levels of each variable. It is evident that frequent seafood consumers have a higher likelihood to pay more for Midwest striped bass; the magnitude of predicted probability increases from lower to larger categories of WTP. For example, the predicted probability increases from 27% for WTP up to $4.00/lb to 31% for WTP at least $6.00/lb. The predicted probability for consumers who do not buy seafood about 1 to 3 times per month for home consumption have the opposite effect; it reduces from 34% for paying up to $3.99 for Midwest striped bass to 26% for WTP at least $6.00.

For consumers who buy seafood once per week for home consumption, the predicted probability significantly increases from 18% for WTP up to $4.00/lb to 41% for WTP at least $6.00/lb. The predicted probability for consumers who do not buy seafood once a week for home consumption reduces from 33% for paying up to $3.99 for Midwest saltwater striped bass to 26% for WTP at least $6.00. For consumers who eat seafood 26 - 50% of the time when they eat out, the predicted probability increases from 21% for WTP up to $4.00/lb to 39% for WTP at least $6.00/lb (Table 3).

An indication of willingness to pay more for Midwestern saltwater seafood is one of the variables that significantly increase the probability of consumers' WTP higher amounts for Midwest striped bass. Therefore, we also performed a simulation of the predicted probability of WTP the highest category for Midwest striped bass ($y = 3$) at each level of willingness to pay more for Midwest saltwater seafood, i.e., 2%, 4%, 6%, 8% and 10% more against the factors of purchasing seafood about 1 to 3 times per month for home consumption and eating seafood 26 – 50% of the time when eating out. The results are reported in table 4. Note that this simulation examined the effect of two variables on the predicted probability of the highest outcome ($y = 3$). The results suggest that consumers who buy seafood one to three times per month and willing to pay 2% more for Midwestern saltwater seafood are 27% likely to pay at least $6.00/lb for Midwest striped bass. The likelihood increases with willingness to pay more than 2%, i.e., 36% likelihood for consumers willing to pay 4% more; 46% likelihood for consumers willing to pay 6% more; 56% likelihood for consumers willing to pay 8% more; and 66% likelihood for consumers willing to pay 10% more (Table 4). Even consumers who do not buy seafood one to three times per month

but are willing to pay more for Midwest saltwater seafood also show increasing probability; e.g., consumers willing to pay 2% more for Midwest saltwater seafood are 22% likely to pay the highest amount for Midwest striped bass (y = 3). The likelihood increases to 30% for consumers willing to pay 4% more, 39% for consumers willing to pay 6% more, 49% for consumers willing to pay 8% more, and 59% for consumers willing to pay 10% more.

Similar trends can be observed for consumers who, whether or not, eat seafood 26 – 50% of the time when eating out but indicated they are willing to pay more for Midwest saltwater seafood. From table 4, consumers who eat seafood 26 – 50% of the time when eating out and willing to pay 2% more for Midwest saltwater seafood are 34% likely to pay WTP at least $6.00/lb. The predicted probability significantly increases with consumers willing to pay more, up to 73% for consumers willing to pay 10% more (Table 4).

It is obvious that certain factors contribute significantly to the probability of consumers paying more for Midwest striped bass. The challenge for prospective farmers would be adopting cost-effective production methods to enable them become competitive in the marketplace. Marketing strategies could also be adopted targeted at consumer segments that are willing to pay higher premiums.

Summary and Conclusions

The study examined the potential market for striped bass species to be grown in the Midwest region of the US for food consumption using willingness to pay information from consumers in the

Midwest. We found that males relative to females, and consumers who are 29 years of age and younger relative older consumers, are more likely to pay higher amounts for Midwest striped bass.

Other variables found to increase the probability of paying higher amounts for Midwest striped bass include preference for farmed seafood; preference for fresh seafood; seafood purchase frequency of 1 to 3 times per month for home consumption; seafood purchase frequency of once per week for home consumption; eating out 1 to 3 times per month; eating seafood 26 – 50% of the time when eating out; and eating mostly shrimp when eating out.

