

# Dynamic Pricing: Constraints, Elasticity and Algorithmic Manipulation

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## Abstract :

Dynamic pricing was popularized in the 1980s by the U.S. airline industry, in the midst of deregulation. It consisted above all in filling the aircraft, by optimizing the fare mix under capacity constraints. However, the customer's vision was very crude; this was before the Internet era and it was the travel agent who was in charge of the search and booking. The same techniques, based on customer segmentation, demand forecasting and (stochastic) mix optimization, have been successfully propagated to other market sectors such as rail transport, cruises, hotels or even very recently container transport. In this presentation, we will aim at showing how dynamic pricing as applied by large digital platforms (market places, online travel agencies, etc.) offers a breakthrough in the way of anticipating and influencing customer behavior through price. We will insist on the fact that this power of influence, boosted by new families of algorithms, is powerful but can generate abuses. These abuses may concern consumers' law, suppliers' rights and potentially competition law. We will try to show the difficulties to audit this kind of practices and the challenges for the regulatory authorities. We will argue for new supervisory frameworks, as outlined in the Digital Market Act proposals at the European level.