Does Better Information Lead to Better Choices? Evidence from Energy Efficiency Labels

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**Introduction**

Information provision is a key component of government energy efficiency policy. An important example is the ubiquitous yellow “Energy Guide” label, which is required by law to be on all major appliances sold in the United States. This label’s information is intended to help consumers make better decisions. However, most labels report only very coarse information, based on national average energy prices and typical national usage, and as such may not provide the accurate information necessary for consumers to make efficient decisions.

This paper focuses on the quality of the provided information, asking whether tailoring information to match consumers’ characteristics leads to more efficient choices. The authors conduct an online randomized control trial measuring how consumer decisions change if the information is tailored to each household’s state of residence. Participants were asked to make a hypothetical air conditioner purchase decision. The control group was shown the current labels based on national energy prices and usage while the treatment group was shown labels based on more precise, state-specific information about energy prices and usage.

Groups were then asked to choose between air conditioners with different purchase prices and levels of energy efficiency.

**Goal**

To determine whether the quality of information that is provided in labels for energy-consuming appliances can lead consumers to make more efficient choices.

**Research**

- **Experimental Overview:** Participants were asked in an online randomized control trial to make a hypothetical air conditioner purchase decision. The control group was shown current “Energy Guide” labels based on national average price and electricity usage while the treatment group was shown labels based on more precise, state-specific information about energy prices and usage.

- **Experimental Results:** The study found that state-specific labels led to higher investments in energy efficient air conditioners in states with high energy prices and high usage, such as Florida, while investments fell in states with low energy prices and low usage, such as Maine.

- **Policy Lessons:** More accurate labels lead to better choices. While customers use the information on labels, they do so without analyzing it carefully. The implied savings are larger than the estimated costs of implementing state-specific labels.

**Result**
The results (Figure 2) show that more accurate labels, i.e., those with state-specific price and usage information, lead to better choices. Households in states that faced low energy prices and low expected usage tend to invest less in energy efficiency, while those in states facing high energy prices and high expected usage tend to invest more. Overall, the amount of investment is about the same, but the allocation of energy efficiency investment is more efficient.

The study reveals that people take the information on the labels as given, without analyzing it carefully. The content of the labels affects people’s decisions, but consumers are not exerting the additional effort that would be required to understand how the information on an appliance label applies to them specifically. The implication is not that consumers are making mistakes, but that understanding and translating the information to make it relevant to an individual consumer’s situation requires time and effort. These are real, nontrivial costs for consumers, and the benefits they gain from becoming informed are relatively modest, so it makes sense that many consumers do not fully analyze the information provided.
Figure 2: Better Labels Lead to Better Choices

Figure 2 shows that more accurate, state-specific information on air conditioner labels led to better choices. In particular, the authors ranked states by estimated operating costs and then divided them into three groups based on whether the state was in the lower, middle, or upper third of all states. The y-axis measures the “energy-efficiency ratio” (EER), or the ratio of an air conditioner’s cooling capacity (in BTUs) to its electricity consumption (in watts). The figure plots the mean EER, along with the 95% confidence interval, of participants with national labels along with those of participants with state-specific labels by each group of states.

The implied savings for state-specific labels in aggregate are substantial. The authors find that these labels decrease the lifetime cost by an average of $10 per air conditioner, with much larger savings in high-cost states. The implied aggregate savings are larger than the estimated cost of implementing state-specific labels.

This paper contributes to our understanding of the role information plays in shaping consumer purchase decisions, while providing insight into possible policy tools to achieve more efficient investment in energy efficient capital. It matters what information is provided and how it is provided.

About Us: The E2e Project’s Mission and Strategy

Supported by a generous grant from The Alfred P. Sloan Foundation, the E2e Project is a joint initiative of the Energy Institute at the University of California at Berkeley’s Haas School of Business, the Energy Policy Institute at Chicago at the University of Chicago, and the Center for Energy and Environmental Policy Research at the Massachusetts Institute of Technology. E2e unites top researchers in economics, engineering and other fields and uses transparent and state-of-the-art analytical techniques. Our mission is to solve one of the most perplexing energy puzzles of our time—the efficiency gap. Infusing the creation of knowledge with a commitment to non-partisan outreach, E2e aims to create a cheaper and greener future. (http://e2e.haas.berkeley.edu/)