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Environmentally Certified Hardwood Products: A Study of Consumers' Perceptions and Willingness to Pay

by

Kim Jensen, Paul Jakus, Burton English, and Jamey Menard

Agricultural Experiment Station
The University of Tennessee
Knoxville

Kim Jensen and Burton English are Professors of Agricultural Economics at the University of Tennessee. Paul Jakus is an Associate Professor in Economics at Utah State University. Jamey Menard is a Research Associate in Agricultural Economics at the University of Tennessee.

Please visit the Department's web site at http://web.utk.edu/~agecon/.

Additional copies of this report may be obtained from:

The University of Tennessee
Department of Agricultural Economics
302 Morgan Hall
Knoxville, TN 37996-4518
(865) 974-7231

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Abstract

This study examines consumers' perceptions about and willingness to pay for environmentally certified hardwood products (oak table, oak chair, oak shelving board). Residents in four areas were surveyed by telephone. Two areas were located in Tennessee and two were in Pennsylvania. In each state, telephone surveys were taken from residents in an urban area with low hardwood removals and a rural area with high hardwood removals. Results from the study show that about 44 percent of consumers would support environmental certification of hardwood products and would pay a higher price, 46 percent support certification but would not be willing to pay a higher price, and 10 percent do not support certification regardless of the costs. Models of willingness to buy a chair and a shelving board at specified premiums were significant while the model for a table was not. Consumers who indicated they would pay more for a certified hardwood product are willing to pay an estimated average of $11.23 on a $28.80 shelving board and $52.71 on a $199 chair. Among all consumers, the estimates of willingness to pay for the shelving board and chair are $4.83 and $22.67, respectively. The results suggest that interest in environmental issues and consumer awareness play important roles in willingness to pay. Frequent use of forests for recreation also has a positive influence on willingness to pay. In the case of the shelving board and the chair, the premium level had a negative influence on willingness to pay. The scope of the certification, partial (growing and harvesting only) or full (market channel) certification, does not appear to influence the support, willingness to pay, or premium amount in a significant or consistent way overall. This suggests that either consumers are primarily interested in certification at the harvest level or that further education efforts may be needed regarding potential benefits of a broader scope of certification.

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Environmentally Certified Hardwood Products: A Study of Consumers' Perceptions and Willingness to Pay

Introduction

Central objectives of forest products certification programs are to improve environmental quality and to promote sustainable forest management (Cabarle, *et al*.). Effective use of market-based tools, such as voluntary certification programs, not only requires modifying manufacturer behavior, but also developing consumer willingness to pay for certified products. Marketing goals associated with certification programs may include increasing consumer acceptance of, confidence in, and willingness to pay for certification programs, increasing market share, and product differentiation.

As noted by Kiker and Putz the "dominant institution influencing forest use and management is the market". In order for forest certification programs to be economically feasible, the programs must be profitable to the participants in the market channel, including those involved from harvest to those at the level of retailing. This means that the methods used in certified harvesting, manufacturing, and/or handling must either be cost competitive with uncertified methods or that consumers must be willing to pay a premium for the costlier certified products.

… methods used in certified harvesting, manufacturing, and/or handling must either be cost competitive with uncertified methods or that consumers must be willing to pay a premium for the costlier certified products.

Certification costs include expenditures for review and improved management practices (Carter and Merry). These costs may vary greatly depending

on the degree of product certification. The scope of environmental certification may be at only one level (*e.g.*, certification at the timber growing and harvesting level only) or through out its life cycle (Welch).

The purpose of this study is to ascertain:

- consumers' willingness to participate in a certified market by paying a premium for environmentally certified products,
- the premium consumers would be willing to pay for selected hardwood products, and
- how the scope of certification and demographics may influence willingness to pay for certified products.

Three specific products are examined, an oak table, an oak chair, and an oak shelving board.

The study differs from previous studies of consumers' attitudes and willingness to pay for certified products in several ways. *First*, this study analyzes whether the scope of certification impacts consumers' willingness to pay. *Second*, the respondents are allowed to express support for environmental certification, but not if it costs them more. Respondents are also allowed to state that they do not support environmental certification whether it costs them anything. By allowing respondents to

Study differs in several ways:

- **It includes an analysis of effects of scope of certification on whether consumers would be willing to pay more.**
- **Respondents are allowed to express support for environmental certification, but not if it costs them more.**
- **Respondents are asked to read a section on making hypothetical choices and asked to answer the questions about the products as realistically as possible.**
- **Three products of varying price levels are examined to see how the level of the expenditure might influence the premium amount.**

express support for environmental certification without being willing to pay higher prices, bias associated with "yea saying" may be minimized (Blamey, Bennett, and Morrison). Therefore, bias due to pressure to provide a "socially responsible" response of environmental support may be decreased, resulting in a more realistic estimate of consumers' behavior in the marketplace. *Third,* prior to answering questions regarding prices for environmentally certified products, the respondents are asked to read a section on making hypothetical choices and answer questions about the products as realistically as possible. The respondents are also reassured that some people may be willing to pay more for environmentally certified products, while others may not. Respondents are also reminded of their budget constraint. The purpose of including this section in the survey is to obtain more realistic estimates of premiums paid for specific products (Kotchen and Reiling; Cummings and Taylor). *Fourth*, three hardwood products (ranging from a relatively low-cost shelving board to a relatively high-cost dining table) are examined to see how their price levels influence the certified premium consumers would be willing to pay.

Previous Studies

Several studies have examined consumers' willingness to pay for environmentally certified wood products. Ozanne and Vlosky found that consumers were willing to pay more for certain certified wood products. They defined environmental certification as "…the forests from which the wood comes from are managed in a sustainable manner and that trees are harvested in an environmentally sound manner". The authors examined willingness to pay for a ready-to-assemble chair, a dining room set, a kitchen remodel job, and a new home. A limitation of this study was that it only included adult homeowners with incomes of $30,000 or more.

Winterhalter and Cassens found that among consumers with single or dual incomes of $50,000 or greater, 19 percent would be willing to pay more for certified wood products. Again, as with Ozanne and Vlosky's study, this study was targeted to higher income consumers.

Forsyth, *et al*. examined differences in willingness pay for certified products across several demographic characteristics: gender, place of residence, age, income and market segment (consumer or professional). No specific products were identified in the study, rather the broader category of wood products was examined. The results did not indicate age, gender, market segment, or place of residence influenced the purchasing decision. Spinazze and Kant found some correlation between premiums paid and gender and education.

In a study of European consumers' willingness to buy certified forest products, an inverse relationship between willingness to buy and price was found (Rametsteiner). Spinazze and Kant examined market potential of several certified wood products, including furniture. The results from their study were similar to Ramesteiner's in that lower-priced furniture items received higher percent premiums than did higher-priced furniture items.

Study Objectives

The objective of this study is to ascertain consumers' willingness to pay for environmentally certified hardwood products. Specific goals are to:

- measure the level of support and willingness to pay a premium for certified hardwood products,
- ascertain reasons for support or lack of support for certification,
- assess the level of premiums consumers will pay for certified hardwood products,

- assess how socioeconomic and demographic factors, participation in environmental groups, family members in forest products related industries, and proximity to forested areas may influence willingness to pay and level of premiums,
- assess how price levels may influence premiums paid, and
- develop consumer profiles for certified hardwood products.

Survey Data and Methods of Analysis

Survey Data

The survey data collection consisted of two phases. The first phase was a pretest mail survey of Tennessee residents. The second phase was the main field survey, designed, in part, using information gathered in the pretest. The steps in the survey process are outlined in Figure 1. The field survey consisted of two parts. In part one, a telephone survey was conducted to assess whether respondents supported or would be willing to pay a premium for certified wood products. In part two, respondents from part one who were willing to pay a premium were sent an information booklet regarding certification of hardwood products. Respondents receiving the information booklets were called to collect information regarding their willingness to buy three products (table, shelf, or chair) at specified premiums. A detailed description of each phase is presented below.

Phase I-Pretest Survey

The pretest mail survey of Tennessee residents was used to establish a preliminary distribution of residents' willingness to pay (WTP) for eco-labeled wood products. The WTP distribution estimated from this pretest was then used to choose an

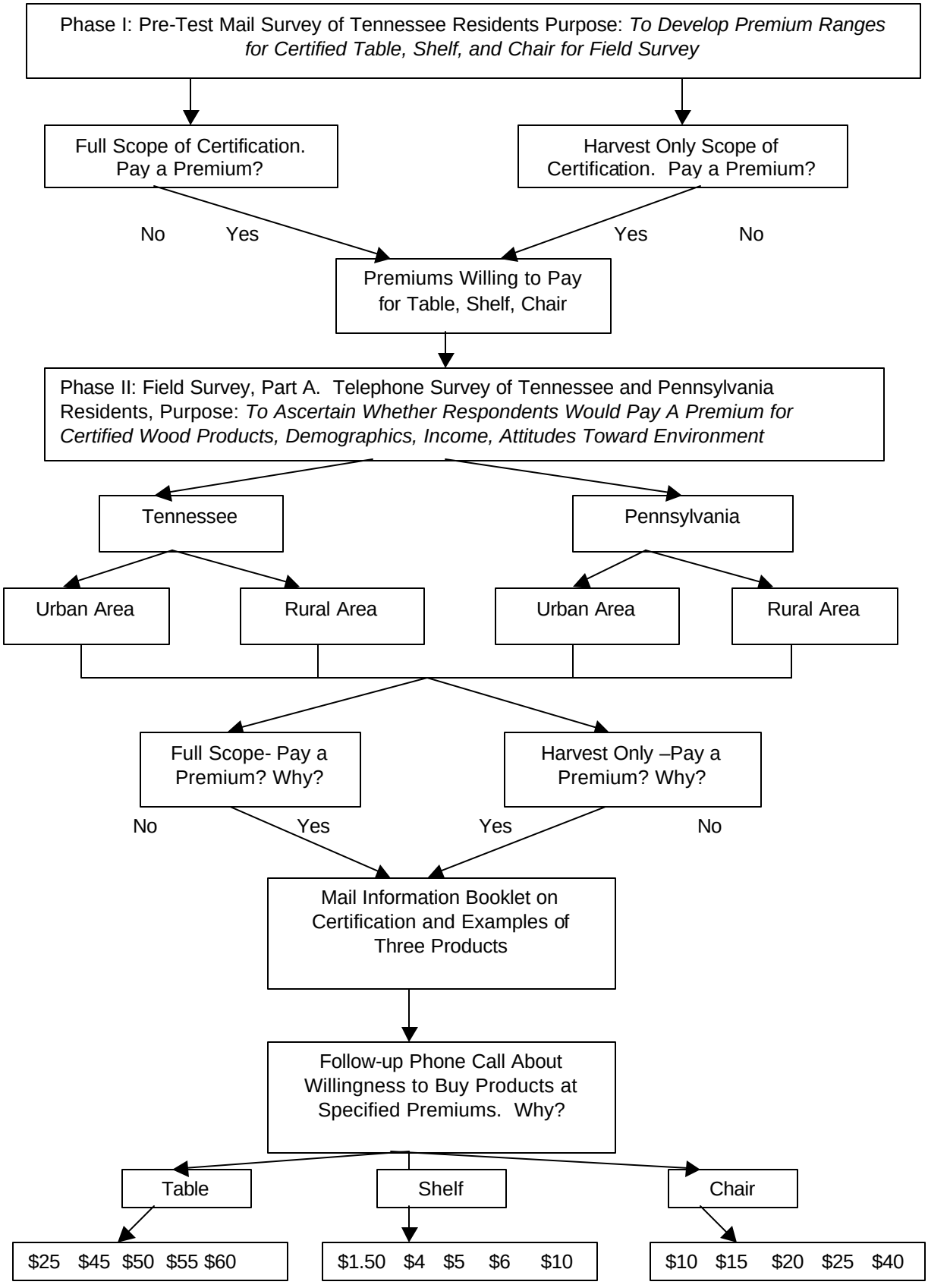


Figure 1. Survey Methodology

optimal experimental design for the full field survey. In particular, the preliminary survey was used to develop a price vector for the certified hardwood products evaluated in the second survey (following Boyle, *et al*.).

Pretest subjects were drawn from a random sample of Tennessee residents listed in telephone directories. A survey research firm drew 500 names/addresses. The sample was stratified, with no more than 200 names coming from the four major urban counties in the state (Davidson, Hamilton, Knox and Shelby). The surveys were coded and kept separate from the mailing list. Confidentiality of individual responses was assured in the survey. Of the pretest sample, 76 responded to the pretest survey.

The survey methods used in the study followed those outlined by Dillman. In April of 2000, a full-color mail survey was sent to the 500 residents randomly selected from telephone listings. About one week after the initial mailing, a reminder postcard was sent to residents who had not returned their surveys. About two weeks after the initial mailing of the survey, a follow up survey was sent to those who had not yet replied. The survey contained questions regarding willingness to pay more for certified hardwood products, amounts willing to pay for specific hardwood products, and socio-economic characteristics (See Appendix 2-2).

The survey contained a description of environmental certification. The description was worded as “Environmental certification means a product has passed a voluntary environmental screening process by an independent third party organization (not the wood products company, the wood products industry, or the government)”.

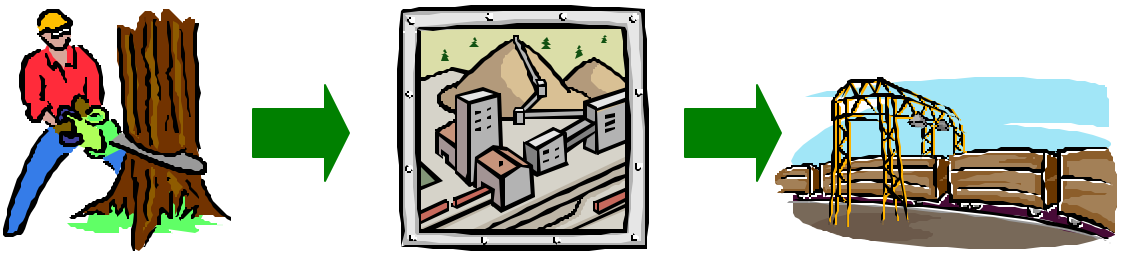
Two versions of the survey were mailed. The versions differed in the scope of the certification. The scope of the certification was described both verbally and visually. One group of respondents received a survey describing a certification process for

timber growing and harvesting methods only (partial certification). A second group received a survey in which the certification process included timber growing and harvesting, product manufacturing, and handling (full certification). Following a pictorial depiction of the certification processes (Figure 2), respondents were asked whether they had ever purchased environmentally certified wood products.

Respondents were presented with an environmental certification label that would appear on or near certified hardwood products. The label indicated whether the product had partial certification or full certification (Figure 3). After the label was presented, respondents were asked a question regarding their opinion of environmental certification and willingness to pay for environmentally certificated hardwood products. Respondents could answer that they "support environmental certification and would pay a higher price for hardwood products if they were certified", "support environmental certification but not if it requires paying a higher price for hardwood products", or "do not support environmental certification of hardwood products regardless of whether it costs me anything".

Those responding that they would pay more for environmentally certified hardwood products were then asked a series of questions regarding pricing of specific hardwood products. Prior to this series of questions, the respondents were presented with a reminder that this is a hypothetical situation and of their ability to pay for the products (following Cummings and Taylor, see Figure 4).

