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AI, Pricing algorithms and Antitrust

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General framework

- Pervasive role of algorithms:
  - not just online but also **traditional markets**
  - relevance will be growing due to **AI techniques**
  - influence on **different dimensions** that impact on consumers' choice:
    - Choice architecture: the way products are presented to consumers (e.g. ranking, recommender system)
    - Prices: AI favored the transition from static to dynamic pricing algorithms (e.g. self learning algorithms)
- Large availability of data leads to better *knowledge* about consumers and *predictability* of competitors' behaviour

➔ Algorithms are deemed to spur the rise of **price discrimination** (PD) and **collusion**:

- Traditionally seen as alternative: PD reduces transparency on the market, making deviations from collusive equilibria less detectable and ultimately undermining their stability [CMA (2018)]
- However, according to recent studies, ban on PD helps reduce the risk of collusion (Peiseler, Rasch and Shekhar, 2022 ; Colombo, Pignataro, 2022, Colombo et al., 2024) ➔ positive correlation btw these phenomena

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Focus on Price Discrimination

- PD more feasible: algorithms have reduced the costs of collection, storage, analysis of data (Gal and Rubinfeld, 2023)
- Revitalization an "old" debate on the impact of PD on Consumer Welfare (CW):
  - PD poses some **distribution issues** (among consumers➔ neutral from the antitrust perspective)
  - PD tends to be **welfare-enhancing**:
    - ➢ It **increases efficiency**:
      - more rapid response to fluctuations in supply and demand, allowing an improvement of competitive markets function by optimal price discovery (allocative efficiency)
    - ➢ PD also tends to have a **market expansion effect**: firms reduce prices to lower valuations' consumers who otherwise -under uniform pricing- would be underserved

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Case of individual PD: Personalisation

- Framework more **complex** if algorithms use **individual consumers' data** (i.e. browsing & shopping history, device used, location, income, etc.) to set prices (see FTC's inquiry into Surveillance Pricing Practices)
- Impact of personalized pricing on CW not straightforward:
  - **Benefits:** the market expansion effect and/or lower prices due to tough competition on every consumer (Thisse and Vives, 1988)
  - **Potential competitive concerns:**
    - an asymmetric adoption of personalization due to an asymmetric accumulation of data can make the position of dominant players less contestable (Rhodes and Zhou, 2024)
    - lack of transparency on *whether* and *how* firms make use of pricing algorithm for discrimination can prevent consumers to make informed choices (see CMA investigation into Ticketmaster over Oasis concert sales)
    - more consumers with strong preferences for one product and partial market coverage decrease *aggregate* CW (Rhodes and Zhou, 2024)
- **Empirical evidence** not conclusive on how widespread is first-degree PD:
  - Some reports find little evidence of this phenomenon (e.g. Personalized pricing, study for the European Parliament, 2022- IPSOS, Study for the European Commission, 2018- UK OFT, 2013)
  - Other recent studies find evidence of personalization (e.g. Aparicio et al. (2024) for online grocery retailers in U.S.)

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Challenges for Antitrust Authorities

- Which **room for intervention**:
  - **Case by case approach:** impact of discrimination on CW not straightforward and depending on some conditions (f.i. degree of discrimination and level of transparency given to consumers)
  - **Technical skills** to understand impact of pricing algorithms on the functioning of the markets:
    - **External technical experts**: Outsourcing part of the analysis gets the proceedings' results more consistent and timely (IC56).
    - **Data science Unit at ICA:** Filling the gap between economics and data science that are not substitutable
  - Still economics matter for **prioritization of intervention:** with scarce resources, crucial to focus interventions on sectors where the phenomenon is more likely to occur
- Selection of the **most appropriate tool** is far from easy:
  - Consumer protection best placed for transparency profiles: information obligations in case of personalization based on an automated decision-making (Recital 45 Omnibus Directive; Art. 49, co. 1, lett. e-bis) Cons. Code)
    - In this context, ICA well positioned given that it can rely on its **dual competencies**
    - In an investigation for potential infringement of the rules on unfair commercial practices by **Vueling (PS12650**) ICA accepted a set of commitments aimed to address the alleged lack of clear information on the fact that the price of additional hand luggage services could vary depending on the purchase channel (web or app)
  - Reliance on a **new competition tool➔ market investigation** resulting in the imposition of remedies (IC 56 precisely to investigate the **spread and usage of pricing algorithms in the air transport sector;** ongoing)