

Unintended consequences of DMA: An academic view

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Plan of the talk

- Brief summary of DMA obligations
- Unintended consequences of DMA and its implementation
- **Focus:** Self-preferencing, how economic analysis can help.

DMA Obligations for gatekeepers (Articles 5, 6, 7)

- Ban of using personal data collected from core platform services for online advertising or combining it with data from other services unless user consent.
- Ban of MFNs.
- Ban of using (non-public) 3rd-party data for 1st-party product decisions in competition against 3rd-parties.
- Enable users to easily uninstall and/or change default settings of software applications on the operating system (except for measures for integrity or security of the system).
- Ban of tying/bundling of core platform services to/with other products/services offered by the platform.
- Allow and technically enable the installation and effective use of 3rd-party software applications or app stores (except for measures for integrity or security of the system).

Obligations (Articles 5, 6, 7)

- Prohibition of self-preferencing.
- Prohibition of restrictions on users switching between different software applications.
- Allow free interoperability (except for measures for integrity or security of the system).
- Allow free access to data measuring the tools of the gatekeeper for advertisers and publishers.
- Allow free portability of user data.
- Guarantee FRAND access to search data (ranking, query, click, and view).
- Guarantee FRAND access of business users to core platform services.
- Guarantee interoperability of interpersonal communication services.

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- **Reduced innovation:** Lower returns from investment in new products/services, for example, due to prohibition of self-preferencing or FRAND access terms.
- **Change in business models:** Ban of self-preferencing might end hybrid models, lowered revenues from data might induce higher fees for the other side (consumers) (from ad-financed to subscription-based models).
- **Increased costs and/or lower quality for consumers:** Increased fees, choice overload, e.g., due to switching prompts, low curation of products/services, security risks.

Unintended consequences of DMA- Ctd

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- **Negative impact on small platforms:** Regulation enables gatekeepers to commit not to adopt distortionary practices, like imitating 3rd-party innovations.
- **Risk of collusion:** Free access to data measuring advertising tools might facilitate collusion among advertisers/publishers.
- **Jurisdictional challenges:** Companies might quit/avoid EU.

Recommendations for implementation of DMA

Effective and proportionate implementation of the DMA, De Streel et al., Jan 2023, CERRE.

- Clarify the obligations for gatekeepers
- Clarify how compliance with the obligation is to be assessed and demonstrated.
- Proportionality (to avoid harm on innovation and consumer choice)

Economic analysis is essential to address implementation challenges.

Example: Self-preferencing.

Article 6(5): Prohibition of self-preferencing

- *“The gatekeeper shall not treat more favourably, in ranking and related indexing and crawling, services and products offered by the gatekeeper itself than similar services or products of a third party. The gatekeeper shall apply transparent, fair and non-discriminatory conditions to such ranking.”*

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- **Subject: Gatekeepers** that offer their own products/services (1st-party products or private labels) on their **core platform service** along with 3rd-party products/services, **hybrid platforms**, like Amazon, Apple App Store, Google Play Store, Google Search.

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- **Subject: Gatekeepers** that offer their own products/services (1st-party products or private labels) on their **core platform service** along with 3rd-party products/services, **hybrid platforms**, like Amazon, Apple App Store, Google Play Store, Google Search.
- **Concern:** Self-preferencing would put 3rd-party products/services at a disadvantaged position, which may lead to lack of contestability regarding 3rd-party offerings.

Challenges for implementation

- What does self-preferencing include? To what extent fees associated with rankings are subject to Article 6(5)?
- How to disentangle self-preferencing bias from legitimate differential treatment in rankings?
- What kind of evidence is necessary to prove that there is no bias?
- Can a bias be demonstrated when rankings are based on AI based (self-learning) algorithms?
- What if evidence documents consumers prefer 1st-party products/services to 3rd-party products?

What does self-preferencing include?

- Commissions on 3rd-party products will divert sales from them to 1st-party products (“insidious steering”, see Anderson and Bedre-Defolie, 2021).
- Fees paid to improve 3rd-party product rankings (advertised links).
- Fees for add-on services (like fulfillment) to guarantee higher placement or quality labels (like “Prime”), or to get the chance to be a seller (e.g., placed on the first page of search or to be the BuyBox seller).

Question: To what extent fees associated with rankings on a hybrid platform are subject to Article 6(5)?

Economic analysis can help

- To identify when self-preferencing bias occur
- To quantify the effect of the bias
- To evaluate the effects of different measures and whether they are inline with the DMA objectives
- To identify factors that increase the incentives to do self-preferencing and the factors that exercabate its harm.

Self-preferencing: Incentives and potential impact

- **Chicago School:** Platforms collect commissions and care about consumer traffic, why would platforms foreclose/disadvantage 3rd-party products that are better than own products ?

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- How does hybrid model differ from private labels in retailing? (Hagiu and Wright, 2015a, 2015b; Johnson, 2017; Shopova, 2023)

Self-preferencing: Incentives and potential impact

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- **Hybrid mode intensifies competition:** Platform products compete against powerful sellers, so should lead to lower prices.
- How does hybrid model differ from private labels in retailing? (Hagiu and Wright, 2015a, 2015b; Johnson, 2017; Shopova, 2023)
- Banning self-preferencing will affect fees on 3-party sellers and/or make hybrid mode less profitable.

