



The Competition Law Firm

# Algorithmic tacit collusion and individualized pricing: Are antitrust concerns justified?

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# THE ALLEGED RISE OF ALGORITHMIC TACIT COLLUSION (ACT)

- Eyrachi and Stucke claim that pricing algorithms will increase the risk of tacit collusion (algorithmic tacit collusion).
- They also claim that algorithmic tacit collusion will not affect all markets, but only markets that have the following characteristics:
  - Concentrated markets involving homogeneous products
  - Presence of a credible deterrent mechanism to deviation
  - No buyer power and high barriers to entry.
- In these markets, pricing algorithms would facilitate tacit collusion because :
  - Monitoring competitors' pricing is easier and deviation can thus be more easily identified
  - Retaliation will be faster and thus deviation will be less profitable
  - Stability will increase given that computer algorithms are unlikely to exhibit human biases.
- Because monitoring of deviation and retaliation will be made easier, tacit collusion may arise in markets that are not as concentrated as they would have to be in the absence of ACT.

# LIMITS ON ALGORITHMIC TACIT COLLUSION

- ATC postulates algorithm homogeneity (all algorithms are programmed to “monitor price changes and swiftly react to any competitor’s price reduction”).
  - But what happens in case of algorithms heterogeneity ? (Petit, 2017)
  - Couldn’t algorithmic trading lead to more, rather than less, aggressive and opportunistic behavior? (Dolmans, 2017)
- ATC focuses on the use of algorithms by sellers for anticompetitive outcome, but ignores the possibility of countervailing strategies. Buyers can also use technology to undermine anticompetitive outcome (“algorithmic consumers”).
- ACT has no or limited impact on many factors affecting (tacit) collusion. In fact, the same technology trends that facilitate tacit collusion may also make it harder.
  - There is an increase in product heterogeneity (product customization in many industries: build your own car, bike, computer, shoes, etc.) and the development of “product as a service”.
  - Customized pricing reduces the risk of (tacit) collusion.

# ACT HAS NO OR LIMITED IMPACT ON MANY FACTORS AFFECTING (TACIT) COLLUSION

<b>FACTORS AFFECTING (TACIT) COLLUSION (IVALDI ET AL. 2003)</b>			
	Impact of computer algorithm on collusion		
	Increase risk	Decrease risk	No /limited impact
Numbers of competitors	X		
Market share symmetry			X
Frequency of interaction			X
Market transparency	X		
Demand Growth			X
Business cycles and demand fluctuations			X
Innovative markets		X	
Cost asymmetries			X
Asymmetries in capacity constraints			X
Product differentiation		X	
Multi-market contact			X

# CUSTOMIZED PRICING MAKES (TACIT) COLLUSION HARDER

- According to Eyrachi and Stucke, the same factors that allow algorithmic pricing (growing use of artificial intelligence, big data, etc.) might enable sellers to engage in near “perfect price discrimination”. As a result, firms like Amazon will be able to identify each customer’s “reservation price” (first-degree price discrimination).
- If that is the case, it will make it harder for sellers to engage in tacit collusion even in markets that are conducive to such collusion (because there are few players and the products are homogeneous).
- Eyrachi and Stucke, however, argue that ATC and behavioral discrimination can occur simultaneously and they use as an example an experiment involving 1.5 million consumers who frequented MGM’s Las Vegas casinos (Nair et al., 2016).
  - Nair et al show how casinos may on the basis of data gathered from their customers optimize their marketing dollars by focusing their spending on “high value” customers. But it doesn’t do more than that.
- Hence, it takes a giant leap to suggest that “hybrid” tacit collusion could be workable (competitors tacitly colluding on prices for “low value” and behaviorally discriminating for “high value” ones).

# SHOULD WE BE CONCERNED ABOUT CUSTOMIZED PRICING ?

- It depends from one's standpoint:
  - Price discrimination (even perfect one) is not an offense under EU competition law. Article 102(c) TFEU requires strict conditions that will rarely be met in practice.
  - Economists are very cautious when it comes to describing the welfare effects of price discrimination. It very much depends on a variety of factors (e.g., whether it increases output).
  - Eyrachi and Stucke express concerns that behavioral discrimination might shift the demand curve to the right in "inducing us to buy things we ordinarily wouldn't have or want." But that has little to do with competition law. Moreover, isn't this the case of all marketing efforts?
  - Individualized pricing is subject to inherent limits in that consumers may revolt against it. Other forms of customized pricing, such as segment pricing (third degree price discrimination) or dynamic pricing (as in travel and hospitality industries) have been around for a long time and are generally well accepted.
  - In case of market failures, regulatory measures can be adopted to ensure transparency (which is arguably seen as a key factor by consumers), etc.

# CONCLUSIONS

- While pricing algorithms may facilitate (tacit) collusion in some settings, the same technological trends that have led to increasingly sophisticated pricing algorithms may also make (tacit collusion) harder due to growing product and price heterogeneity.
- While it is always important to stay vigilant, there is no reason to give to pricing algorithms more attention than they deserve and to take precipitous action. Current competition rules and tools are sufficiently flexible to catch anticompetitive behavior when it occurs. Building agency expertise to tackle new challenges may nevertheless be desirable.
- Customized pricing is also made easier by pricing algorithms and should act as a counterweight to tacit collusion. EU competition law does not prevent price discrimination, except in rare circumstances and there is no reason why individualized pricing should change the status quo.
- In case of manifest abuse, Article 102(a) TFEU can catch “exploitative behavior”. Competition law is not the right tool to further fairness considerations or, more generally, consumer protection objectives.

Thank you.

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