Timber growing and harvesting methods, product manufacturing, and product handling would be monitored to ensure that practices are used that help sustain our environment for current and future generations.



Timber Growing & Harvesting is Environmentally Certified

Product Manufacturing is Environmentally Certified

Product Handling is Environmentally Certified

Figure 2. Pictorial Depiction of Scope of Environmental Certification

Please examine this environmental certification label that might appear on or nearby hardwood products.

Figure 3. Example of Environmental Certification Label

The choices we are asking you to make are, of course, hypothetical. No one will force you to actually buy the product you choose and no one will collect a cash payment from you. This is a problem in studies such as this.

When people don't actually pay for the product they choose, they might not make the same decision as they would if they did have to pay. This is called "hypothetical bias". Hypothetical bias can cause our results to be biased, so that people in the hardwood products industry will get incorrect market information.

How can we get people to act the same way in both hypothetical and actual choices?

The only way is to ask you to carefully consider the choices. Ask yourself if you would ever buy this product and, if so, to think about the product choices and which product you would truly be willing to buy and how much you would pay.

Figure 4. Reminder of Potential for Hypothetical Bias and Ability to Pay

Three pictures of wood products (an oak table, an oak chair, and an oak shelving board) were then presented to the respondents (Figure 5). The respondents were reminded that these were simply examples of wood products, and they might wish to purchase a product of a different style, color, or type of wood. In the case of each product (*e.g*., the table), two identical pictures were shown so that the two products were identical in all attributes except for certification. The certification label was placed adjacent to the certified product. Dimensions for each product were also provided, as was the price for the uncertified product. The uncertified table was priced at $799, the uncertified chair at $199, the uncertified shelving board at $28.80. These prices were based on prices for representative products in the local market area. Respondents were then asked how much more they would pay for a product that was

Oak Dining Table

40 inches wide by 72 inches long
Environmentally Certified

Oak Chair
39” tall, Seat 19”w x 20”d
Environmentally Certified

Oak Shelving Board

1” x 10”, 6 feet long
Environmentally Certified

Figure 5. Examples of Product Pictures and Descriptions

environmentally certified. Demographic questions concluded the survey. Analysis of preliminary Phase I Pretest Survey data yielded the price vectors needed for the Phase II Field Survey.

Phase II-Field Survey

The second phase was the main field survey (See survey in Appendix 2-11). This survey was designed, in part, using information gathered in the pretest. Information to complete the field survey was gathered by telephone from randomly sampled residents of selected counties in Tennessee (Davidson, Hamilton, Hardeman, Knox, McNairy, and Wayne) and Pennsylvania (Allegheny, Clearfield, Elk, McKean, Montgomery, and Northampton).

Names/phone numbers were drawn by a listing service. The Human Dimensions Lab, University of Tennessee Department of Forestry, Wildlife, and Fisheries contacted approximately 2,000 people. Those who met eligibility criteria (described below) and who agreed to a second survey were sent a survey booklet and contacted again via telephone. All respondents were aged 18 or older. The surveys contained statements about individual responses being confidential and voluntary. All surveys were coded and the names/address codes were kept separate from the individual surveys. The University of Tennessee Human Dimensions Lab (headed by Becky Stephens) made the phone calls.

The counties in Tennessee and Pennsylvania were chosen on the basis of high concentrations of wood products industries/hardwood removals and from counties with high urbanization/low hardwood removals (See Figures 6 and 7).

State	Urban County/Low Hardwood Removals	Rural County/ High Hardwood Removals
Tennessee	Davidson, Hamilton, Knox	Hardeman, McNairy, Wayne
Pennsylvania	Allegheny, Northampton, Montgomery	Clearfield, Elk, McKean

In each case, the urban counties had population densities of greater than 500 people per square mile. These counties also had hardwood removals of less than 2 million cubic feet per year. The rural counties had population densities of less than 75 persons per square mile. These counties also had hardwood removals of 10 million cubic feet per year or greater (Source: Census Bureau. County Population Estimates as of July 1, 1999. http://www.census.gov, and Timber Product Output (TPO) Database Retrieval System as of 1996, http://srsfia.usfs.msstate.edu/rpa/tpo/).

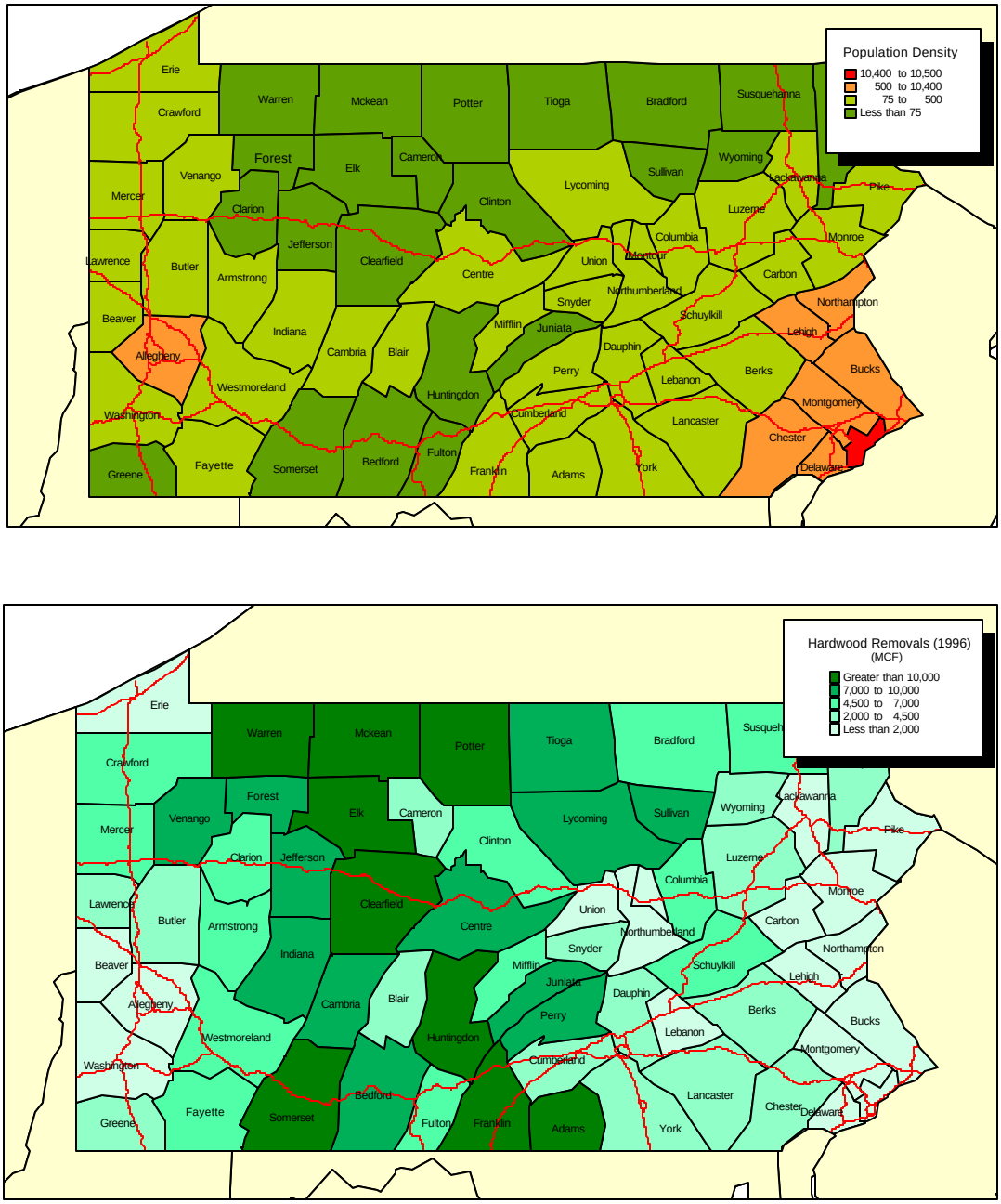
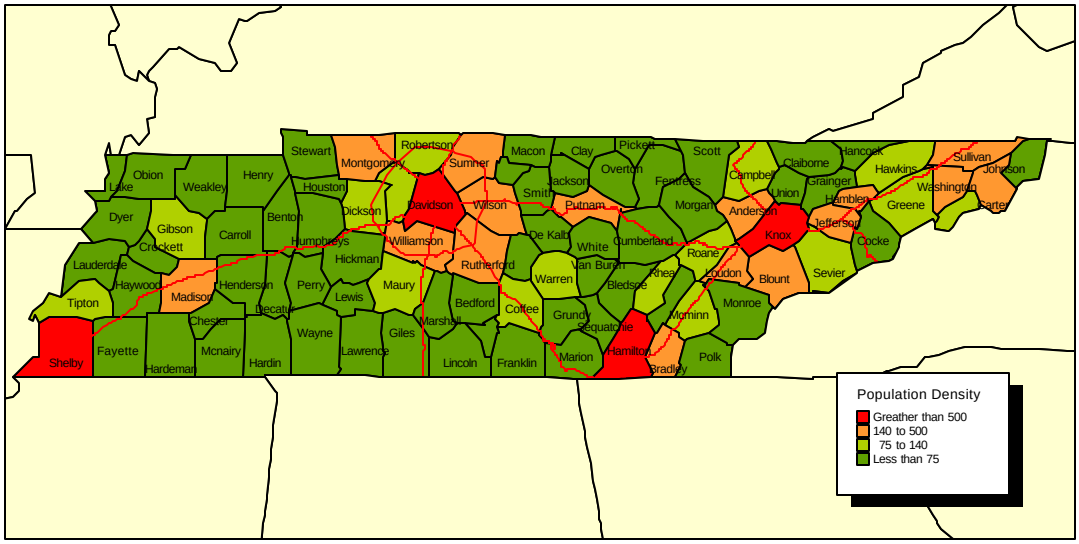


Figure 6. Pennsylvania: Population Density and Hardwood Removals, By County



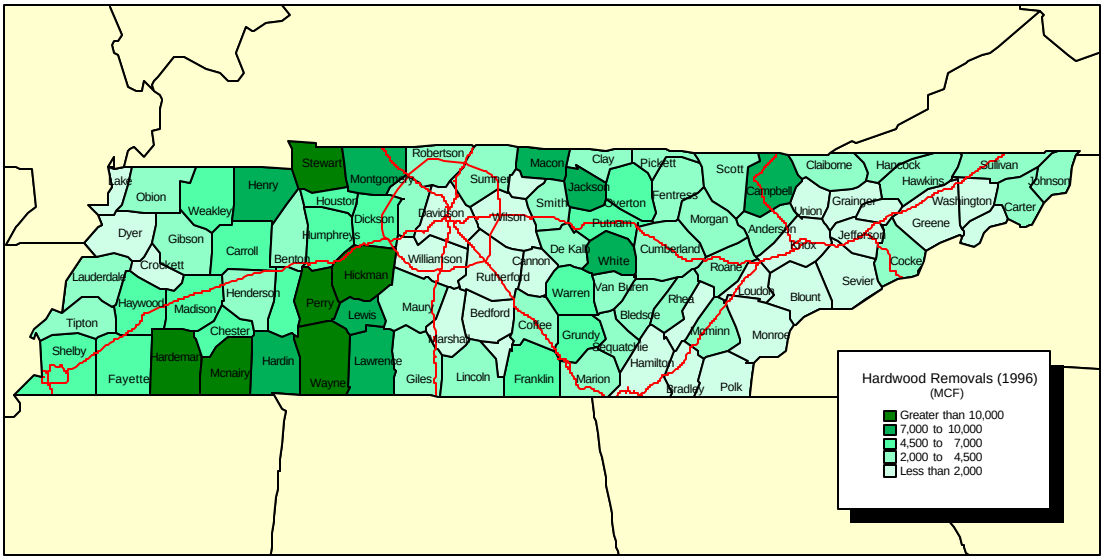


Figure 7. Tennessee: Population Density and Hardwood Removals, By County

Two versions of the survey were used in calling the respondents. As with the pretest, one version included a full scope certification, while the other included a partial (growing and harvesting only) scope of certification. The text for the certification processes was as follows:

FULL CERTIFICATION TEXT

Environmental certification means a product has passed a voluntary environmental screening process by an independent third party organization, not the wood products company, the wood products industry, or the government. All aspects of production, including timber growing and harvesting, product manufacturing, and handling methods, are monitored to ensure that practices are used that help sustain our environment for current and future generations. A product label assuring certification appears on or nearby the product.

PARTIAL CERTIFICATION TEXT

Environmental certification means a product has passed a voluntary environmental screening process by an independent third party organization, not the wood products company, the wood products industry, or the government. Timber growing and harvesting methods are monitored to ensure that practices are used that help sustain our environment for current and future generations. Product manufacturing and handling would not be monitored or certified. A product label assuring certification appears on or nearby the product.

Each respondent was randomly assigned to the full certification or partial certification treatments. After the caller read the certification text to the respondent, they were asked to indicate which statement most closely reflected their opinions about environmental certification of hardwoods. Respondents were asked to indicate why they support certification and would pay a higher price, why they support certification, but would not pay a higher price, or why they do not support environmental certification.

Information about income, education, age, type of residence, and household income of the respondents was also collected. Other information collected included participation in environmental organizations, frequency of recreational use of forests, purchases of environmentally labeled non-wood products, and whether any immediate family member was employed in a wood products related industry. This information was collected to assess how demographics, attitudes toward the environment, and involvement in a wood products related industry might influence willingness to pay for certified products. The information was useful in building consumer profiles for certified hardwood products.

Those who indicated (a) some positive willingness to pay a premium for eco-labeled hardwood products and (b) a willingness to participate in a second round survey were sent a survey booklet describing in detail the definition and scope of the certification process (See Appendix 2-19). The information booklet described the attributes of three different certified wood products. Environmental certification was defined again, and a graphic depicting the scope of the certification was displayed in the booklet. An example of a label that would be displayed near products was also included.

The booklet contained text that reminded the respondents of their ability to pay, the fact that the products are the same in all respects except for certification, and that the products represent examples. Also, the booklet contained the text encouraging the respondents to try and make as realistic a decision as possible, although this was only a hypothetical situation. Examples of the product pictures and descriptions are provided in Figure 5. The uncertified products' pictures did not contain the logo and were described as not environmentally certified.

In the second phone call, respondents were asked to refer to the product descriptions, pictures, and prices for uncertified products (See Appendix 2-27). The caller provided a randomly selected premium for the certified product. For each product, the respondents were asked to indicate which of the products (certified, uncertified, or neither) they would be willing to purchase at the given attributes, including price. The prices of the products were based on results from the preliminary survey conducted in Phase I of the study (See Table 6). The premium vectors for each of the certified products are shown in Table 1.

Table 1. Premium Vectors for Table, Shelving Board, and Chair Presented in Information Booklet

Table	Shelving Board	Chair
$25	$1.50	$10
$45	$4.00	$15
$50	$5.00	$20
$55	$6.00	$25
$60	$10.00	$40

The respondents were asked to indicate reasons why they supported certification and would be willing to pay more, supported certification, but would not pay more, or did not support certification.