Simulated results from selected variables show that frequent seafood consumers have a higher likelihood to pay more for Midwest striped bass with the magnitude of predicted probability increasing from lower to larger categories of WTP for striped bass. This includes consumers who buy seafood 1 to 3 times per month for home consumption, consumers who buy seafood once per month for home consumption, and consumers who eat seafood 26 - 50% of the time when they eat out.

For the highest WTP category, i.e., at least $6.00/lb for Midwest striped bass, simulation results at each level of consumers' willing to pay more for Midwest saltwater seafood, i.e., 2%, 4%, 6%, 8% and 10% more against whether or not a consumer buys seafood 1 to 3 times per month for home consumption and whether or not a consumer eats seafood 26 – 50% of the time when eating out show that predicted probabilities increase significantly as the level of willingness to pay more for Midwest saltwater seafood increases.

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Table 1: Statistical Summary of Model Variables

Variable	Mean	Std. Dev.	Min	Max
Willing to pay up to $3.99/lb (y = 0)	0.312	0.464	0	1
Willing to pay $4.00 to $4.99/lb (y = 1)	0.229	0.421	0	1
Willing to pay $5.00 to $5.99/lb (y = 2)	0.180	0.385	0	1
Willing to pay $6.00 and more (y = 3)	0.278	0.449	0	1
Prefer wild-harvest seafood	0.338	0.474	0	1
Prefer farm-raised seafood	0.158	0.365	0	1
Indifferent to seafood source	0.423	0.494	0	1
Buys seafood 1-3x / month	0.487	0.500	0	1
Buys seafood 1x / week	0.150	0.358	0	1
Buys seafood more than 1x / week	0.068	0.251	0	1
Average seafood expenditure / shopping visit	13.985	11.910	0	60
Prefers fresh seafood	2.457	0.769	1	3
Prefers frozen seafood	2.107	0.621	1	3
WTP more for Midwest saltwater seafood	0.021	0.027	0	0.1
Eats out 1-3x / month	0.372	0.484	0	1
Eats out 1x / week	0.184	0.388	0	1
Eats out more than 1x / week	0.115	0.319	0	1
Eats seafood 26-50% when eating out	0.226	0.418	0	1
Eats seafood more than 50% when eating out	0.118	0.323	0	1
Shrimp mostly eaten out	0.380	0.486	0	1
Salmon mostly eaten out	0.122	0.328	0	1
Lobster mostly eaten out	0.075	0.264	0	1
Female	0.692	0.462	0	1
Age – 30 to 39 years	0.120	0.326	0	1
Age – 40 to 49 years	0.154	0.361	0	1
Age – 50 to 59 years	0.244	0.430	0	1
Age – 60 years and above	0.393	0.489	0	1
Married	0.622	0.485	0	1
Caucasian / White	0.906	0.292	0	1
High School	0.229	0.421	0	1
College Degree	0.472	0.500	0	1
Income - $20,000 to $39,999	0.233	0.423	0	1
Income - $40,000 to $59,999	0.248	0.432	0	1
Income - $60,000 to $79,999	0.148	0.356	0	1
Income - $80,000 to $99,999	0.092	0.289	0	1
Income - $100,000 and above	0.105	0.307	0	1

Table 2: Estimated marginal effects of explanatory variables on the probability of willingness to pay for saltwater striped bass fillets

