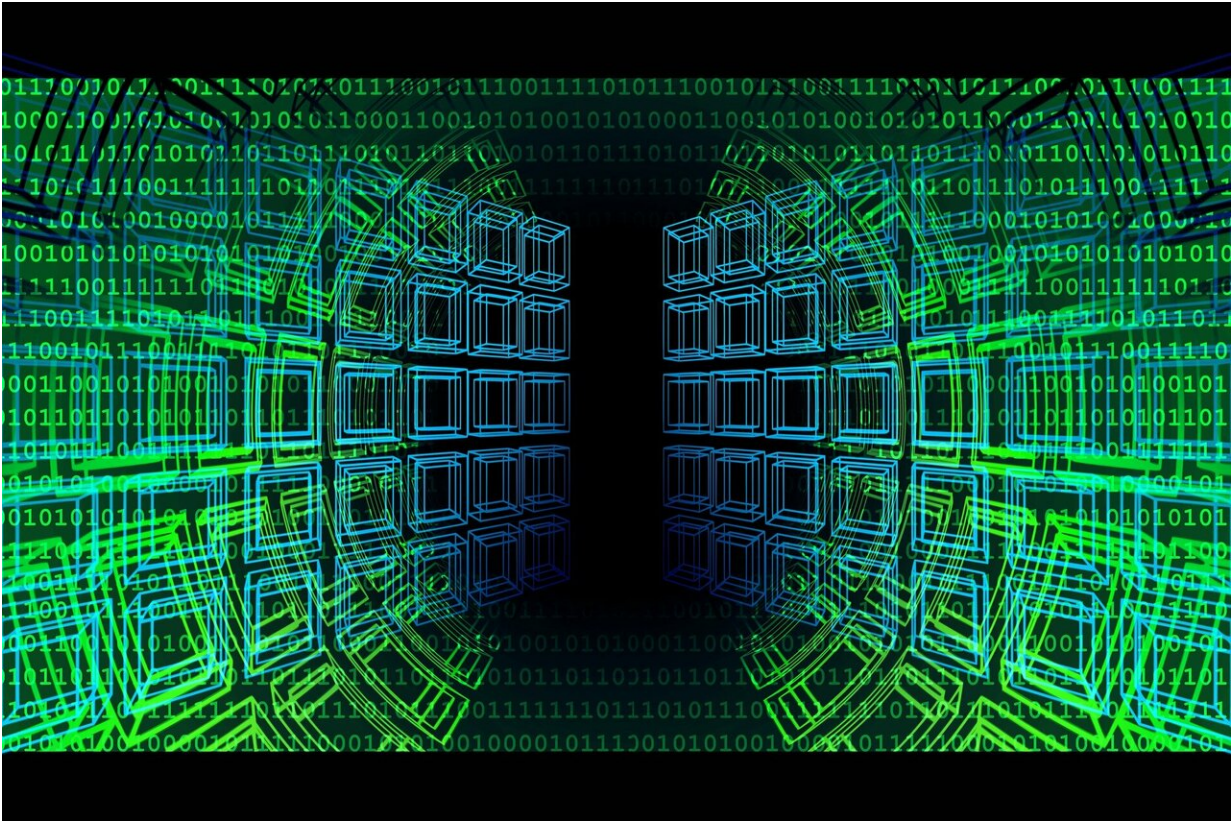# Looking for ways to prevent price collusion with AI systems

November 27 2020, by Bob Yirka

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A small group of economists from Italy, the U.K., and the U.S. has published a Policy Forum piece in the journal *Science* suggesting that consumers need to be protected from collusive price setting by AI

systems. They also outline some possible ways to solve the problem.

For most countries, price collusion is illegal. It is where two or more makers or sellers of goods get together and agree to charge higher than market [prices](#) for the goods or services they are selling. Such practices are illegal because consumers wind up paying higher prices than they would if prices were market based. In their paper the economists reveal that many [large corporations](#) have taken to using [computer systems](#) with an AI component to set their prices. Using computers to set prices is not new, of course, some companies sell hundreds of thousands of products. Using computers to help set prices saves a lot of time and money. But until now, such systems have been constrained by the laws in which the companies operate—such laws can be baked in. But now, the authors contend, things have begun to change. AI systems have found, through learned experience, that uncommunicated collusion can lead to higher profits. Such systems do not have to meet secretly in back rooms—instead, they use logic to discover that their company will make more money if they charge more for products. And if all of their competitors are using similar systems, they can all agree to raises prices and hold them there, without ever having to actually agree to do so. Worse, because they do not break any of the rules that have been established to prevent human price setters from colluding, there is nothing the law can do to stop them. At least not right now, based on current laws.

The authors suggest that lawmakers need to be made aware of the problem, and then they need to enact some [new laws](#) to protect consumers. One quick way to solve the problem would be to simply ban the use of AI based systems but the authors do not believe such an option would work—AI is used for so many parts of modern business it would be difficult to verify if it has been removed from pricing systems. But they also note that the businesses themselves could ask for changes by the programmers who write the AI apps—or even add new options that

would have such systems monitor themselves for collusive behavior. Such options could not only alert the people running the business—they could also alert trade commissions, or the system itself to modify its behavior to opt out of conducting collusive behavior.

More information: Emilio Calvano et al. Protecting consumers from collusive prices due to AI, *Science* (2020). [DOI: 10.1126/science.abe3796](#)