

Algorithms, personalised pricing and coordination

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What is personalised pricing and how does it relate to algorithms?

- **Recent CMA research paper explores two ways that algorithms might affect competition**
 - Facilitate collusive agreements and/or increase the risk of tacit coordination
 - Allow increased targeting of individual consumers
- **Personalised pricing: “Using information about individuals’ conduct or characteristics, to set different prices to different consumers based on what the business thinks they are willing to pay”**
- **Two essential ingredients for personalised pricing**
 - ‘**Big data**’ on consumer conduct and characteristics
 - **Algorithms** to estimate willingness to pay and implement individual pricing strategies

Does personalised pricing exist?

- **Lots of anecdotal evidence**

- E.g. 12% of respondents to recent European Commission survey reported having had a 'bad experience' of personalised pricing
- Press reports of personalised pricing in airlines and retail markets

- **Surprisingly little robust empirical evidence so far**

- E.g. see recent CMA and European Commission studies; also OECD summary

- **Overall: firms increasingly have the *ability* to charge personalised prices; but *incentives* currently unclear?**



"HONESTLY? I PREFERRED WHEN WE DIDN'T TALK ABOUT THE ELEPHANT"

Should we be worried about personalised pricing?

- **Price discrimination is frequently pro-competitive**
 - E.g. cheap air fares to marginal consumers can lead to expansion of output and strong competition between airlines
- **However, we might have concerns about**
 - Distributional impacts – good for total welfare, but not necessarily good for consumers...
 - Exploitation of vulnerable consumers
 - Impact on trust in market outcomes?
- **Recent OECD paper gives an excellent summary of the arguments**

- **Does possibility of personalised pricing make algorithmic collusion less likely?**
- **Economic models of coordination would suggest yes**
 - Coordination is less likely where products are heterogeneous – algorithms do not change this basic result
 - Coordination over individualised prices would require coordination across each customer segment and/or for firms to have a shared understanding of each customer’s willingness to pay
- **Ezrachi and Stucke (2017) argue that a market might divide into a coordinated segment and a segment with personalised prices**
 - In equilibrium, firms would make individualised offers to price sensitive customers with high demand (‘high value’ customers)
 - Other customers would receive the tacitly-coordinated price
 - However, relies on very strong assumptions
- **Overall: could have concerns about either coordination or personalisation, but unlikely for both to occur in the same market**