	≤$3.99 $y = 0$	$4.00-4.99 $y = 1$	$5.00-5.99 $y = 2$	≥$6.00 $y = 3$
Prefer wild-harvest seafood	0.036	0.010	-0.012	-0.034
Prefer farm-raised seafood	-0.084**	-0.033	0.022**	0.094*
Indifferent to seafood source	-0.029	-0.009	0.009	0.028
Buys seafood 1-3x / month	-0.093**	-0.027**	0.030**	0.091**
Buys seafood 1x / week	-0.155***	-0.077***	0.028***	0.204***
Buys seafood more than 1x / week	0.065	0.013	-0.023	-0.055
Average seafood expenditure / shopping visit	-0.000	-0.000	0.000	0.000
Prefers fresh seafood	-0.051**	-0.015*	0.017**	0.050**
Prefers frozen seafood	0.004	0.001	-0.001	-0.004
WTP more for Midwest saltwater seafood	-3.945***	-1.136***	1.277***	3.804***
Eats out 1-3x / month	-0.067*	-0.021	0.021*	0.067*
Eats out 1x / week	0.009	0.002	-0.003	-0.008
Eats out more than 1x / week	-0.066	-0.026	0.018	0.074
Eats seafood 26-50% when eating out	-0.087**	-0.032*	0.024***	0.095**
Eats seafood more than 50% when eating out	-0.039	-0.013	0.012	0.040
Shrimp mostly eaten out	-0.078**	-0.025**	0.024**	0.079**
Salmon mostly eaten out	-0.085*	-0.035	0.022**	0.097
Lobster mostly eaten out	-0.073	-0.029	0.019*	0.083
Female	0.129***	0.048***	-0.035***	-0.141***
Age – 30 to 39 years	0.166*	0.016	-0.060*	-0.122**
Age – 40 to 49 years	0.163*	0.019**	-0.059*	-0.123**
Age – 50 to 59 years	0.269***	0.021	-0.095***	-0.195***
Age – 60 years and above	0.242***	0.045***	-0.079***	-0.208***
Married	0.039	0.012	-0.012	-0.038
Caucasian / White	-0.126*	-0.016***	0.045	0.096**
High School	0.025	0.007	-0.008	-0.023
College Degree	0.005	0.001	-0.002	-0.005
Income - $20,000 to $39,999	0.011	0.003	-0.004	-0.010
Income - $40,000 to $59,999	0.039	0.010	-0.013	-0.036
Income - $60,000 to $79,999	0.159**	0.018**	-0.057**	-0.120***
Income - $80,000 to $99,999	0.043	0.010	-0.015	-0.038
Income - $100,000 and above	-0.036	-0.012	0.011	0.037

'***', '**', '*' signify statistical significance of estimate at the 1%, 5% and 10% levels respectively.

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Table 3: Simulated probabilities of the effects of selected variables on willingness to pay for saltwater striped bass[1]

	≤$3.99 Prob($y$=0)	$4.00 - $4.99 Prob($y$=1)	$5.00 - $5.99 Prob($y$=2)	≥ $6.00 Prob($y$=3)
Buys seafood for home consumption 1 - 3x / month = 1	0.266	0.227	0.201	0.307
Buys seafood for home consumption 1 - 3x / month = 0	0.338	0.222	0.177	0.262
Buys seafood for home consumption 1x / week = 1	0.178	0.197	0.212	0.413
Buys seafood for home consumption 1x / week = 0	0.325	0.229	0.184	0.261
Eats seafood 26-50% when eating out = 1	0.212	0.199	0.201	0.388
Eats seafood 26-50% when eating out = 0	0.330	0.232	0.185	0.254

[1] Other variables are valued at their means.

Table 4: Simulated probabilities of WTP more for Midwest saltwater seafood with selected frequency of seafood consumption on the highest willingness to pay at least $ 6/lb(y = 3)[1]

	WTP 2% more	WTP 4% more	WTP 6% more	WTP 8% more	WTP 10% more
Buys seafood for home consumption 1-3x / month= 1	0.274	0.362	0.460	0.562	0.658
Buys seafood for home consumption 1-3x / month= 0	0.222	0.300	0.392	0.492	0.593
Eats seafood 26-50% when eating out = 1	0.344	0.440	0.542	0.640	0.728
Eats seafood 26-50% when eating out = 0	0.222	0.300	0.392	0.492	0.593

[1] Other variables are valued at their means.