

CONSUMER BEHAVIOUR

All stocked up

Energy Econ. **81**, 566–576 (2019)

The United States Energy Independence and Security Act gradually banned the production and import of incandescent light bulbs between 2012 and 2014 with the intention of replacing them with more energy-efficient bulbs and reducing electricity use. Using retail data, Xiao Dong and H. Allen Klaiber at Ohio State University show that the ban led to stockpiling and a near doubling of sales of incandescent bulbs, significantly reducing the projected energy savings from the policy measure.

The researchers collected aggregated weekly product sales in ten large retail stores in Ohio from January 2010 to February 2012 when the ban on 100 W bulbs went into effect. They sorted the sales data into ‘before stockpiling’, ‘stockpiling’ and ‘post-ban’ periods. They observe the first large spike in sales in late October 2011 and overall saw a 96.9% increase in sales of 100 W light bulbs. They resolve that this is a demonstration of consumers engaging in averting behaviour to avoid the negative effects of loss of variety as a result of the ban. The researchers also see the spike as one indication of revealed preference for incandescent light bulbs. Finally, they conclude that ignoring this stockpiling behaviour significantly overestimates the planned utility of the policy. The researchers estimate that the stockpiling could have reduced the potential energy-efficiency-related savings from the policy by as much as US\$21 million in Ohio and US\$589 million nationwide. Such second-order effects need to be taken into account during policy design and assessment of effectiveness.

Fouad Khan

Published online: 11 July 2019

<https://doi.org/10.1038/s41560-019-0435-x>