Methods of Analysis

The data are analyzed with several methods. First, the results are presented using descriptive statistics, such as means and percents. Second, due to the small number of responses regarding premiums in the pretest survey, estimates of the mean premiums and confidence intervals are calculated using the bootstrapping technique.

Models are used to evaluate how certification scope, demographics, income, attitudes toward the environment, and location may influence willingness to pay for certified hardwood products using the data from the full field survey. These estimates are obtained using probit models to predict the probability that a person supports certification and has a positive willingness to pay for certified products. A different set of probit models are then used to estimate a conditional WTP for a given hardwood product, *i.e.*, given they are willing to pay some positive amount, exactly how much are they willing to pay? For the first probit model, respondents were asked to indicate if they are willing to pay an unspecified, but nonzero, premium for certified products to participate in the market (*Particip*). If they are willing to pay some positive value, then the second probit model estimates the probability a person would be willing to buy a product (*Table*, *Shelf*, *Chair*) at a specified premium. The probit models and calculations of WTP are presented in Appendix 1. The bootstrapping technique for estimating the mean premiums and confidence intervals for the pretest data is also outlined in Appendix 1.

Previous studies have produced mixed findings regarding the effects of demographics and income on willingness to pay for certification of forest products. For example, Forsyth *et al.* found the most likely market clusters to be willing to pay a premium for certified forest products included urban consumers. The two most likely sub-clusters were low income, young urban consumers and relatively old, high income, urban consumers. Other studies, such as those by Ozanne and Smith and Spinazze and Kant, found positive correlation with education level. Studies by Ozanne and Smith and Ozanne and Vlosky produced mixed results regarding the effects of education. In several cases, the studies were limited to homeowners. Based on findings from previous studies, homeownership, higher income, higher education, and urban residence are hypothesized to have positive influences on willingness to pay. The effects of age cannot be postulated *a priori*, because previous studies have produced mixed findings. Findings from previous studies have suggested that women may be more concerned about the environment than men (Spinaze and Kant), so the respondent being male is hypothesized to have a negative influence on willingness to pay. Label readership is hypothesized to have a positive influence on willingness to pay, because label readers will tend to be more aware of the product specifications and how the products are manufactured.

The full certification process is hypothesized to have a positive influence on willingness to pay for certified products relative to the partial (harvest-only) process. This is anticipated because the potential positive environmental effects of the full certification would be throughout the market channel, versus only at the harvest level. Recycling, contribution to conservation or hunting/fishing organizations, and frequent use of forests for recreation would be hypothesized to have a positive influence on

willingness to pay since these measures may reflect values the respondents place on the environment and forest resources. The premium amount is postulated to have a negative effect on willingness to pay, so as the premium level increases, the willingness to pay should decline.

Results

Phase I-Pretest Survey

Of the 500 surveys mailed to Tennessee residents, 78 addresses were undeliverable. Of the 422 deliverable surveys, 78 surveys were completed, giving a response rate of 18 percent. About 84 percent of the respondents to pretest survey were homeowners, over 95 percent were at least high school graduates, and on average were about 54 years old (Table 2). The most common household income category was $45,001-$60,000.

About 12 percent stated they had purchased wood products that were labeled as environmentally certified, 24 percent had not, and 64 percent did not know. Following presentation of the certification label, the respondents were asked to state the opinion that most closely reflected their views about certification. As displayed in Figure 8, nearly 37 percent would support/pay a higher price for environmentally certified products, while about 54 percent support certification, but would not pay a higher price. Less than 10 percent did not support certification.

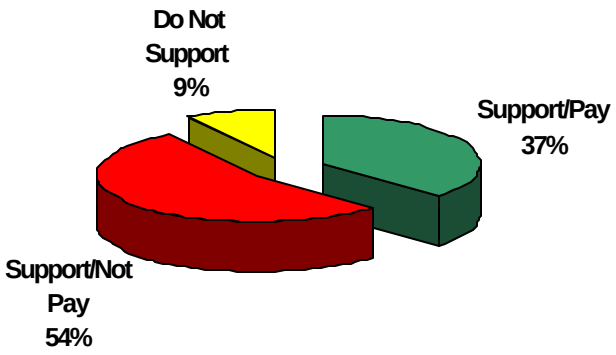


Figure 8. Support and Willingness to Pay for Environmentally Certified Hardwood Products-Pretest

Table 2. Characteristics of the Respondents to the Pretest Survey

Characteristic	Percent of Respondents
Type of Residence (N=75)	
Home owner	84.0
Highest Education Level (N=74)	
Less than High School Graduate	4.0
High School Graduate	29.3
Some College	24.0
College graduate	25.3
Post Graduate	17.3
Income Category (N=68)	
$25,000 or less	16.2
$25,001-$45,000	19.1
$45,001-$60,000	25.0
$60,001-$75,000	19.1
$75,001-$100,000	11.8
$100,000 or greater	9.0
Age (N=74)	(Mean) 53.8 years

The market participation (willingness to pay some non-zero premium) across scope of certification was calculated to see if there was any statistical association (Table 3). Surprisingly, about 57 percent of those who received a partial scope certification survey were willing to pay some positive amount, while only about 43 percent of those who received a full scope certification survey were willing to participate

in the market. However, the Chi-square test of association did not reveal a statistically significant association.

Table 3. Market Participation Across Scope of Certification

	Percent of Respondents (N=76) Scope of Certification	
	Partial	Full
Market Participant	57.1	42.9
Not Market Participant	70.6	29.4
Chi-Square	1.4	

The bootstrapped estimates for the mean premiums and 95 percent confidence intervals for the table, chair, and shelving board are presented in Table 4. In each case the lower bound of the confidence interval fell above zero. These results suggest that the premiums to be paid would be significantly different from zero at the 95 percent confidence level.

Table 4. Mean Premiums and Confidence Intervals from 1,000 Bootstrap Replications

		95 Percent Confidence Interval	
	Mean Premium	Lower Bound	Upper Bound
Table	54.94	39.43	74.52
Chair	24.62	18.08	32.45
Shelving Board	4.97	3.44	6.76

The premium respondents were willing to pay for the products was compared across scope of the certification, whether it was “partial” harvest-only certification or the “full” harvest, manufacturing, and handling certification (Table 5). For the oak table, the premium for the full certification process was $60.15 ($28.64-$100.71 95 percent confidence interval) whereas the premium for the partial process was $52.26 ($36.44-$73.05 95 percent confidence interval). The confidence intervals around the differences in WTP between the two certification processes (“full” premium - “partial” premium), with the exception of the shelving board, include negative values. The mean difference in

premiums between the full and partially certified shelving boards was positive, as were both the lower and upper bounds on the 95 percent confidence interval. These preliminary results indicate that respondents may be insensitive to the scope of certification.

Table 5. Mean Premiums, Premium Differences, and Confidence Intervals Across Scope of Certification and Demographics from 1000 Bootstrap Replications

Environmental Certification	Mean Premiums	95 Percent Confidence Interval Lower Bound	95 Percent Confidence Interval Upper Bound
Table			
Full	60.15	28.64	100.71
Partial	52.26	36.44	73.05
Difference	7.88	-31.26	50.11
Chair			
Full	30.34	15.00	49.44
Partial	21.56	15.88	27.81
Difference	8.78	-7.65	28.62
Shelving Board			
Full	7.50	4.66	11.29
Partial	3.45	2.05	4.94
Difference	4.06	.77	8.02

Phase II-Field Survey

Description

A total of 1614 responses were obtained for the first telephone survey. The responses were almost evenly split between the partial and full-certification processes, with 50.56 percent responding to the full certification survey and 49.44 percent responding to the partial certification survey. The responses were almost evenly divided between the two areas in Pennsylvania and the two areas in Tennessee (Table 6).

Table 6. Regional Location of Respondents

State/Region	Percent of Responses (N=1614)
Pennsylvania-Rural Forested Area	25.3
Pennsylvania-Urban	24.9
Tennessee-Rural Forested Area	24.8
Tennessee-Urban	25.0

Of the respondents, 53.2 percent were male, while 46.8 were female. As displayed in Table 7, about 83 percent resided in a home they owned. Over 35 percent stated high school was their highest level of education attainment, 21.7 percent stated some college, 21.1 percent stated college degree, and 12.4 percent stated post-graduate training. The highest percentages of respondents fell into the $50,000-$74,999 and less than $25,000 categories. The average age of the respondents was 50.1 years.

Table 7. Characteristics of the Respondents

Characteristics	Percent of Respondents
Home owner (N=1603)	83.2
Highest Education Level (N=1596)	
Less than High School Graduate	9.1
High School Graduate	35.6
Some College	21.7
College Graduate	21.1
Post Graduate	12.4
Income Category (N=1024)	
Less than $25,000	20.4
$25,000-$34,999	15.6
$35,000-$49,999	17.6
$50,000-$74,999	24.7
$75,000-$99,999	10.2
$100,000 or greater	11.4
	(Mean)
Age (N=1580)	50.1

Just over 22 percent of the respondents had an immediate family member employed in a wood products related industry such as construction, furniture manufacturing, sawmilling, logging, or woodworking (Table 8). As shown in Table 9, the rural areas of Tennessee had the highest percentages of respondents with family members employed in a wood products related industry.

Table 8. Employment of Immediate Family Members in Wood Products Related Industry

Immediate Family Member Employed in Wood Products Related Industry (for example, construction, furniture manufacturing, sawmilling, logging, or woodworking)	Percent of Responses (N=1610)
Yes	22.4
No	77.2
Don't Know	0.4

Table 9. Employment of Immediate Family Members in Wood Products Related Industry Across Area[a]

Immediate Family Member Employed in Wood Products Related Industry (for example, construction, furniture manufacturing, sawmilling, logging, or woodworking)	Percent of Respondents (N=1604)			
	Pennsylvania		Tennessee	
	Rural	Urban	Rural	Urban
Yes	28.2	15.7	32.3	13.9
No	71.8	84.3	67.7	86.1
Chi-square	56.8	***		

[a]The symbol '***' means significance at 99 percent confidence level, '**' means significance at 95 percent confidence level, and '*' means significant at 90 percent confidence level.

The majority of the respondents recycled paper, plastic, newspapers, or aluminum (Table 10). About 38 percent had contributed time or money to a conservation or environmental advocacy group, while about 28.6 had contributed time or money to a hunting or fishing group.

Table 10. Participation in Recycling and Environmental Organizations

	Percent of Responses		
	Yes	No	Don't Know
Recycled paper, plastic, newspapers, or aluminum in past month (N=1612)	76.4	23.4	0.2
Contributed time or money to a conservation or environmental advocacy group (Examples include Nature Conservancy, National Wildlife Federation, or Sierra Club) (N=1612)	37.8	60.8	1.4
Contributed time or money to a hunting or fishing group (Examples include Ducks Unlimited or Trout Unlimited) (N=1611)	28.6	70.9	0.5

One-third of the respondents used forests for recreation purposes at least once per month (Table 11). However, over 44 percent used forests for recreation purposes less than four times a year.

Table 11. Frequency of Use of Forest for Recreation Purposes

Frequency of Use Forest for Recreation Purposes (includes picnics, hunting, hiking, leaf-viewing)	Percent of Responses (N=1609)
Less than once per year	22.2
One to three times per year	22.6
Four to six times per year	12.9
Seven to eleven times per year	8.0
At least once per month	32.7
Don't Know	1.6

Nearly 50 percent of the respondents had purchased environmentally labeled non-wood products, such as dolphin safe tuna or pesticide free product (Table 12). About 13 percent did not know if they have ever purchased these types of products.

Table 12. Past Purchase of Environmentally Labeled Non-Wood Products

	Percent of Responses (N=1610)		
	Yes	No	Don't Know
Purchased environmentally labeled non-wood products (examples: dolphin safe tuna or pesticide free produce)	49.3	37.3	13.4

Nearly 60 percent of the respondents always or often read labels on products they were purchasing for the first time (Table 13). Another 26 percent read the labels sometimes.

Table 13. Frequency of Reading Labels on Products Purchasing for First Time

How Often Read Labels on Products When Purchasing for First Time	Percent of Responses (N=1606)
Never	5.3
Almost Never	8.1
Sometimes	26.3
Often	30.0
Always	29.1
Don't Know	1.2

About 62 percent of the respondents had purchased wood products during past year, while about 38 percent had not (Table 14). About 57 percent planned to purchase wood products during the coming year, 34 percent did not, and just under 9 percent did not know.

Table 14. Purchases and Planned Purchases of Wood Products

	Percent of Responses (N=1614)		
	Yes	No	Don't Know
Purchased wood products during the past year (examples include wood furniture, lumber, shelving)	61.8	38.1	0.1
Plan to purchase wood products during the next year	57.2	34.0	8.8

The majority of the wood purchases or planned purchases by the respondents were for use in their homes/residences (Table 15). About 8 percent were for both commercial and residential use.

Table 15. Purposes of Purchases/Planned Purchases of Wood Products

Purpose of Wood Products Purchases/ Planned Purchases	Percent of Responses (N=1178)
Commercial	2.5
Home/Residence	88.9
Both	8.4
Don't Know	0.2

As displayed in Figure 9, about 38 percent did not know whether they had ever purchased wood products that were labeled as environmentally certified, while 11 percent said they had, and 51 percent stated they had not (N=1611).

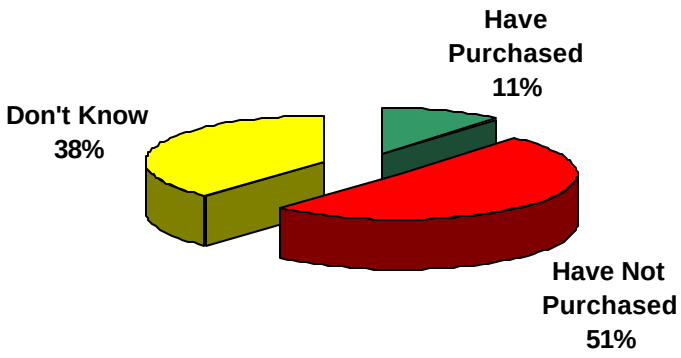


Figure 9. Prior Purchases of Environmentally Certified Wood Products

About 7 percent of the respondents responded "Don't Know" in response to a question regarding support for environmental certification and willingness to pay (N=1590). Among those with an opinion, 44 percent supported environmental certification of hardwood products and would pay a higher price (Figure 10).

However, 46 percent supported certification, but would not pay a higher price for certified products. About 10 percent did not support certification. As indicated by the chi-square value in Table 16, among those with an opinion, no significant association between support/market participation and scope of certification was found. If the scope of certification were important to consumers, we would have found a greater proportion of those receiving the "full certification" treatment to have had a positive WTP a premium relative to those receiving the "partial certification" treatment. Thus, we have preliminary evidence that "scope" might not play a role in consumers' WTP for certified wood products.

