

## Price Premiums in the Mist

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**Description:** A study that observed consumer behavior with respect to ecolabeled forest products.

**Methods:** An experiment in which consumers were offered a choice between ecolabeled and non-ecolabeled wooden pencils. The two pencil types were identical in all other respects. Data was collected by recording the amount sold of each type during a series of pricing treatments. In the treatments the price of the ecolabeled pencils was equal, 20 percent or 100 percent higher than the price of the non-ecolabeled pencils. Comparisons were made between the quantity sold of each type during each pricing treatment to test if the presence of the ecolabel was associated with higher sales.

**Data Source:** Consumers shopping at the Oregon State University (OSU) and Auburn University (AU) Bookstores.

### Key Findings:

- Consumers at both OSU and AU were indifferent to the presence or absence of an ecolabel so long as there was little price difference between an ecolabeled and non-ecolabeled pencil.
- When the ecolabeled pencils were double the price of a non ecolabeled pencil (\$0.20 vs. \$0.40) consumers in Oregon were no longer indifferent; buying about 7 non-ecolabeled pencils out of every 10 sold.

### Introduction

Third-party *forest management certification* is the independent evaluation of an organization's forest management practices against criteria that have been judged to represent sound forestry. When third-party certified forests are harvested, the resulting products may be tracked through the manufacturing process using another certification system called *chain-of-custody*. Finished forest products certified under both forest management and chain-of-custody programs may bear an *ecolabel* – an on-product or on-packaging label that allows consumers to

differentiate the product from similar products that do not originate from certified forests and are not tracked through the manufacturing process with chain-of-custody certification.

The development of forest management certification, chain-of-custody certification, and ecolabelling was based on the assumption that if consumers were given a choice, they would prefer (or pay more for) ecolabeled wood products. If either were true, then forest industry firms would have a market-based incentive for independently verified good forest management.

Such claims have created a “mist” of environmental rhetoric that shrouds actual consumer response to ecolabeled forest products. Indeed, contradictory anecdotal information can be found about the impact of forest certification and ecolabels in forest products marketing (e.g. Rebhahn 2004 and FSC 2004). Thus, the objective of this research was to begin clearing the mist to determine the effect of ecolabels and price premiums on consumer behavior.

### Methods

Consumers shopping in the OSU and AU bookstores were offered side-by-side containers filled with wooden pencils, **figure 1**.



**Figure 1.** Side-by-side pencil display containers at the OSU bookstore. Pencils in the left container are ecolabeled, while pencils in the right container are not ecolabeled.

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The pencils in each container were identical except for the following – those in one container bore the Rainforest Alliance (labeling based on Forest Stewardship Council system).

Pencil sales from each container were recorded during three pricing treatments. Initially the price per pencil in each container was equal. During the second treatment, the price per pencil in the ecolabeled container was 20 percent greater than the non-ecolabeled pencils. In the third treatment (applied only at OSU) the pencils in the ecolabeled container were double the price of the non-ecolabeled pencils. These methods allowed testing for an association between the amount sold and the presence of an ecolabel. The testing was done by simply comparing the quantity sold from each container for each pricing treatment.

**Results**

**Table 1** displays the number of pencils sold under each price condition at the OSU bookstore. Likewise, **Table 2** displays results from the Auburn bookstore.

**Table 1.** Sales totals for ecolabeled and non-ecolabeled pencils at the OSU bookstore under three price conditions

price		amount sold		test
<i>eco</i>	<i>non-eco</i>	<i>eco</i>	<i>non-eco</i>	<i>p</i> -value
\$0.20	\$0.20	834	767	0.094
\$0.25	\$0.20	284	275	0.703
\$0.40	\$0.20	125	285	<.001

**Table 2.** Sales totals for ecolabeled and non-ecolabeled pencils at the Auburn bookstore under two price conditions

price		amount sold		test
<i>eco</i>	<i>non-eco</i>	<i>eco</i>	<i>non-eco</i>	<i>p</i> -value
\$0.14	\$0.14	11,296	11,488	0.203
\$0.17	\$0.14	3,083	2,902	0.019

The *p*-values reported in **Table 1** and **Table 2** are from a chi-square goodness of fit test. Note that in **Table 2** the *p*-value in the bottom row is significant. We believe the test was statistically significant because the large number of observations gave the test great discriminatory power. However, the difference between sales of 3,083 and 2,902 is not practically significant.

**Discussion**

From **Table 1** and **Table 2** note that when the price between containers was equal and when the ecolabeled pencils were priced at a 20 percent premium, consumers were indifferent about which pencil type they purchased. This observation is true at both locations. Apparently at this level a price premium gorilla is only a cute baby that rates little attention from consumers.

Possible explanations for these observations are: 1) Consumers were not aware they had a choice. 2) Consumers were indifferent because pencils are a low involvement purchase. In other words consumers are not willing to invest a lot of time or thought about which pencil to purchase because the item has low personal relevance in their lives. 3) Inelastic demand because the purchase is a small portion of each consumer’s budget.

**Table 1** shows that the purchasing pattern changed markedly at OSU when the ecolabeled pencils were double the price of non-ecolabeled pencils. Clearly this price difference affected purchase patterns. Now the mystical price premium gorilla has grown to the point that many consumers no longer ignore it. An obvious explanation is that consumers were not willing to pay double for the intangible benefit of supporting good forest management.

**Conclusions**

Much environmental policy is driven by individuals’ claims about the value he or she places on environmental amenities and attributes. As revealed by actual purchase patterns, however, individuals’ stated willingness-to-pay and his or her demonstrated willingness-to-pay for those same environmental amenities may not be consistent. This inconsistency is explained by the basic economic principle of an inverse relationship between the price of a good (any good) and quantity demanded of that good. In this case, it suggests that when individuals are required to pay real money for environmental amenities claimed to be highly valued, his or her actual consumption of those amenities falls as the cost increases. This implies what we have termed a “price premium in the mist” behavior pattern. When individuals do not see the price premium gorilla through the environmental rhetoric mist, he or she reacts to the mist; however when the price premium gorilla suddenly appears, he or she is very likely to react to the gorilla and not the mist.

**References**

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