Abstract

State regulators in the U.S. require subsidies for energy efficient washing machines, refrigerators, and other durable goods as an important piece of energy conservation policy, and spending on these programs has grown by 18% per year since the early 2000s. This paper examines the economic efficiency and distributional equity impacts of appliance subsidies on top of pre-existing regulations like the Energy Star label. Using household level data on program participation and energy usage, I estimate a model of appliance purchase and utilization that enables me to predict household behavior under a range of subsidy amount and energy price combinations. As a central piece of this analysis, I allow fundraising for the subsidies to affect households’ decision making. This approach is more comprehensive than the traditional program studies that implicitly assume subsidy fundraising is non-distortionary. I find that the current program reduces economic efficiency and creates a regressive redistribution of wealth. However, raising subsidy funds through a fixed charge to customers’ bills cuts the deadweight loss associated with the policy in half, and means-tested program eligibility criteria yield efficiency improvements and a more neutral redistribution of wealth.