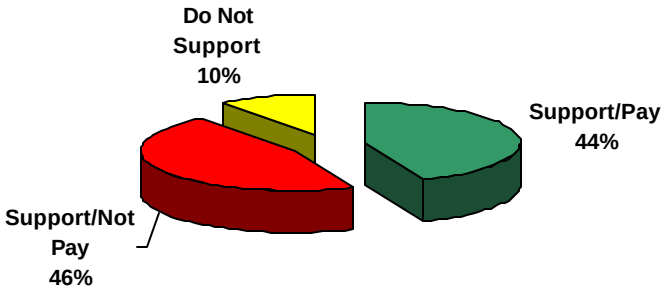


Figure 10. Support and Willingness to Pay for Certified Hardwood Products

Table 16. Support for Environmental Certification and Market Participation for Certified Hardwood Products

	Percent of Responses (N=1474)		
	Full Certification	Partial Certification	All
Support environmental certification and would pay a higher price for hardwood products if they were certified.	44.3	43.2	43.7
Support environmental certification, but not if it requires paying a higher price for hardwood products.	45.0	47.1	46.1
I do not support environmental certification of hardwood products regardless of whether it costs me anything,	10.7	9.7	10.2
Chi-Square	0.8		

Among those indicating they supported environmental certification, but not if it costs anything more, about 34 percent held the opinion because they could not afford to pay higher prices (Table 17). Just over 13 percent stated this because they did not believe it costs any more to make a certified product, while 15 percent believed the manufacturers should not charge higher prices even if it costs more to make a certified product. About 36 percent cited other reasons. A listing of other reasons for not being willing to pay more is presented in Appendix 2 (page A2-36).

Table 17. Reasons For Not Willing to Pay Premiums for Certified Hardwood Products

Reasons For Not Willing to Pay More	Percent of Responses (N=597)		
	Full Certification	Partial Certification	All
Can not afford to pay higher prices	34.5	37.2	35.9
Do not believe it costs any more to make a certified product	15.4	11.2	13.2
Believe manufacturers should not charge higher prices even if it costs more to make certified products	13.6	17.1	15.4
Other	36.5	34.5	35.5
Chi-Square	3.6		

About 18 percent of the respondents receiving the full scope of certification surveys and did not support certification, stated they did not believe environmental certification would work (Table 18). This can be compared to the nearly 13 percent stating this reason for not supporting the partial certification. Other reasons are listed on page A2-44.

Table 18. Reasons for Not Supporting Environmental Certification of Hardwood Products

Reasons For Not Supporting Environmental Certification	Percent of Responses (N=127) Full Certification	Partial Certification	All
Do not believe environmental certification will work to improve the environment	18.5	12.9	15.8
Other causes are of higher priority than the environment	6.2	6.5	6.3
Companies should be regulated rather than using voluntary certification	9.2	1.6	5.5
Other	66.1	79.0	72.4
Chi-Square	4.7		

Of the 644 respondents who said they would be willing to pay more, 516 agreed to participate in the follow-up survey regarding pricing (Table 19). Of these, a total of 376 went on to respond to the follow-up survey used to estimate the size of the premium.

Table 19. Willingness to Buy Product at the Specified Premium

	Percent		
	Table (N=374)	Shelving Board (N=375)	Chair (N=376)
Environmentally Certified Product	75.7	69.6	71.0
Not Environmentally Certified Product	19.5	26.9	24.5
Neither	4.0	1.6	3.4
Don't Know	0.8	1.9	1.1

As shown in Table 20, the percent that would purchase the certified table at a $25 premium was 89, compared with 80 percent at the premium of $60. However, it should be noted that a negative correlation between the premium (price) and the percentage willing to pay the premium (i.e., continuously declining percentages of respondents willing to purchase the certified table, as one reads Table 21 from left to

right) was expected. This was not the case. The chi-square test of association did not reveal a significant degree of association between the premium level and the product selected

Table 20. Choice Between Uncertified and Certified Products Across Premium Level: Table

	Percent of Respondents Selecting the Product At the Specified Premium (N=356)				
Product	$25	$45	$50	$55	$60
Uncertified ($799)	10.8	27.8	20.8	21.8	20.3
Certified ($799+premium)	89.2	72.2	79.2	78.2	79.7
Chi-Square	6.2				

The percent who would choose the certified chair over the uncertified chair dropped from 88 percent at the $10.00 premium to 59 percent at the $40.00 premium (Table 21). The data for the certified chair follows the expected pattern. As the price premium for the chair increases, the percentage of respondents willing to purchase the chair declines. The chi-square test of association indicates a significant association between the product selected and the premium.

Table 21. Choice Between Uncertified and Certified Products Across Premium Level: Chair[a]

	Percent of Respondents Selecting the Product At the Specified Premium (N=359)				
Product	$10.00	$15.00	$20.00	$25.00	$40.00
Uncertified ($199)	12.1	21.9	22.7	30.4	40.9
Certified ($199+premium)	87.9	78.1	77.3	69.6	59.1
Chi-Square	16.2	***			

[a]The symbol '***' means significance at 99 percent confidence level, '**' means significance at 95 percent confidence level, and '*' means significant at 90 percent confidence level.

The percent who would be willing to purchase the certified shelving board over the uncertified one dropped from 88 percent at the $1.50 premium to 56 percent at the $10.00 premium (Table 22). For the certified shelving board, the relationship between

the premium and the percentage of respondents willing to purchase the certified product followed the expected pattern. A significant degree of association between the type of board the respondents would be willing to purchase and the premium level was found.

Table 22. Choice Between Uncertified and Certified Products Across Premium Level: Shelving Board[a]

	Percent of Respondents Selecting Product At the Specified Premium (N=362)				
Product	$1.50	$4.00	$5.00	$6.00	$10.00
Uncertified ($28.80)	12.1	21.3	24.0	36.8	44.3
Certified ($28.80+premium)	87.9	78.7	76.0	63.2	55.7
Chi-Square	22.7	***			

[a]The symbol '***' means significance at 99 percent confidence level, '**' means significance at 95 percent confidence level, and '*' means significant at 90 percent confidence level.

The most commonly cited reason for choosing the certified table, shelving board, or chair over the uncertified product was that the respondent believed the protection of the environment is "priceless" (Table 23). This was followed by the reason that the respondents believe the added cost of certification is worth it.

Table 23. Reasons For Choosing Environmentally Certified Product

	Percent		
Reasons	Table (N=283)	Shelving Board (N=261)	Chair (N=267)
Can Afford the Higher Price	1.1	2.3	1.1
Believe the Added Costs of Certification are Worth It	39.6	37.2	39.3
Believe Protection of the Environment is "Priceless"	51.9	53.6	51.7
Other	5.6	5.4	6.4
Don't Know	1.8	1.5	1.5

The majority of the respondents who did not choose the environmentally certified product over the uncertified one did so because they could not afford the higher price (Table 24). The highest percentage stating this was for the table.

Table 24. Reasons For Not Choosing Environmentally Certified Product

Reasons	Table (N=73)	Percent Shelving Board (N=101)	Chair (N=92)
Can Not Afford the Higher Price	64.4	55.5	54.3
Do Not Believe Added Costs of Certification are Worth It	13.7	8.9	9.8
Other	21.9	34.6	34.8
Don't Know	0.0	1.0	1.1

Among those who did not choose either product, the most often cited reason was they could not afford either product (Table 25). The highest percentage stating they could not afford either product was for the table.

Table 25. Reasons Why Did Not Choose Either Product

Reasons	Table (N=15)	Percent Shelving Board (N=6)	Chair (N=13)
Can Not Afford Either Product	86.7	66.7	69.2
Would Never Purchase a Product Like This	13.3	16.6	15.4
Other	0.0	16.7	15.4
Don't Know	0.0	0.0	0.0

Models of Willingness to Pay

Tables 20 through 22 showed the simple relationship between the price premium and respondents willingness to purchase environmentally certified wood products. A number of other factors, however, may also influence a person's decision to purchase certified wood products. For these analyses, probit models are used to account for

these other factors. The variable definitions for the probit models are shown in Table A.1.

Probit Model #1: Estimating the Probability of Market Participation for Certified Products

The estimated probit model of the probability that a person is a market participant (will pay a non-zero premium for certified wood products) is displayed in Table A.2 (page A1-7). This model corresponds to Equation 1a in Appendix 1 (page A1-2). A negative sign on a coefficient indicates that a respondent with that characteristic is less likely to be a market participant than those who do not share that characteristic. Similarly, a positive coefficient indicates that a respondent with that characteristic is more likely to be a market participant relative to others who do not share that characteristic.

Overall, the equation reported in Table A.2 was highly significant ($\div^2 = 97.52$) and correctly predicted over 62 percent of the responses. The parameter estimates of this model suggest that, relative to females, males are less likely to be market participants. Homeowners are less likely to be market participants relative to those who do not own their homes. Further, those who have made contributions to hunting and fishing organizations in the past are less likely to be market participants for certified products. Those who live in urban areas, had recycled in the last month, had made contributions to environmental conservation organizations, had used forest forests for recreation more than 7 times per year, and read product labels always or often were more likely to be market participants than those who did not share these characteristics.

One of the design elements of this study—state of residence (Pennsylvania or Tennessee)—did not have a statistically significant effect in the model. In addition, other specifications of this model indicate that scope of certification, age, or family

member employed in a wood products related industry did not affect the probability that a person would be a market participant. This result was contrary to expectations.

Probit Model #2: Estimating Conditional Willingness to Pay for Each Certified Hardwood Product

The probit model results presented in Tables A.3 through A.5 (pages A1-7 through A1-9) correspond to Equation 1b in Appendix 1 (page A1-2). These models estimate the probability that a respondent said that he or she would buy the certified wood product at a specified premium (price). The parameters estimated by each of these models can then be derived via Equation 2 to estimate a conditional willingness to pay (page A1-3). The variance of the willingness to pay estimates is calculated using the delta method outlined in Equation 4 (page A1-5).

We would expect that as the premium rises, the likelihood that a person would buy the certified product falls. Thus, we expect a negative sign on the premium parameter. Second, we expected that the scope of the certification process would impact WTP—people would pay more for a product that has been certified through the supply chain as opposed to a product that has been certified only at the harvest level. Thus, we expected a positive sign on the certification variable that indicates if the person received the "full" certification treatment. Finally, we expected that household income *may* affect WTP, but probably only for the costlier certified products (*i.e.*, the table). Statistically significant income effects are generally only observed when the cost to the respondent represents a relatively large proportion of household income.

Certified Table

The probit model of WTP for the certified table was, by far, the most disappointing of all the WTP models (Table A.3). Overall, the equation was not statistically significant ($\div^2 = 3.25$). Although the criterion of correct predictions appears

satisfactory, it is important to note that the model predicts that *every* respondent will buy the certified table regardless of income, scope, or premium level. Thus, the model has very little predictive capability. The income variables, the scope of certification, and the premium had insignificant effects on the respondents' willingness to buy the table. About 81 percent of those willing to pay would buy the table at the specified premium. Using the estimates from the model and the actual values for the explanatory variables, the estimate of the conditional willingness to pay (WTP|Particip=1) is $164.99. The standard error for the estimate is very large (about $127.17) such that the 95 percent confidence interval includes the value $0. Thus, there is very little we can say regarding WTP for the certified table.

Certified Shelving Board

The model of willingness to pay for the certified hardwood shelving board, appearing in Table A.4, is highly significant ($\div^2 = 31.60$) and correctly predicts over 72 percent of the responses. The model is consistent with *a priori* expectations in that the price effect was negative and statistically significant. None of the income variables was significant, indicating (as expected) no income effects. Contrary to expectations, however, the full scope of certification has a negative influence on willingness to buy shelving at the specified premium. About 72 percent would buy the shelf at the specified premium. The conditional WTP estimate for the shelf is $11.23, with a standard error of $1.83. The unconditional WTP for the shelf is estimated at $4.83.

Certified Chair

The model for WTP for the certified chair is presented in Table A.5. Overall, the model is significant at the 95 percent level of confidence ($\div^2 = 13.46$) and correctly predicts approximately 76 percent of the responses. The model shows that the

premium amount has a significant negative effect on willingness to buy the product, conforming to expectations. However, the scope of certification does not have a significant influence. Among the income variables, all are positive (as would be expected), but only one was significant (income between $35,000 and $49,999). About 77 percent would buy the chair at the specified premium. The conditional willingness to pay for the certified chair is estimated at $52.71, with a standard error of $11.57. The unconditional willingness to pay is estimated at $22.67.

Profiles of Consumers Willing to Pay a Premium for Certified Products

The characteristics of those willing to pay a positive premium and those not willing to pay a premium are displayed in Table 26. Two examples of profiles of those least willing and most willing to pay for certified hardwood products are shown in Table 26. Of those who are willing to pay a positive premium, more are urban, Pennsylvanian, female, recyclers, contributors to conservation organizations, non-contributors to hunting/fishing organizations, frequent users of the forests, label readers, and non-homeowners compared to those who are not willing to pay a premium.

Table 26. Characteristics by Market Participation for Certified Hardwood Products

	Percent of Those	
	Participant (N=606)	Not Participant (N=797)
Urban	55.6	47.0
Tennessee	49.7	48.8
Male	50.5	58.0
Recycled in Past Month	81.3	73.6
Contributed to Conservation Organization	47.7	32.9
Contributed to Hunting/Fishing Organization	26.7	31.2
Use Forests At Least Seven Times Per Year	46.7	39.5
Read Labels On Products Always or Often	69.2	52.4
Home/Condo Owner	80.1	87.3

The probabilities of market participation for the two profiles, along with the estimates of unconditional willingness to pay are shown in Table 27. Notably, the first profile has less than a 17 percent chance of market participation, while the second profile has nearly a 78 percent chance. The estimates of unconditional WTP for the table, shelf, and chair for profile 2 are over four times that of profile 1.

Table 27. Profiles by Market Participation, Estimated Probability of Market Participation, and Unconditional WTP for the Table, Shelving Board, and Chair

Profiles		Probability of Market Participation	Unconditional WTP for: Table	Shelving Board	Chair
Profile 1	Male, do not recycle, do not contribute to conservation, contribute to a hunting/fishing organizations, do not use forests for recreation frequently, not a frequent label reader, home/condo owner	.1650	$27.22	$1.85	$8.70
Profile 2	Female, recycle, contribute to conservation, do not contribute to a hunting/fishing organizations, use forests for recreation frequently, frequent label reader, not home/condo owner	.7793	$128.58	$41.08	$8.75

Conclusions and Implications

The results from this study suggest that a viable demand for environmentally certified hardwood products exists. About 44 percent of the respondents stated that they would be willing to pay some premium for certified hardwood products. The profile of a person most likely to be a market participant for certified products is female,

recycles, contributes to conservation organizations, and does not contribute to hunting/fishing organizations, uses forests for recreation frequently, reads labels on products before purchasing them, and is not a home/condo owner. These results suggest that interest in environmental issues and consumer awareness, as demonstrated by label readership, play important roles in willingness to pay. The finding that females are more likely to be market participants than males is similar to findings regarding environmental issues from previous studies.

The respondents who indicated they would pay more are willing to pay an estimated average of $164.99 on a $799 table, $11.23 on a $28.80 shelving board, and $52.71 on a $199 chair. The estimates of unconditional willingness to pay for the table, shelving board, and the chair are $70.95, $22.67, and $4.83, respectively.

For both the shelf and the chair, the premium has a negative influence on willingness to buy the product. The results are consistent with expectations. As the price of the product rises, the amount demanded should fall. The estimates of average willingness to pay fell outside the ranges provided to the respondents, with the values being higher than expected. However, it should be recognized that these values are conditional on the respondent indicating a willingness to participate in the market by paying some positive premium for certified hardwood products. These unexpected results may reflect too narrow a range of premiums presented to the respondents. Even at the highest premiums, over 70 percent indicated they would purchase the certified table, and over 54 percent stated they would purchase the certified shelving board and chair. The estimates from the table model should be used with caution, since the model was not significant overall.