Is hybrid mode good for consumers?

What we know: It depends on

- level of differentiation (homogenous vs differentiated)
- the type of seller fee (percentage vs unit),
- elasticity of third-party product entry (effect on variety)
- whether there is imitation of third-party innovation
- whether there is self-preferencing

Differentiated products

E.g., Product level search on Amazon

The screenshot shows an Amazon search results page for 'Bluetooth Speaker'. The page is filled with product listings, each featuring a product image, brand name, title, price, and a 'Buy now' button. The listings are differentiated by features such as portability, light projection, and specific brand names like JBL and Anker.

Product	Price
DOCKA D FINE Hi-Fi Bluetooth Speaker - speakers for indoor / outdoor, wireless, easy to carry, waterproof, 30 Watts, Black	\$119.95
Bluetooth Speaker with Light, Portable Bluetooth Box with IPX7 Water Protection, Built-in Bass Enhancer, 30W Drivers, Hands-Free Function, Bluetooth Wireless Speaker for Home, Outdoors	\$39.99
Anker SoundCore 2 Bluetooth Speaker with Dual Clear Treble Bass	\$41.99
JBL GO3	\$49.95
Anker SoundCore Mini Super Portable Bluetooth Speaker, Single	\$27.99
Bluetooth Speaker with Light, Portable Bluetooth Box with IPX7 Water Protection, Built-in Bass Enhancer, 30W Drivers, Hands-Free Function, Bluetooth Wireless Speaker for Home, Outdoors	\$189.99
Bluetooth Speaker with Light, Portable Bluetooth Box with IPX7 Water Protection, Built-in Bass Enhancer, 30W Drivers, Hands-Free Function, Bluetooth Wireless Speaker for Home, Outdoors	\$29.99
DOCKA D FINE Hi-Fi Bluetooth Speaker - speakers for indoor / outdoor, wireless, easy to carry, waterproof, 30 Watts, Black	\$119.95

Hybrid mode arises in the same market and affects variety

Homogenous products

E.g., Amazon Standard Identification Number (ASIN) level

The screenshot displays the Amazon product page for the JBL GO3. The main product image is a blue and pink textured portable speaker. The price is shown as €34.99, marked down from a suggested price of €40.99. The page includes a 'Buy now' button, an 'Add to Basket' button, and a section for 'Other Sellers on Amazon' with a price of €40.88. Several elements are circled in red: the text 'Dispatched from and sold by Amazon', the 'Add to List' button, the 'New & Used (12) from €12.54 FREE Delivery' section, and the 'Other Sellers on Amazon' section.

Platform product entry replaces 3rd-party products, so hybrid mode arises across markets

With homogenous tastes for products

- Hybrid mode mostly BENEFITS consumers
 - the platform enters if and only if it is efficient to do so (Etro, 2021; Anderson and Bedre-Defolie, 2022)
 - intensifies competition by constraining the big seller's price (Hagiu et al. 2021; Hervas-Drane and Shelegia, 2022).
 - might harm consumers if a big seller has market power on the platform and on its direct channel (Anderson and Bedre-Defolie, 2022).
- Self-preferencing is BAD for consumers (Hagiu et al. 2022, Hervas-Drane and Shelegia, 2022),
- Imitation of sellers innovation is BAD for consumers (Hagiu et al. 2022).
- Banning self-preferencing might be harmful if the platform turns itself to a pure reseller (Hagiu et al. 2022)

With heterogenous tastes for products

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- HARMS if elastic seller entry and percentage fees (Anderson and Bedre-Defolie, 2021).

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 - unit fees and free-entry of sellers (Zennyo, 2020), it depends (Etro, 2021).
 - vertical differentiation and the platform enters with a low quality (Shopova, 2023)
 - it lowers double-markup problem arising from asymmetric information (Kang and Muir, 2022)
- **It depends** if imitation of sellers innovation (Madsen and Vellodi, 2021).

Anderson and Bedre-Defolie, 2021: Differentiated products

Hybrid mode is **bad for consumers** compared to a pure marketplace when percentage commissions and free-entry of sellers.

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 - Platform balances its revenues from own products and 3rd-party products.
 - When platform products improve in quality, it cares more about its own product sales, so increases commissions on 3rd-parties.
 - This leads to fewer 3rd-party sellers (less variety) and higher prices on the platform

Anderson and Bedre-Defolie, 2021: Policy implications

- **Explicit steering:** e.g., via recommendations, ranking, labelling, BuyBox. It is profitable if the platform's product has a high enough quality or low enough unit cost.

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- **Explicit steering:** e.g., via recommendations, ranking, labelling, BuyBox. It is profitable if the platform's product has a high enough quality or low enough unit cost.
- **If explicit steering is banned,** platform products generate lower revenue, so insidious steering incentives decrease and hybrid mode becomes less profitable.

