# Undercover Economist: Under the hammer

By Tim Harford

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You might think that if there’s one thing an economist should be able to tell you how to do, it’s successfully list an item on the auction website eBay. Auction theorists are, after all, celebrated in the profession; one of them, Susan Athey, won the John Bates Clark medal in April. (Clark medallists, who include Paul Samuelson, Joseph Stiglitz and Steven Levitt, are scarcer than Nobel laureates.)

Yet although the theory of auctions is well-developed, its predictions are sensitive to wrinkles in reality. For example, the standard economic assumption that people are rational is usually a good one: when the price of beer rises, most people drink less beer. But auctions require ”if he thinks that she thinks that I think that he thinks” chains of reasoning that tend to have weak links. Those links can easily break if any bidder has any reason to suspect that any other bidder is irrational.

Another theoretical conundrum is entry to the auction. Most auction theorists assume a fixed number of bidders, all poised and ready to bid. But while economists can assume bidders into existence, eBay sellers have to go out and hook them.

This is no minor oversight of auction theory. Paul Klemperer, one of the economists behind the massive ”3G” auctions for mobile phone operators, has shown that trivial-seeming features of an auction can have big (and disastrous) effects by repelling bidders. For these reasons and others, wise auction theorists would avoid predicting how a specific auction design will work without knowing much more about the context.

Fortunately for economists, eBay offers solutions as well as problems. With hundreds of thousands of auctions starting every day, the auction site provides masses of data. And if the publicly available data isn’t enough, it’s also easy to conduct an experiment ”in the field”, studying bidders in their natural habitat.

David Reiley, an economist at the University of Arizona, has been studying online auctions since before eBay existed. In a recent paper with Rama Katkar, he investigated whether reserve prices in eBay auctions should be open or secret.

Auction theory offers an argument that a secret reserve price is better. A secret reserve price allows bidders to see each others’ gradually ascending bids and thus draw confidence that they are not alone in prizing the item. Even though the bids are too low to beat the reserve, they serve an important purpose of reassuring bidders that others are also interested. An open reserve price on eBay makes that reassurance impossible; nobody can submit a bid below the open reserve, and lacking any signs of confidence from other bidders, there is a danger that nobody may submit a bid above it either.

There are too many imponderables to tell whether this theoretical argument is what really counts in practice. So Katkar and Reiley put the theory to the test by simply selling 50 matched pairs of collectible cards, half with an open reserve price and half with a secret reserve price of the same level. Their conclusion, contrary to the theoretic argument, is that secret reserve prices are counterproductive. Far from stimulating interest they seem to put off bidders,who perhaps fear that a secret reserve is secret because it is far too high. Not wishing to waste their time, many of them just click ”back” on their browsers and find somewhere else to bid.

The conclusion may not shake the world but the method is important. David Reiley was one of the first economists to realise that the internet was generating vast amounts of researchable data. Now that data, from sites ranging from eBay and Amazon to Match.com, is enriching the study of economics. It may enrich a few eBay sellers, too.

*Tim Harford’s book ”The Undercover Economist” (Little, Brown) is out now in paperback.*