The fact that income does not appear to significantly influence the willingness to buy two of the three products was surprising. It was anticipated, based on past studies, that higher income levels would increase the likelihood that the respondent would be willing to buy the certified product.

Among those who were not willing to pay more, the most often cited reason was that the respondent did not believe he/she could afford to pay more. However, some respondents did not believe that it costs more to make a certified product or that the companies should certify products regardless of an extra cost. This result could indicate the importance of clear explanations in product labeling or advertising indicating why certified products may be costlier to manufacture. The most often cited reasons for willingness to pay more are the importance of the environment and the feeling certification is worth the additional costs.

The scope of the certification, partial or full certification does not appear to consistently influence the willingness to pay. This suggests that either consumers are primarily interested in certification at the harvest level or that further education efforts may be needed regarding the scope of certification.

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APPENDIX 1

Models of Willingness to Pay

The models of willingness to pay consist of two stages. First, the model of market participation is estimated using a probit model. Second, for those indicating they would participate in the market, models of willingness to pay specified premiums for products are estimated using probit models. The binary responses used in the probit models can take on the following values:

Probit Model 1: Willingness to pay nonzero premium (market participation):

Particip=1 if willing to participate in the market by paying a nonzero premium for certified hardwood products, 0 otherwise

Probit Model 2: Willingness to buy at specified premium:

Table=1 if willing to buy the table at a specified premium, 0 otherwise

Shelf=1 if willing to buy the shelf at a specified premium, 0 otherwise

Chair=1 if willing to buy the chair at a specified premium, 0 otherwise.

The values for *Table*, *Shelf*, or *Chair* are not observed, unless respondents have indicated they would be willing to pay some nonzero premium for certified hardwood products (*Particip*=1). The possible outcomes and their probabilities can be expressed as follows:

Equation 1a.–1b.

$$a.\ \Pr(Particip = 1) = \Phi(\alpha + \beta X)$$

$$b.\ \Pr(Table = 1 \mid Particip = 1) = \Phi(\delta + \gamma Z + \theta R)$$

where α, β, δ, γ, and φ are parameters to be estimated, and Φ is the normal distribution (Greene). The matrices *X and Z* include demographics and several other factors (See Table A.1). In addition to the other explanatory variables used in the model described above, a premium variable, *R*, is included in each of the estimated equations for Table, Chair, and Shelf. While the magnitudes on coefficients from each probit model cannot be interpreted directly, the sign of each coefficient can. The significance of the overall model is evaluated with a chi-square likelihood ratio test (LLR).[1] The significance of the coefficients is evaluated with t-tests.

The estimate of the conditional willingness to pay can be obtained by the following:

Equation 2

$$(WTP \mid Particip = 1) = (\delta + \gamma Z)/ - \beta ,$$

where the parameters δ, γ, and φ are estimated via Equation 1b. The calculated values for willingness to pay for each of the three products are conditional WTP estimates, because they are conditional on the respondent indicating willingness to pay some nonzero premium. The estimated coefficients can also be used to form profiles of those most likely to be willing to pay premiums for the environmentally certified products. An unconditional willingness to pay can be estimated by taking a probability-weighted sum of the two WTP outcomes:

[1]The Log-Likelihood Ratio Test (LLR) compares the log-likelihood function of the model if only the intercept was included with the log-likelihood of the model and is calculated as LLR (Restricted to Intercept)-LLR (Not Restricted).

Equation 3

$$\{P(Particip = 0)\times 0\} + \{P(Particip = 1)\times (WTP \mid Particip = 1)\},$$

where the probabilities may be taken from a simple calculation using the raw data (the percentage saying that they were or were not willing to pay a nonzero premium) or from the probit model in Equation 1a.

Calculating Confidence Intervals

Bootstrapping is a general technique for empirical estimation of sample distributions (Effron and Tibshirani). The method is particularly useful for computing confidence intervals and making tests of significance where sample sizes are relatively small, as in the pretest portion of this study. Based on the central limit theorem, bootstrapping involves repeated resampling from the data under the assumption that the original data set consists of an unbiased, representative random sample. Consider a sample of size *n*, where one is interested in calculating the mean of the sample and determining if the mean is different from zero. The commonly used parametric statistical procedure would involve calculating the mean and standard error, followed by a hypothesis test. With small samples, the estimated standard error can be quite large. Bootstrapping involves drawing *B* samples of size *n*, with replacement, from the original data. The mean is calculated for each of the *B* samples, so that one eventually ends up with a $B \times 1$ vector of bootstrapped estimates of the sample means. By ordering the estimates from lowest to highest, one obtains an empirical distribution of the mean. If, say, *B*=1000, one estimates a 95 percent confidence interval using the 26th and 975th values in the list (*i.e.*, dropping the bottom and top 2.5 percent of the distribution).

The bootstrap (with *B*=1000) is used to calculate the mean premiums the respondents are willing to pay for each wood product (table, chair, or shelving board) across scope of certification. For example, the differences between the 1,000 estimates for the premiums for the full certification and the harvest only certification processes are calculated. The mean and confidence intervals for the 1,000 differences are then calculated. If the mean and the confidence intervals are all positive, the inference is that the premiums for the full certification are greater than for the partial certification within a 95 percent confidence level.

In other cases one may use the "delta method" to estimate the variance of a function of random variables (Greene, pp. 330-31). The delta method is used to estimate the variance of the conditional WTP estimates,

Equation 4

$$Var(WTP) = (\partial WTP / \partial \boldsymbol{b}')Var(\boldsymbol{b})(\partial WTP / \partial \boldsymbol{b}')'$$

where *WTP* is given by equation 2, the *â* parameters (random variables) are estimated according to the probit model of equation 1, and *Var(â)* is the variance-covariance matrix of the model.

Table A.1. Variable Definitions

Variable	Definition
Included in Willingness to Buy Products Equation (Z variables):	
Full Scope of Certification	1 if received survey with full scope of certification, 0 if received survey with partial (growing and harvesting only) scope of certification
Income $25,000-$34,999	1 if income $25,000-$34,999, 0 otherwise
Income $35,000-$49,999	1 if income $35,000-$49,999, 0 otherwise
Income $50,000-$74,999	1 if income $50,000-$74,999, 0 otherwise
Income At Least $75,000	1 if income $75,000 or greater, 0 otherwise
Included in Willingness to Buy Equation (R variables):	
Premium (Table)	$25, $45, $50, $55, $60
Premium (Shelf)	$1.50, $4, $5, $6, $10
Premium (Chair)	$10, $15, $20, $25, $40
Included Market Participation Equation (X variables):	
Urban	1 if reside in urban county, 0 otherwise
Tennessee	1 if reside in Tennessee, 0 otherwise
Male	1 if male, 0 otherwise
Recycled in Past Month	1 if recycled in past month, 0 otherwise
Contributed to Conservation Organization	1 if have ever contributed to a conservation organization, 0 otherwise
Contributed to Hunting/Fishing Organization	1 if have ever contributed to a hunting/fishing organization, 0 otherwise
Use Forests At Least Seven Times Per Year	1 if use forests for recreation at least seven times per year, 0 otherwise
Read Labels On Products Always or Often	1 if read labels on products before purchasing for the first time always or often, 0 otherwise
Home/Condo Owner	1 if reside in home or condo they own, 0 otherwise
Dependent Variables:	
Particip	1 if willing to participate in the market by paying a premium for environmentally certified hardwood products, 0 otherwise
Table	1 if willing to pay the specified premium for the table, 0 otherwise
Shelf	1 if willing to pay the specified premium for the shelf, 0 otherwise
Chair	1 if willing to pay the specified premium for the chair, 0 otherwise

Table A.2. Estimated Probit Model of Market Participation for Certified Hardwood Products[a]

Variable	Estimated Coefficient	Standard Error	T Statistic	
Intercept	-.44279	.14054	-3.151	***
Urban	.12420	.07562	1.642	*
Tennessee	.05718	.07186	.796	
Male	-.13595	.07232	-1.880	*
Recycled in Past Month	.16685	.08878	1.879	*
Contributed to Conservation Organization	.29900	.07409	4.036	***
Contributed to Hunting/Fishing Organization	-.14634	.08442	-1.734	*
Use Forests At Least Seven Times Per Year	.22187	.07604	2.918	***
Read Labels On Products Always or Often	.34353	.07215	4.761	***
Home/Condo Owner	-.30458	.09673	-3.182	***
Likelihood Ratio Test	97.52 ***			
% Correctly Predicted	62.1			
% Willing to Pay a Premium	43.2			
N	1403			

[a]The symbol '***' means significance at 99 percent confidence level, '**' means significance at 95 percent confidence level, and '*' means significant at 90 percent confidence level.

Table A.3. Estimated Probit Model for Willingness to Buy the Table at the Specified Premium[a]

Variable	Estimated Coefficient	Standard Error	T Statistic	
Intercept α	1.04453	.44642	2.33978	***
Full Scope of Certification	.10339	.18568	.5568	
Income $25,000-$34,999	.40596	.34934	1.16205	
Income $35,000-$49,999	.25098	.30810	.81460	
Income $50,000-$74,999	.08037	.26372	.30473	
Income At Least $75,000	.15358	.27755	.55333	
Premium	-.00759	.08246	-.92087	
Likelihood Ratio Test	3.25084			
% Correct	81.0			
% Willing to Buy	81.0			
N	253			
WTP|Particip=1	$164.99			
Standard Error WTP|Particip=1	$127.17			
WTP	$70.95			

[a]The symbol '***' means significance at 99 percent confidence level, '**' means significance at 95 percent confidence level, and '*' means significance at the 90 percent confidence level.

Table A.4. Estimated Probit Model for Willingness to Buy the Shelving Board at the Specified Premium[a]

Variable	Estimated Coefficient	Standard Error	T Statistic	
Intercept α	1.54742	.28737	5.38474	***
Full Scope of Certification	-.46913	.17897	-2.62126	***
Income $25,000-$34,999	.38071	.33981	1.12034	
Income $35,000-$49,999	.31880	.30638	1.04053	
Income $50,000-$74,999	-.36384	.25575	-1.42263	
Income At Least $75,000	-.29498	.26634	-1.10754	
Premium	-.11027	.03161	-3.48798	***
Likelihood Ratio Test	31.60044 ***			
% Correct	72.2			
% Willing to Buy	71.8			
N	259			
WTP|Particip=1	$11.23			
Standard Error WTP|Particip=1	$1.83			
WTP	$4.83			

[a]The symbol '***' means significance at 99 percent confidence level, '**' means significance at 95 percent confidence level, and '*' means significance at the 90 percent confidence level.

Table A.5. Estimated Probit Model for Willingness to Buy the Chair at the Specified Premium[a]

Variable	Estimated Coefficient	Standard Error	T Statistic	
Intercept α	1.15866	.29189	3.96951	***
Full Scope of Certification	-.12934	.17974	-.71963	
Income $25,000-$34,999	.39096	.32044	1.22008	
Income $35,000-$49,999	.51026	.30816	1.65583	*
Income $50,000-$74,999	.07894	.25568	.30876	
Income At Least $75,000	.23438	.26890	.87160	
Premium	-.02482	.08658	-2.86687	***
Likelihood Ratio Test	13.46195 **			
% Correct	76.6			
% Willing to Buy	76.6			
N	256			
WTP|Particip=1	$52.71			
Standard Error WTP|Particip=1	$24.70			
WTP	$22.67			

[a]The symbol '***' means significance at 99 percent confidence level, '**' means significance at 95 percent confidence level, and '*' means significance at the 90 percent confidence level.

APPENDIX 2

Phase I. Pre-Test Survey

Hardwood Products & the Environment: Your views

Dear Resident:

Each day you likely use a variety of products that are made from hardwoods. We are conducting a study of your views about the environment and how these views may influence your purchases of hardwood products. Your responses will provide the hardwood products industry and forestry managers with helpful information about how consumers feel regarding these issues.

Your participation is completely voluntary. Your answers will remain confidential. This questionnaire will only take about 5-10 minutes of your time.

The person who is responsible for most of the furniture and other wood products purchase decisions in your household should complete this questionnaire. Please place your completed questionnaire in the postage paid reply envelope. We appreciate your response.

Sincerely,

Dr. Kim Jensen **Dr. Paul Jakus**

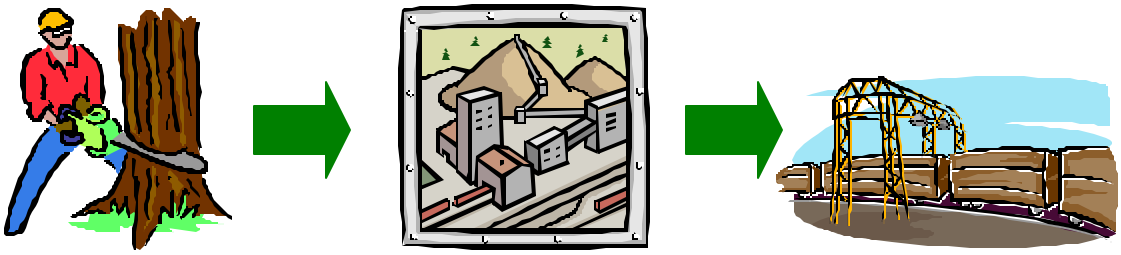
Dept. of Agricultural Economics
302 Morgan Hall
The University of Tennessee
Knoxville, TN 37931
865-974-7231

Environmental Certification of Hardwood Products

We would like to ask you a few questions about your views of environmental certification of <u>hardwood</u> products (such as oak or cherry furniture, poplar trim, hickory for wood crafts, or oak lumber).

Environmental certification means a product has passed a voluntary environmental screening process by an independent third party organization (not the wood products company, the wood products industry, or the government).

***<u>Timber growing and harvesting methods, product manufacturing, and product handling</u> would be monitored to ensure** that practices are used that help sustain our environment for current and future generations.*



Timber Growing & Harvesting is Environmentally Certified

Product Manufacturing is Environmentally Certified

Product Handling is Environmentally Certified

1. Have you ever purchased wood products that were labeled as environmentally certified?

YES

NO

DON'T KNOW

Please examine this environmental certification label that might appear on or nearby <u>hardwood products</u>.

2. Please circle the response <u>that most closely reflects</u> your opinions about environmental certification.

a. I support environmental certification and would pay a higher price for hardwood products if they were certified

b. I support environmental certification but not if it requires paying a higher price for hardwood products

c. I do not support environmental certification of hardwood products regardless of whether it costs me anything

*If you chose answer "**b**" or **"c",** please go to question 6 on page 7. If you chose "**a**" continue on.*

Purchasing Hardwood Products

The next set of questions are about purchasing different hardwood products. In each case, we ask you to think about two products that are similar in all ways, except that one has been environmentally certified and the other has not. While you might wish to choose a product with a different color of wood or type of wood, please consider products of similar quality, and your ability to pay for these products.

The choices we are asking you to make are, of course, hypothetical. No one will force you to actually buy the product you choose and no one will collect a cash payment from you. This is a problem in studies such as this.

