With rise of online shopping, has it saved us any money?

BY ANDREW VAN DAM
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The rise of online shopping has defined an entire epoch of American retail, yet we know little about what boost, if any, it has given to consumers and to the economy as a whole.

Because of how federal data have been collected, it's easier to answer questions about the price of butter or industrial spraying equipment than questions about what we buy online.

A team of economists from Stanford University and Visa hopes to fill in the gaps. The Stanford team gained for secure access from Visa to about 400 billion anonymous debit and credit transactions between 2007 and 2017, a stockpile that represents $21.2 trillion in economic activity. Consider the entire economic output of the United States in 2017 was about $19.5 trillion.

Researchers compared online transactions to their bricks-and-mortar equivalents and found the typical household gained about $1,150 in terms of convenience and expanded choice by shopping online in 2017, when the internet accounted for about 8 percent of all consumer spending. Their analysis was laid out in a recent working paper circulated by the National Bureau of Economic Research.

Stanford economist Peter Klenow said the team was surprised by the size of the online economy. "It should be on our radar," he said, because it could distort major indicators such as inflation and economic growth.

Online shopping has also exacerbated income inequality, the researchers found. Higher-income households enjoy three times the gains of lower-income ones, relative to spending. Households with annual incomes above $50,000 do about 9.7 percent of their spending online. For lower-income households, the figure is around 3.4 percent.

MIT Sloan economist Catherine Tucker, who proposed a framework for evaluating gains from digital commerce in the *Journal of Economic Literature*, said the Stanford team's measurements were a valuable complement to government data. Tucker has worked with Liran Einav, an author on the paper, but wasn't involved in this project.

Einav said Visa's data was "one of the few options" for measuring online activity across sectors and creating broad, economywide measures.

The economists estimated how much customers valued time and convenience by measuring how far someone was willing to drive before they would break down and shop at the same merchant online.

When the company offers online and offline options and the bricks-and-mortar option is a mile away, a customer will choose online about 12 percent of the time. When it's 50 miles away? The online option is picked more than half of the time.

Yet Americans in remote locations did not rely more on online shopping. Instead, the researchers found people in more densely populated areas were more likely to do their shopping online, though that may also be tied to education levels and access to the internet.

There's no formal definition of e-commerce. In this case, researchers excluded recurring payments and bills.

The challenge of measuring the impact of timesaving search engines or mapping apps has been widely discussed. Less attention has been paid to what Klenow called the "unmeasured GDP growth" created by providing online access to goods.

Poor measurement of the online economy may make the nation's economy appear differently. That misperception could lead policymakers to take unnecessary action like cooling an economy that isn't overheating or stimulating one that's hot.

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