BMA ADVOGADOS

Algorithmic Collusion – An Antitrust View of Artificial Intelligence

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I. Algorithmic Collusion as a Competition Offense

The increasingly frequent use of artificial intelligence tools in business can undoubtedly enhance operational efficiency, by automating processes that previously relied solely on human analysis and decision-making, ranging from data screening and processing to business and investment decisions. Pricing algorithms are a significant item in the AI toolbox, since they allow for automatic implementation of prices changes in response to rapidly-changing market conditions.

As the use of pricing algorithms grows, so does debate over the competition issues they raise. The problem is that not only can the algorithms serve to implement an explicit anticompetitive agreement among competitors, they have the potential to create an artificial price equilibrium without human agreement or interaction. Conversely, there is also debate about the extent to which algorithms could lower prices to capture demand, especially when it is high and predictable, deviating from a potential price agreement among competitors.

The use of algorithms to implement cartels does not make them any less illegal: cartels are a competition offense, regardless of the tools used. Nor does the use of AI alter the human nature of the violation. The real challenge presented by the legal issues surrounding pricing algorithms is how (or whether) parallelism in decisions made by AI tools, without human action, can constitute anticompetitive conduct.

This debate goes beyond traditional legal scenarios: it is a complex question that competition authorities around the world have not yet answered. The major difficulties lie in the absence of legislation dealing with price parallelism achieved autonomously, without human interaction; the challenge of treating conduct that does not involve communication between market actors as an offence (and thus subject to investigation and sanctions); and the problems inherent in identifying (and proving) wrongful intent on the part of the agents — all without slowing the pace of innovation.

II. An Overview of the Debates

Brazil's competition authority, CADE (Conselho Administrativo de Defesa Econômica), has dealt with a few cases of collusion involving the use of algorithms. To date, both nationally and internationally, there are no precedents where the autonomous action of systems has been proven. All known cases involved some level of human intervention — the companies accused of collusion decided on the desired outcome, and AI systems were merely a means to achieve the intended ends.

The most recent decision by CADE's Tribunal[1] occurred in 2016. The Tribunal found an association of vehicle licensing expediters and driving schools and a software company guilty of forming a cartel. The association employed the software company's system, using it to distribute students among the members of the cartel and issue price lists agreed on at meetings between the driving schools and expediters.

Another case, dating from 2004[2], involved Brazilian airlines and a fare data system that allowed price change notifications posted by one airline to be viewed by other airlines before they were became available to customers. The airline making the price change could thus opt out if competitors did not follow suit.

Competition authorities worldwide are aware that the use of artificial intelligence requires a different approach from the analysis employed in conventional cartels, such as methodologies that can detect and prove collusion implemented through AI tools. As for whether price alignment achieved solely through the algorithms constitutes a competition offense, the question is much more complex. While pricing algorithms can tend toward equilibrium, wrongful intent must be proved before price parallelism constitutes a competition offense, and demonstrating intent is a challenge that competition authorities must meet. In short, algorithmic collusion is a topic that requires further study before changes to the law can be proposed.

NOTES

[1] Administrative Proceeding no. 08012.011791/2010-56.

[2] Administrative Proceeding no. 08012.000677/1999-70.

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