When people don't actually pay for the product they choose, they might not make the same decision as they would if they did have to pay. This is called "hypothetical bias". Hypothetical bias can cause our results to be biased, so that people in the hardwood products industry will get incorrect market information.

How can we get people to act the same way in both hypothetical and actual choices?

The only way is to ask you to carefully consider the choices. Ask yourself if you would ever buy this product and, if so, to think about the product choices and which product you would truly be willing to buy and how much you would pay.

There are no "correct" answers. Some people may willing to pay more for an environmentally certified product, while others may not.

DINING TABLE

3. Please look at the picture of an oak dining table. Please indicate in the space provided, how much more you would pay for the table that is environmentally certified.

a.

Oak Dining Table

40 inches wide by 72 inches long
NOT Environmentally Certified

Price: $799

b.

Oak Dining Table

40 inches wide by 72 inches long
Environmentally Certified

I would pay $ _____ more for the certified table.

CHAIR

4. Please look at the picture of an oak chair. Please indicate in the space provided, how much more you would pay for the chair that is environmentally certified.

a.

Oak Chair

39" tall, Seat 19"w x 20"d
NOT Environmentally Certified

Price: $199

b.

Oak Chair

39" tall, Seat 19"w x 20"d
Environmentally Certified

I would pay $ _____ more for the certified chair.

SHELVING BOARD

3. Please look at the picture of an oak shelving board. Please indicate in the space provided, how much more you would pay for the board that is environmentally certified.

a.

Price: $28.80

Oak Shelving Board

1" x 10", 6 feet long
NOT Environmentally Certified

b.

I would pay $ _____ more for the certified board.

Oak Shelving Board

1" x 10", 6 feet long
Environmentally Certified

About You…

This section contains a few questions about you and your household. Please keep in mind, all individual responses will be held confidential.

4. For your primary residence, are you a (Please circle the best answer)

a. Home owner
b. Home Renter
c. Condo Owner
d. Condo Renter
e. Apartment Renter
f. Other:_____

7. What is your age? _____

8. What was the highest level of schooling you completed?

a. No formal schooling
b. Grade school (Grades 1-8)
c. Some high school
d. High school graduate
e. Some college
f. College graduate
g. Post graduate

9. Please circle the category that best represents your **household** income from all sources before taxes in the year 2000.

a. Less than $15,000
b. $15,001-$25,000
c. $25,001-$35,000
d. $35,001-$45,000
e. $45,001-$60,000
f. $60,001-$75,000
g. $75,001-$100,000
h. $100,001-$125,000
i. greater than $125,000

THANK YOU FOR PARTICIPATING IN THIS STUDY!! PLEASE PLACE THE COMPLETED QUESTIONNAIRE IN THE ENVELOPE WITH THE POSTAGE PROVIDED AND RETURN IT TO US.

Phase II-Field Survey

Part A. Initial Telephone Survey

OBS ID: _____

Hardwood Products and the Environment Survey
March/April 2001

Hello, my name is _____ and I am calling as part of a research project for the University of Tennessee. We are contacting people to ask questions about their views of the environment. This call will not take much of your time, we are not selling anything, and all answers will be kept strictly confidential.

For this survey to provide the best information, I need to speak to the person who would most likely be the one to purchase wood products, such as furniture or lumber, for your household.

IF IT'S THE PERSON: CONTINUE

WHEN THE CORRECT PERSON ANSWERS REPEAT THE FIRST PARAGRAPH AND CONTINUE BELOW.

[IF THE PERSON IS NOT THERE, FIND OUT WHEN TO CALL BACK . CALL BACK: _____]

What is your first name? _____

[SAY THEIR NAME] Is there a good time to ask you some questions or would another time be better for you? When would be a good time ?

Call back: _____

PHONE NUMBER: _____

ID #		CODES				FOR CALLBACKS	
		DATE	TIME	RESULTS		DATE	TIME
	#1				#1		
	#2				#2		
	#3				#3		
	#4				#4		
	#5				#5		

This survey is strictly confidential. Your responses will not be associated with your name. You also have the right to refuse to answer any of the questions.

Our research study concerns the different ways in which wood products can be produced, and how that might affect your purchases of wood products. First, I am going to ask you a few questions about your wood products purchases.

Q1. Did you purchase any wood products during the past year (examples include wood furniture, lumber, shelving).

1=YES, 2 =NO, 8=DON'T KNOW, 9=REFUSED

Q2 Do you plan to purchase wood products during the next year?

1=YES, 2 =NO, 8=DON'T KNOW, 9=REFUSED

[IF ANSWERED 'NO' or 'DON'T KNOW' TO QUESTIONS 1 AND 2, SKIP TO QUESTION 4.]

Q3. Are the wood products your purchased or plan to purchase for…

1=Commercial Purposes
2=Use in your home/residence
3=Both
8=DON'T KNOW
9=REFUSED

Now, I'd like to ask a few questions about your views of environmental certification of hardwood products. These products might include oak or cherry furniture, poplar trim, hickory for wood crafts, or oak lumber.

RANDOMIZE whether the respondent gets the "Full" or "Partial" certification text.

FULL CERTIFICATION TEXT

Environmental certification means a product has passed a voluntary environmental screening process by an independent third party organization, not the wood products company, the wood products industry, or the government. All aspects of production, including timber growing and harvesting, product manufacturing, and handling methods, are monitored to ensure that practices are used that help sustain our environment for current and future generations. A product label assuring certification appears on or nearby the product.

PARTIAL CERTIFICATION TEXT

Environmental certification means a product has passed a voluntary environmental screening process by an independent third party organization, not the wood products company, the wood products industry, or the government. Timber growing and harvesting methods are monitored to ensure that practices are used that help sustain our environment for current and future generations. Product manufacturing and handling would not be monitored or certified. A product label assuring certification appears on or nearby the product.

Q4. Have you ever purchased wood products that were labeled as environmentally certified?

1=YES, 2 =NO, 8 =DON'T KNOW, 9=REFUSED

Q5. Please tell me which statement most closely reflects your opinions about environmental certification of hardwood products.

RANDOMIZE ORDER and READ ALL

1=I support environmental certification and would pay a higher price for hardwood products if they were certified.
2=I support environmental certification, but not if it requires paying a higher price for hardwood products.
3=I do not support environmental certification of hardwood products regardless of whether it costs me anything,
8 =DON'T KNOW
9=REFUSED

[IF THEY CHOOSE ANSWER # 1 ON QUESTION 5, READ THE FOLLOWING AND THEN GO TO QUESTION 8

The next stage of our study will focus on how much people might be willing to pay for certified wood products. I would like to send you brief booklet containing information about environmental certification of hardwood products and then call you again for a very short interview after you have read it. Would you be willing to help us in understanding how people feel about paying more for certified wood products?.

[IF THEY CHOOSE 2, GO TO QUESTION Q6]
[IF THEY CHOOSE 3, GO TO QUESTION Q7]

Q6. There are many reasons why a person might support environmental certification of hardwood products, but not if it requires paying a higher price. Why do you feel this way?

DON'T READ

1=can NOT afford to pay higher prices
2= do not believe it costs any more to make a certified product
3=believe the manufacturers should not charge higher prices even if it costs more to make certified products
4=other
8 =DON'T KNOW, 9=REFUSED

Q7. There are many reasons why a person might not support environmental certification of hardwood products. Why do you feel this way?

DON'T READ

1=do NOT believe environmental certification will work to improve the environment
2=you believe other causes are of higher priority than the environment

3=you believe the companies should be regulated rather than using voluntary certification
4=other
8 =DON'T KNOW, 9=REFUSED

We would like to conclude our survey by asking you a few questions about yourself and your household. Remember, all responses will be held confidential.

Q8. In the past month, have you recycled paper, plastic, newspapers, or aluminum? _____

[1=YES, 2=NO, 8=DON'T KNOW, 9=REFUSED]

Q9. Have you ever contributed time or money to a conservation or environmental advocacy group? (Examples include Nature Conservancy, National Wildlife Federation, or Sierra Club).

[1=YES, 2=NO, 8=DON'T KNOW, 9=REFUSED]

Q10. Have you ever contributed time or money to a hunting or fishing group, such as Ducks Unlimited or Trout Unlimited?

[1=YES, 2=NO, 8=DON'T KNOW, 9=REFUSED]

Q11. How frequently do you use forests for recreation purposes (examples include picnics, hiking, hunting, leaf-viewing)?

1=Less than once per year
2=One to three times per year
3=Four to six times per year
4=Seven to eleven times per year
5=At least once per month
8=DON'T KNOW
9=REFUSED

Q12. Have you ever purchased environmentally labeled NON-WOOD products (for example, dolphin safe tuna or pesticide free produce)?

[1=YES, 2=NO, 8=DON'T KNOW, 9=REFUSED]

Q13. How often do you read labels on products when purchasing them for the first time?

[1=Never, 2=Almost Never, 3=Sometimes, 4=Often, 5=Always, 8=DON'T KNOW,
9=REFUSED]

Q14. Is your primary residence a?

1=Home you own
2=Home you rent
3= Condo you own
4= Condo you rent
5=Apartment you rent
6=Other [If they answer "other" ask them to please describe: Q14A
8=DON'T KNOW
9=REFUSED

Q15. What is your age?

Q16. What is the highest grade of school you completed? _____

1=No formal schooling
2=Grade school (1-8)
3=Some high school
4=High school graduate
5=Some college
6=College graduate

7=Post graduate
8=DON'T KNOW
9=REFUSED

Q17. Are you or any member of your immediate family employed in a wood products related industry (for example, construction, furniture manufacturing, sawmilling, logging, or woodworking)?

1=YES
2=NO
8=DON'T KNOW
9=REFUSED

Q18. I am going to read a list of income categories for household income from all sources before taxes for the year 2000. Please stop me when I get to yours.

1 = $4,999 or less
2 = $5,000 - $9,999
3 = $10,000 - $14,999
4 = $15,000 - $19,999
5 = $20,000 - $24,999
6 = $25,000 - $34,999
7 = $35,000 - $49,999
8 = $50,000 - $74,999
9 = $75,000 - $99,999
10 = $100,000 - $149,999
11 = $150,000 or more
12 = Don't know
13 = Refused

You may also provide your actual income INCA=

GENDER [DON'T ASK] 1=Male, 2=Female

Thank you for participating in this study.

Interviewer _____

Time Finished Survey _____

NAME AND ADDRESS OF EACH PERSON WHO AGREES TO SECOND SURVEY

Part B. Information Booklet Sent to Those Agreeing to Participate in the Second Telephone Survey

Hardwood Products & the Environment: *Your views*

During a recent phone call, you indicated that you ***support environmental certification and may be willing to pay a higher price for hardwood products if they were environmentally certified.*** This booklet contains an example of an environmental certification label that might be placed on or nearby hardwood products. The booklet also contains pictures of examples of certified and uncertified hardwood products. Please read through the information in this booklet and review the pictures carefully.

An interviewer will be calling you soon to ask you a few brief questions about how much you would be willing to pay for these products. We will not try to sell any product.

This booklet should be available when the interviewer calls, so try to keep it near your phone. This booklet and the telephone interview are part of a scientific research project at the University of Tennessee to evaluate consumers' views about the environment and how these views may influence their purchases of hardwood products.

Thank you for taking the time to help us with this research,

Dr. Kim Jensen
Professor

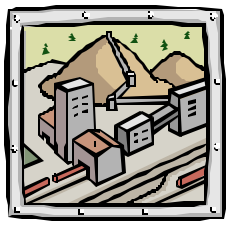
Dr. Paul Jakus
Associate Professor

University of Tennessee, Knoxville

Environmental certification *means the product has passed a voluntary environmental screening process by an independent third party organization (not the wood products company, the wood products industry, or the government).*

<u>Timber growing and harvesting methods, product manufacturing, and product handling</u> would be monitored to ensure *that practices are used that help sustain our environment for current and future generations.*

Timber Growing & Harvesting is Environmentally Certified



Product Manufacturing is Environmentally Certified

Product Handling is Environmentally Certified

Please examine this example of an environmental certification label for hardwood products. This label might be located on or nearby the examples of hardwood products you will see in the next few pages of this booklet.

Product voluntarily monitored to certify that timber growing and harvesting, product manufacturing, and handling methods were used that help sustain our environment for current and future generations

The interviewer will ask you questions about purchasing different hardwood products. In each case, she/he will ask you to think about two products that are similar in all ways, except that one has been environmentally certified and the other has not. Pictures of these products are provided in this booklet.

While you might wish to choose a product with a different color of wood, style, or type of wood, please consider products of similar quality, and <u>your ability to pay</u> for these products.

The choices we will be asking you to make are, of course, hypothetical. No one will force you to actually buy the product you choose and no one will collect a cash payment from you.

This is a problem in studies such as this.

When people don't actually pay for the product they choose, they might not make the same decision as they would if they did have to pay. This is called "hypothetical bias". Hypothetical bias can cause our results to be biased, so that people in the hardwood products industry will get incorrect market information.

How can we get people to act the same way in both hypothetical and actual choices?

The only way is to ask you to carefully consider the choices. Ask yourself if you would ever buy this product and, if you would, to think about the product choices and those for which you truly would be willing to buy and pay.

DINING TABLE

Please look at these pictures of an oak dining table and read the information about the products. The two tables are identical in quality, except one table has not been environmentally certified, while the other has.

a.

Price $799

Oak Dining Table

40 inches wide by 72 inches long
NOT Environmentally Certified

b.

Price: $_____

Oak Dining Table

40 inches wide by 72 inches long
Environmentally Certified

SHELVING BOARD

Please look at these pictures of an oak shelving board and read the information about the products. The two boards are identical in quality, except one board has not been environmentally certified, while the other has.

a.

Price: $28.80

Oak Shelving Board
1" x 10", 6 feet long
NOT Environmentally Certified

b.

Price:
$_____

Oak Shelving Board
1" x 10", 6 feet long
Environmentally Certified

CHAIR

Please look at these pictures of an oak chair and read the information about the products. The two chairs are identical in quality, except one chair has not been environmentally certified, while the other has.

a.

Price: $ 199

Oak Chair
39" tall, Seat 19"w x 20"d
NOT Environmentally Certified

b.

Price: $_____

Oak Chair
39" tall, Seat 19"w x 20"d
Environmentally Certified

When our interviewer calls she/he will ask you about which products you would be willing to purchase at certain prices. She/he will provide you with the prices during the phone call. Please try to read through the information about environmental certification and look at the various products presented in this booklet. It will assure a more accurate record is available for our research and probably allow the phone call to take only about 5 minutes of your time.

Thank you for agreeing to help us with this study. Your responses will provide the hardwood products industry and forestry managers with helpful information about consumers' views on hardwood products and the environment.

Part C. Follow-up Survey of Individuals Willing to Pay for Environmental Certification

OBS ID: _____

CERTIFICATION: CIRCLE: 1=TOTAL 2=HARVEST

Hardwood Products and the Environment Survey-Followup April 2001

Hello, my name is _____ and I am calling for the University of Tennessee –Knoxville. Could I speak with _____[NAME OF PERSON CONTACTED IN FIRST CALL]

IF IT'S THE PERSON: CONTINUE

[IF THE PERSON IS NOT THERE, FIND OUT WHEN TO CALL BACK . _____ call back.]

Hello, my name is _____ and I am calling for the University of Tennessee –Knoxville. We recently called you about environmental certification of hardwood products and sent you a booklet with information about some certified hardwood products. I am following up to ask you a few brief questions about the information contained in the booklet. Did you receive the booklet?

[IF SO, THEN CONTINUE ON….IF NOT, PLEASE TELL THEM YOU WILL SEND THEM ANOTHER and CONTACT THEM LATER…CONFIRM ADDRESS]

[SAY THEIR NAME] Is there a good time to ask you some questions or would another time be better for you? When would be a good time?

Call back: _____

PHONE NUMBER: _____

ID #		CODES				FOR CALLBACKS	
		DATE	TIME	RESULTS		DATE	TIME
	#1				#1		
	#2				#2		
	#3				#3		
	#4				#4		
	#5				#5		

Just to remind you, this survey is strictly confidential. Your responses will not be associated with your name. You also have the right to refuse to answer any of the questions. This interview should only take about 5 minutes to complete.

1. Have you had a chance to read the booklet?

   1=YES 2=NO ***[Schedule callback when they've read it.]***

2. Based on what you read in the booklet, please tell me how much you agree or disagree with the following statements:

[Randomize Order]

2a. The booklet was not very understandable

1=Strongly Agree
2=Agree
3=Don't Agree
4=Strongly Disagree
5=Other
8=DON'T KNOW
9=REFUSED

2b. The booklet did a good job of informing me about environmental certification.

1=Strongly Agree
2=Agree
3=Don't Agree
4=Strongly Disagree
5=Other
8=DON'T KNOW
9=REFUSED

3. Do you have the booklet with you right now?

   1=YES 2=NO, Went to get it 3=NO-remembers pictures

I will now ask you a few questions about each of the three hardwood products featured in the booklet. The pictures in the booklet are just examples.

While you might wish to choose a product with a different color of wood, style, or type of wood, please consider products of similar quality, and <u>your ability to pay</u> for these products.

As stated in the booklet, all of these questions are hypothetical and no one will collect any money from you, but we need you to treat this as if you were faced with an actual purchase decision.

As you answer the questions, ask yourself if you would ever buy this product and, if you would, to think about the product choices and those for which you truly would be willing to buy and pay.

[RANDOMIZE ORDER OF WOOD PRODUCTS]

Product #1: DINING TABLE

Please open the booklet and look at the pictures of the oak dining table. The two tables are identical in quality, except that one table has been environmentally certified, while the other on has not. The non-certified table sells for $799. If the environmentally certified table sold for:

[Randomize prices as usual making sure we match the type of certification.]

Partial Certification	[$824	$844	$849	$854	$859]
Full Certification	[$824	$844	$849	$854	$859]

Which table would you purchase? _____

1= Environmentally Certified Table [GO TO FQ2]

2=NOT Environmentally Certified Table [GO TO FQ3]

3=Neither [GO TO FQ4]

8=DON'T KNOW

9=REFUSED

4a. There are many reasons why a person might choose the certified table over the uncertified table. Why did you choose to purchase the certified table?

[DON'T READ]

1=can afford to pay the higher price

2=believe the added costs of certification are worth it.

3=believe protection of the environment is "priceless"

4=other

8=DON"T KNOW

9=REFUSED

4b. There are many reasons why a person might choose the uncertified table over the certified table. Why did you choose to purchase the uncertified table?

[DON'T READ]

1=I can NOT afford to pay the higher price

2=I do not believe the added costs of certification are worth it

3=other

8=DON"T KNOW

9=REFUSED

4c. There are many reasons why a person might not choose either table. Why did you choose neither table?

[DON'T READ]

1=can NOT afford to purchase either table

2=would never purchase a product like this no matter what the price

3=other

8=DON"T KNOW

9=REFUSED

Product #2: SHELVING BOARD

5. Now turn to the pictures of the oak shelving boards. The two boards are identical in quality, except that one board has been environmentally certified, while the other on has not. The non-certified board sells for $28.80. If the environmentally certified board sold for:

[Randomize prices as usual making sure we match the type of certification.]

Partial Certification	[$30.30	$32.80	$33.80	$34.80	$38.80]
Full Certification	[$30.30	$32.80	$33.80	$34.80	$38.80]

Which Shelving Board would you purchase? _____

1= Environmentally Certified Shelving Board [GO TO FQ6]

2=NOT Environmentally Certified Shelving Board [GO TO FQ7]

3=Neither [GO TO FQ8]

8=DON"T KNOW

9=REFUSED

5a. There are many reasons why a person might choose the certified Shelving Board over the uncertified Shelving Board. Why did you choose to purchase the certified Shelving Board?

[DON'T READ]

1=can afford to pay the higher price

2=believe the added costs of certification are worth it.

3=believe protection of the environment is "priceless"

4=other

8=DON"T KNOW

9=REFUSED

5b. There are many reasons why a person might choose the uncertified Shelving Board over the certified Shelving Board. Why did you choose to purchase the uncertified Shelving Board?

[DON'T READ]

1=I can NOT afford to pay the higher price

2=I do not believe the added costs of certification are worth it

3=other

8=DON"T KNOW

9=REFUSED

5c. There are many reasons why a person might not choose either Shelving Board. Why did you choose neither Shelving Board?

[DON'T READ]

1=can NOT afford to purchase either table

2=would never purchase a product like this no matter what the price

3=other

8=DON"T KNOW

9=REFUSED

Product #3: CHAIR

6. Now turn to the pictures of the oak chairs. The two chairs are identical in quality, except that one chair has been environmentally certified, while the other on has not. The non-certified chair sells for $199. If the environmentally certified chair sold for:

[Randomize prices as usual making sure we match the type of certification.]

Partial Certification	[$209	$214	$219	$224	$230]
Full Certification	[$209	$214	$219	$224	$230]

Which Chair would you purchase?

1= Environmentally Certified Chair [GO TO FQ10]

2=NOT Environmentally Certified Chair [GO TO FQ11]

3=Neither [GO TO FQ12]

8=DON'T KNOW

9=REFUSED

6a. There are many reasons why a person might choose the certified Chair over the uncertified Chair. Why did you choose to purchase the certified Chair?

[DON'T READ]

1=can afford to pay the higher price

2=believe the added costs of certification are worth it.

3=believe protection of the environment is "priceless"

4=other

8=DON"T KNOW

9=REFUSED

6b. There are many reasons why a person might choose the uncertified Chair over the certified Chair. Why did you choose to purchase the uncertified Chair?

[DON'T READ]

1=I can NOT afford to pay the higher price

2=I do not believe the added costs of certification are worth it

3=other

8=DON"T KNOW

9=REFUSED

6c. There are many reasons why a person might not choose either Chair. Why did you choose neither Chair?

1=can NOT afford to purchase either table

2=would never purchase a product like this no matter what the price

3=other

8=DON"T KNOW

9=REFUSED

Thank you for agreeing to help us with this study. Your responses will provide the hardwood products industry and forestry managers with helpful information about how consumers views on hardwood products and the environment.

Interviewer _____

Time Finished Survey _____

Part D. Responses to Open-Ended Questions

Q6. There are many reasons why a person might support environmental certification of hardwood products, but not if it requires paying a higher price. Why do you feel this way?

- I think it is necessary that they take steps to maintain it, but I should not have to pay for it.
- I believe in more market economy, consumers should have the choice.
- I work in the meat business where all meat is certified so I think wood can be certified the same way and not be more expensive just like all meat is today.
- I don't believe a third party would be necessary to establish environmental safety at a higher cost
- I think companies would still over cut trees if they needed the wood even in a certification program.
- I believe that the company should pay the cost, because they make a great deal.
- I'm a hunter so I appreciate forests, but would not pay a much higher price for certified products, just a little higher.
- Wood not rare so it should not be expensive.
- It is already high enough.
- I live in the Allegheny National Forest, but I am not really clear on this certification process to know what costs it entails.
- I'm a woodworker and the cheaper I can buy the product the better.
- I don't believe that it is worth it. We've gone this long without it.
- It would not be to my advantage to buy the certified lumber.
- Nobody wants to pay more than they have to.
- I don't know why a consumer should have to pay a higher price just for that.
- I am philosophically opposed to any intervention requiring higher prices especially if they are "eco-freaks" regardless if they are government or not.
- I think everything is already extremely costly.
- It wouldn't be uniformly enforced all across the U.S., kind of ambiguous.
- It limits the availability of the products to the consumer.
- I think it should be the government's responsibility.
- Wood sources are becoming limited.
- Should be required.
- It's already expensive; you still have to pay a lot.
- I can afford but I would rather pay less.

- I don't see how environmental certification affects me personally.
- The price is already too high.
- So we always have trees.
- I think that it should come out of our taxes and not from a third party.
- With the economy as bad it is, I don't want to pay more money.
- I'm a logger and I cut them down every day.
- I think it would control what would be cut and the amount of lumber products produced.
- I would need to know exactly what things would be changed to agree with it.
- The cost of lumber keeps rising every year so additional costs for certification may become too expensive for purchasers of wood products.
- I'm not sure that certification would make enough difference to put a higher price tag on it.
- Wood is already expensive.
- I can afford to pay a higher price but I do not want to pay the extra money.
- I would like to know what it entails and how it would affect people locally.
- There is no added value to the wood by having certification.
- I would not want the controls to get out of hand.
- I do not think that it's that bad for the environment and they should not charge more.
- So much is being cut in our area. We should not have to pay more for it.
- The industry would be able to get certification, yet still get away with being harmful to the environment.
- I think sometimes people go over board with keeping the environment clean, but not enough to pay higher prices.
- The prices are already too expensive.
- I'm not pro-environmental enough to be willing to pay more.
- If there is an environmental requirement, it should be followed without charging the customer.
- I believe in paying more for quality wood but not for the certification process.
- I have everything I need without the certification.
- Prices are going up all the time anyway, so we do not need to add extra costs.
- I'm not really interested in that kind of stuff.
- I shop to get the best buy for my money so I would not pay the higher price.
- I'm not sure that you would gain enough from certification to pay a higher price.

- Wood is a natural product so why go to all the rigamarole.
- I don't want anything that cost more.
- anything that drives up the cost of the product will make the product harder for consumers to acquire unless it is a very moderate increase.
- If I can buy it cheaper at the same quality, then I'm going to go that route.
- It is just as good if not certified.
- If someone wants to monitor it, that's fine, but I don't think I should have to pay for it. I think sometimes these environmental groups are extreme.
- I just bought a cherry wood bed and paid over $1000 for it, so I do not want to pay even higher prices.
- I believe they go overboard on some things, and should handle things a little differently.
- I try to get the most for my money.
- The government should take care of that. It should not cost me any more for environmental certification.
- I understand that it costs more but would rather pay less.
- I think certification costs should be absorbed by the wood products companies and not by the consumer, so that all wood would be certified.
- I am a carpenter and the more money I have to pay for material, the less I make.
- I like to save money.
- I already pay enough taxes.
- I do not want to pay more money for something that is not going to benefit me.
- I am concerned about laws that would hurt the timber industry.
- Lumber is already overpriced. The price does not need to be increased.
- I am not that educated concerning the matter.
- I support certification, but I am not that much of an environmentalist to want to shoulder the cost.
- I think hard wood is readily reproduced. Wood is fast growing. There would be an unlimited supply as long as companies were required to replace what they use.
- The higher price would be passed to the middle-man not the consumer. If there is an additional cost it probably shouldn't be there.
- I am a carpenter and it's hard to charge my customers more to cover my cost.
- I do not feel that certification is that important.
- It already costs too much.

- I would only pay a higher price if there was a guarantee that what they were saying would be done.
- It's just the way I feel.
- I think enough is done for the environment.
- It helps the economy.
- The industry should be monitoring themselves.
- It effects me as a carpenter. As long as they are replanting things are fine.
- I don't want to pay more.
- I think it is a good thing to keep in mind but I don't think it should be carried to the point where it will raise the price. Moderation should be used.
- If you change the factor in cost out, it is hard to relate one factor to the total cost.
- It is too expensive.
- I don't think we need to go to such lengths to protect the environment that result in higher costs. We just need to replant what we cut down.
- Everything is blown out of proportion in pricing. The money is made by sawmills and not by the logging men. Price increases from certification would fill the pockets of the sawmills rather than the loggers. I was in logging.
- I think some types of certification get carried away when it goes to an extent that is not necessary. This results in higher costs that are not necessary. The profits go to an independent third party who may end up with their own agenda.
- Wood products are already marked-up too expensive.
- Some additional information needs to be included.
- A lot of things are over priced.
- It is already too expensive.
- Afraid that it would inflate the prices.
- Not important enough to pay more money.
- I always go for the lower priced product.
- I think hardwood is already too expensive.
- It depends on how high the price is on the product. I do support environmental certification.
- Because I do not know enough about the process.
- I am more concerned about costs depending on the quality of the wood rather than cost for certification.
- I support it but I would prefer the prices not to be so high.
- Wood is very expensive and the price keeps getting higher.
- There are too many regulations dealing with the environmentalists.
- I think the cost to make certified wood products would be too negligible to create a higher cost.

- Wood costs are already sky high. That is why I get my wood for making furniture from a salvage yard.
- I am always going for a bargain.
- Lumber is already to expensive.
- I think we should not cut down any more trees.
- I go for a deal.
- I do not know what the difference would be.
- I think it is the duty of any industry to be environmentally responsible for the protection of wood, animals and so forth.
- I would pay more for some things but not furniture or lumber.
- It doesn't matter to me if someone labels something as environmentally safe or not.
- My husband is a builder Wood has gone up too much in the past several years but quality is not any better.
- I don't want to pay more money.
- I think certification drives up the price too high for consumers.
- I think things are already over-regulated. It just drives the prices up.
- Which organization would be certifying the lumber? What is the reason for certification?
- Not sure how much is the higher price. It could be anything.
- Keep the cost down.
- The quality of the product.
- The wood I buy does not have to be select grade. I do support environmental certification.
- If it was outrageously expensive it would not be for me.
- We live in a logging community. I think the loggers may lose their jobs.
- I am not quite sure what all goes into "environmental certified." There are more things in life to be concerned with than certification of hardwood products.
- Everything is too expensive as it is.
- The environmentalists are too extreme. They overlook good forest management that already exists.
- I am not completely certain about what the certification would mean.
- I do not believe that renewable resources need to be managed.
- It doesn't matter if it's certified or not.
- I support sustaining the environment but I don't feel it merits paying a higher price.
- There may be an alternative to the certification process.
- I can not pay much more for lumber. If the cost goes up 10-20% it is all right, but if the cost goes up more than that I couldn't afford it.

- I build houses and I've seen prices of pine go from .99 to 2.99. I'd hate to see prices get any higher.
- I support certification as long as it includes land management but I can't see paying a higher price because someone says it is of a higher quality.
- Large-scale industries are already destroying the environment.
- It is fine if someone wants to watch out for the environment. I do not want to pay for it.
- I try to get the cheapest materials that are available.
- There is no reason to preserve forests when the paper companies have stripped all the forests where I live except for pine trees.
- I do not want people getting rich off of the certification when it's my money.
- I can afford to pay a higher price. If I was given the option to pay less for uncertified products, I would choose the cheaper product.
- I believe prices are too high right now.
- Prices are already higher from taxes. There must be some other umbrella this can fall under without passing on cost increases to the consumer.
- No one wants to pay more for lumber.
- I do not know enough about environmental certification to have an opinion.
- We already pay so much in taxes. It seems there should be a way to cover certification costs from taxes.
- It would lead to more bureaucracy that would create another layer of costs that would not be effective in its purpose.
- I do not feel that they need to do too much regulation.
- We do not deserve to pay more.
- It is already high enough and should not go any higher.
- I believe in environmental certification, but the environmentalists are too hard on some people and not hard enough on others. I do believe in ways to help keep our waters clean and its importance, but I don't understand why some people are getting away with "raping" our land.
- Prices are already too expensive. I don't support government help in general. I think it goes over board sometimes.
- I would hate to pay more, yet the hardwood needs to be protected
- Wood products are already too expensive.
- I don't want to pay a higher price. I am torn between paying the higher price for the health of the wood, and supporting the organization who is doing this.
- Everything is high enough. Why should I have to keep paying these high prices?
- If it is certified, then I am going to get the wood from the place with a cheaper price.

- I don't understand the laws that the environmental people are trying to enforce.
- Try to contain costs.
- I like the environment but don't think I should pay more for wood.
- I don't want to pay the higher price.
- Environmental certification is good but I can't afford the price.
- I don't think we should pay a higher price. They should keep it competitive.
- With the cost of everything it doesn't seem practical. It's not worth it.
- I don't see how environmental issues have any connection with hardwood products.
- Prices are already high enough.
- Depends on how the money is used as to whether I would pay the higher price. Would the money be used to fix the problem or study it?
- I'm afraid certification may get carried away. Regulations and prices would get too excessive.
- I don't think it's that necessary.
- I don't know enough about the necessity of it.
- I am against higher prices.
- I want environmental safety, but something that will be cost effective. I am a thrifty shopper.
- I would only pay more if the product were superior.
- Lumber prices are already high.
- Lumber prices are high enough.
- People are cheap.
- People do not want to pay a higher price for anything.
- Higher prices should not happen.
- It's not clear to me why there should be extra costs for certification. I need more information on the subject. I would reconsider paying more if I knew more.
- I would not pay more.
- If I see something really nice I would buy it regardless of certification.
- It's something I've never really noticed if it was being done or not. I'm on a tight budget, so I don't want to spend more.
- I don't like to see the woods cut.
- I like hardwood products but I think they are already too expensive.
- I do not want to pay for more.
- I do not know what it entails to get certified.
- I think that the manufacturers need to monitor themselves.
- I worked in the wood industry.

- The environment is important but should not go to far with saving it.
- The government should be able to pay for it.
- I just don't want to pay for it.
- Take care of the environment but not be pricey.
- Lumber is already too expensive.
- That should already be going on.
- That is how I feel.
- I need more information on certification.
- I would not mind paying a little more but its relative to how much more.
- I would not buy hard wood. I would buy pine.
- The prices are already too high.
- I think we're paying high prices now.
- I do not want to pay higher prices.
- If they had this problem with the wood, they should have fixed it when they started it.
- I don't think it's that important.
- Wood is always expensive.
- The environment will not be ruined by using wood products.
- Certification is good but price increases are really hard.
- If you give a little bit they will take a lot.
- Conspiracy theory.
- Would not pay more.
- I'd like to see that the environment is protected but I don't want to pay a higher price for it.
- I don't have a great understanding of the certification. I don't have a very strong opinion on the matter. I don't want to pay more without more knowledge on the subject.

Q7. There are many reasons why a person might not support environmental certification of hardwood products. Why do you feel this way?

- I haven't had time to think about it. I don't like people interfering with people's personal property.
- I'm not exactly sure what they are tracking.
- I don't know enough information I am not happy about the bureaucracy involved
- The environmentalists have good intentions. Yet, they have taken the thing too far and have gone too far.
- Some environmentalists don't know what they're talking about. Good quality forests need to be used and harvested. Environmentalists need to take lessons from those running the forests.
- I'm not going to pay somebody to tell me if it’s an oak or a cherry.

- It means you're cutting down trees.
- It is not something we usually purchase, it doesn't come into play.
- Unconcerned.
- I do not support it.
- I don't really care for the environmentalists. I don't like what they come up with.
- I think it's a waste of money. I'll pay a higher price anyway because the costs always fall back on the consumer.
- It depends on what agency setting the standards. It needs to be a member of the free market.
- It will cost people their jobs.
- It shouldn't be a third party. It should run by the state.
- It does not need government involvement. Industry and family owned businesses polices' themselves. Certification would reek more havoc on industry like it has on farming industry.
- I think it's a gimmick to raise the price of lumber.
- Keep government out. There are too many regulations now.
- I believe that it is monitored enough.
- I grew up with a family of loggers and I have seen what some environmental agencies can do when they go overboard.
- The environment is ok right now.
- This sounds like it's set up by the wood products industry.
- Wood is a natural re-occurring product. It re-seeds itself. I don't think we need to interfere with a natural regenerating process.
- It results in higher price.
- Too much money spent on people telling you what to do.
- So much has already been cut. It doesn't really matter.
- The types of wood that are replanted are not the same as they are taking out and clear-cutting.
- I think that the environmentalists are radical. They are overreacting to the situation.
- I don't think it is necessary. It is a waste of money.
- I am a logger. The environmentalists shut us down.
- There are too many regulations as it is.
- There are too many rules and regulations already.
- There are too many things controlled. It's time for things to be left out of control.
- It's ok as long as the companies replant trees that they use. The wood companies are doing a good job.
- All resources are renewable. We can replant trees.
- There is so much wood in the world that it shouldn't cost a lot of money.
- I do not think it should be controlled. Keep regulation out.
- Protection is tied too closely to politics.

- I don't like it at all. I think that it is a pressure group trying to make money and rules for the rest of us.
- I think that the businesses should regulate themselves.
- I think the environmental problem has been exaggerated and I don=t support any environmental group.
- I would only support it if the 3rd party organization methods agreed with my own.
- Reducing timber cutting costs too many jobs.
- I feel that the products are not guaranteed.
- Why should they be certified?
- It's just one of those things for bureaucracy, another governing body.
- There's too much environmental stuff keeping the forests from being harvested.
- I plant one tree for every one I cut. I think other tree harvesters should take on the same responsibility themselves.
- I sell timber from my own land and certification is intrusive to my business.
- There is too much emphasis on environment.
- It does not matter to me.
- There is too much government control.
- Loggers are regulated too much.
- I think pests are killing as many trees as we are cutting down.
- They are clear-cutting anyway to build houses, etc.
- Everything gets more expensive when the government gets involved in it.
- I believe they take it to extremes. I believe that jobs are more important.
- I don=t really understand anything about environmental certification.
- I believe they need to spend money to stop clear cutting instead of certification.
- I=m afraid that the government will get involved and we would lose our hardwood forests.
- The price will go up if you have things certified.
- Environmentalists have gone nutty. People are already conserving their resources.
- I see imports from other countries. I also think there are ways to protect the environment. If we use those laws in the books then we would be fine. We should use certification if we need it, as long as it for the issue at hand.
- We have enough wood since the1850's.
- Why deal with the environment now, we have already waited this long.

- They put such restraints on the industry that it usually goes overboard.
- I love the forests.
- I am an environmentalist.
- The government should have nothing to do with it.
- I believe in freedom of choice. I think government and environmentalists have no need or environmental goody goodies to mess with private land.
- I am weary of the red tape involved. The biggest concern is the lumber industry. It is important and when "environmental," comes into play it disrupts things.
- The environmentalists are the ruin of our country.
- I do not think we need any regulations more then we already have.
- It's a joke. It doesn't make any sense.
- I own the property. There is a third party telling me what to do with my land and how to do it. I don't like that.
- I use to make a living off of wood products.
- They are interfering in peoples business where they don't need to be interfering.
- I think the environmentalists get carried away and get too much power.
- I really don't understand environmental certification or any of the consequences of doing or not doing it.
- I don't see how that would be any better.
- I believe that it is a renewable resource and it just needs to be managed.
- I do not know who the third party is and what they would do.
- I think environmentalist a ruining our country. The loggers need lumber to make money. The environmentalists use wood products too.
- I think it's irrelevant.
- I believe it should be left as it is and not add attachments to it.
- I feel that it is a sales gimmick, rather than truly improving the environment.
- It would hurt the job markets. The foreign countries would not be against it.
- I think there are too many government restrictions.
- It goes through enough hands at it is and will increase the price.
- Environmentalists are too extreme.
- It depends on who is doing the certification.
- I won=t buy hardwood products.

Q14. Primary residence - Other:

- home paid for by the company I work for
- parsonage provided for me
- parsonage
- parsonage
- parsonage
- home provided by my employer
- provided by my job

Follow-up Survey of Individuals Willing to Pay for Environmental Certification

Q2a. Based on what you read in the booklet, please tell me how much you agree or disagree with the following statements:

The booklet was not very understandable.

- Right in the middle.
- Middle, do not agree nor disagree.

Q2b. Based on what you read in the booklet, please tell me how much you agree or disagree with the following statements:

The booklet did a good job of informing me about environmental certification.

- Do not agree nor disagree.
- Could have told more in details.

Q4a. There are many reasons why a person might choose the certified table over the non-certified table. Why did you choose to purchase the certified table?

- Need to protect the environment, so the extra for certification is worth it.
- Certification is worth the extra and we need to protect the environment.
- It depends on exactly what is meant by certification. Growing and harvest methods book wasn't clear on what practices.
- It lasts longer.
- Lower percentage of total cost was more reasonable. Other choices were 20% higher, this was less than 10% of cost difference.
- Think it would be better quality even though was told nothing.
- It would be better quality.
- More value later.
- Better quality, even though told about certification and equal quality.
- Certified last longer.
- It had been approved.
- Price is reasonable.
- Hard, needs to be regulated.
- Because it's environmentally certified and the environment is important for our health.

- Not much price difference
- Better maintained.
- Would last longer.
- Better quality standards.

Q4b. There are many reasons why a person might choose the non-certified table over the certified table. Why did you choose to purchase the non-certified table?

- Would only pay 2% more for certified table.
- If it is the same price, would buy the certified furniture. Furniture has a high markup price. They make enough profit.
- Due to the type of process to make the table. Usually use sealants, etc.
- Not sure what certification involves.
- Would only pay 2% more for certified table.
- If it serves the same purpose and quality, why pay more?
- Markup is too high.
- Booklet explained nothing.
- The markup is too high. Would pay $20 more.
- Does not make a difference.
- Unsure of what uncertified means.
- I don=t know exactly what certification practices are. If I knew what the practices were I might buy certified products for higher price.
- It is cheaper.
- Too high of a markup. Would pay $803 by the board foot.
- Too high of a markup.
- There is not enough information.

Q5a. There are many reasons why a person might choose the certified shelving board over the non-certified shelving board. Why did you choose to purchase the certified shelving board?

- Need to protect the environment, so the extra for certification is worth it.
- Certification is worth the extra and we need to protect the environment.
- Feels there should be less of a markup on lumber.
- It lasts longer.
- Better quality. Does not understand certification.
- Certification would be safer as far as chemicals.
- If only needed a few boards then would purchase certified lumber. If more was needed would get non-certified due to high markup.
- Would buy because it is certified. But too much markup.

- It is better to put in the home. It is more treated?
- I believe it would be better quality.
- It is better quality.
- Lasts longer.
- It had been approved.
- Price is reasonable.
- Needs to be regulated.
- Is better maintained.
- Those who don't volunteer for the inspection are probably doing underhanded things.

Q5b. There are many reasons why a person might choose the non-certified shelving board over the certified shelving board. Why did you choose to purchase the non-certified shelving board?

- Would be willing to buy it for $2 more, but not for $4.
- Too much of a markup.
- Not sure of what is meant by certification and practices.
- Too high of a markup.
- Too much of a markup.
- Too much of a markup.
- Too much of a markup. Would pay the cost of certification if I knew and agreed with the practices.
- Markup is too high.
- Too much of a markup. Would pay 10%.
- Markup is too high.
- Based on not knowing what practices are used in certification.
- Too much of a markup.
- Markup is too high.
- Markup is too high.
- Too high of markup. Would pay 10%.
- Markup is too high.
- Markup is too high for a board.
- Percentage of increase is too high. Would pay 5-10%.
- Too high of a markup. Would pay 10%.
- Too high of a markup for a board.
- Booklet did not prove in any way what certification was. Said nothing, a pathetic excuse for explanation.
- Markup is too high.
- Too high of a markup. Would pay $2 more.
- Markup is too high.
- Markup is too high.

- Too high of a markup. Would pay 5%.
- Booklet doesn't explain what certification really entails.
- Markup is too high.
- Don't think certification makes a difference.
- Does not know much about certification.
- Markup is too high. Would pay 10-20%.
- Too high of a markup.
- Too high of a markup.
- Markup is too high.
- Need more information about certification. Would only pay a 5% markup.

Q5c. There are many reasons why a person might not choose either shelving board. Why did you choose neither shelving board?

- It depends on the number of boards needed.
- I am not employed. When I am employed I would purchase everything that is certified.

Q6a. There are many reasons why a person might choose the certified chair over the non-certified chair. Why did you choose to purchase the certified chair?

- Need to protect the environment, so the extra for certification is worth it.
- Certification is worth the extra and we need to protect the environment.
- It lasts longer.
- Better quality due to certification.
- It would be better. Does not understand certification.
- Easier to pay more for furniture than just a board.
- Quality would be better.
- It would be better quality.
- It would be of more value later and probably a brand name.
- Non-chemical natural certified wood.
- Better quality.
- It is better.
- It=s been approved.
- Supporting market.
- Better maintained.
- Not that great a difference.
- It looks better.
- Like it better.

Q6b. There are many reasons why a person might choose the non-certified chair over the certified chair. Why did you choose to purchase the non-certified chair?

- A lot of furniture is built overseas. With that great of a price difference would go with cheaper price.
- They make enough profit with furniture.
- Too much of a markup.
- Markup is too high.
- Charge the cost on the planks, not the finished product. Do not exponentially increase with increase of product.
- Too high of a markup. Should be around 10%.
- Without knowing the exact criteria for certification I would not spend the additional money. If I knew the difference would probably spend more.
- Does not exactly what certification involves.
- Too much of a markup.
- Markup is too high.
- Certification is not clear in booklet.
- Too much of a markup.
- Too much of a markup.
- Markup is too high. Would pay 5%.
- Markup is too high. Would pay 5-10%.
- Chair is not as bad to the environment.
- Too much of a markup. Seems high.
- Markup is too high. Would pay 10-20%.
- Markup is too high. In general, would usually buy antique.
- If I had more money would buy the certified wood.
- Because I'd know. It doesn't come from around here. It would come from out of the country.
- Markup is too high. Would pay $10 more.
- Too high of a markup.
- Markup is too high. Would pay 10%.
- Certification is not explained.
- Too high of a markup. Would pay $5-10 more.
- Markup is too high. Would pay 8%.
- What does certification entail?
- Too high of a markup. Would pay cents a board foot for certification.
- Too high of a markup.
- Not sure what money would go towards.

Q6c. There are many reasons why a person might not choose either chair. Why did you choose neither chair?

- I didn't like them.
- The style and price.
- Look for another brand because 25% is too much. I would buy certified if the markup was not so