Inelastic third-party product entry

- **Result 1:** More platform products increase the fees on 3rd-party sellers and prices of all products.
- **Result 2:** Consumers benefit from having more platform products, even if this replaces third-party products.
 - The platform product's price is lower than the fringe product price at equal costs (**different from free-entry model**).
 - Consumers switch to the cheaper platform product when there is more of them.

Empirical analysis of hybrid marketplaces

- Self-preferencing of Amazon via BuyBox (Hunold, Laitenberger and Thebaudin, 2021) and via 'Frequently bought together' (Chen and Tsai, 2022).
- Lee and Musolff (2021): self-preferencing (on Amazon) benefits consumers in the SR, but might be harmful in the LR by reducing variety.
- Lam (2021): Self-preferencing (on Amazon) benefits consumers compared to random recommendations. Divestiture would benefit consumers.
- Gutierrez (2021): Banning hybrid might harm consumers if the platform stops add-on services (prime, FBA).
- Crawford et al. (2022): Amazon entry is more likely in markets with low seller competition and high growth, good for consumers.

Amazon fees and selling channels from Gutierrez (2021)

Figure 3: 3P Fees as a % of 3P Sales, overall and by distribution channel

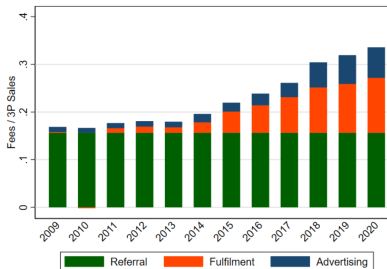
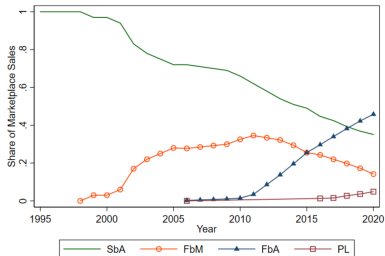


Figure 2: Share of Sales by Selling Method



Note: SbA: Sold by Amazon, FbM: Fulfilled by Manufacturer, FbA: Fulfilled by Amazon, PL: Private Label

Bedre-Defolie and Sokullu, 2023

- Using data from Amazon disentangle the impact of hybrid mode on prices from other factors like differentiation, the level of competition, product characteristics, seller characteristics.
 - Amazon's presence with its products varies significantly across categories (19% in lighting, 29% in luggage, 56% in baby, 66% in pet supplies, 83% in games).
 - Around 80-90% of products are Fulfilled by Amazon (FBA).
 - Prices are negatively correlated with Amazon's presence at the ASIN level, but not at the subcategory level.
 - FBA fees are positively correlated with Amazon's presence.
 - Product rating and being Prime are positively correlated with Amazon's presence.

Concluding remarks: Banning self-preferencing

- **It seems to be right:** Hybrid platforms might harm consumers by self-preferencing and imitating 3rd party innovation.
- **Need to clarify** its coverage and measures to implement it.
- The ban might lower commissions on third-party sellers and/or affect profitability of 1st party product entry (hybrid mode)
- Guidance from economic analysis is essential to identify the scope of the prohibition that improve market constestability and long-term interests of consumers.

Platform vs retailer (Anderson and Bedre-Defolie, 2023)

- Two main differences: fee structure (% vs. unit commission) and power difference in order of moves.

fee structure	% commission Fraction τ	Per unit commission / fee t per unit
Who sets retail price		
Platform sets commission Then sellers price	Trading Platform model (Agency model)	(Consignment model)
Manufacturers (sellers) set terms Then Retailer sets prices	Revenue - Sharing model (Franchise model)	Wholesale price model Classic double marg setting (Retail Model)

Simulation results

- We use a linear differentiated duopoly demand model:
 $D_i = \alpha - \beta p_i - \gamma p_j$ for the retail, agency, consignment, and franchise models (both with and without vertical integration)
- Find prices, demands, and consumer surplus for $\alpha = 2$, $\beta = 3$, $c = 0.1$, and vary $\gamma \in (0, 2.5]$ while ensuring interior solutions for each model.

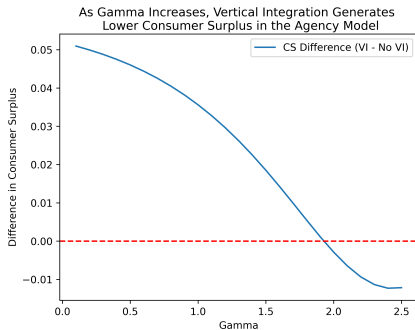
Simulation results

- All cases have prices above joint monopoly level due to forms of double marginalization. So firms and consumers jointly better off with lower prices.
- % fees perform better: they render (perceived) demand more elastic and enhance competition.
- Retail leads to highest prices and lowest CS
- VI elicits asymmetric equilibrium: in-house product prices lower because no extra cost
- VI enhances CS for γ close to 0. With independent demands, VI close down double marginalization in one channel

Retail model

- VI lowers cost of integrated firm and eliminates double-markup
- Unintegrated seller lowers its wholesale price in response
- Both prices decrease and consumers gain from VI!

Agency model

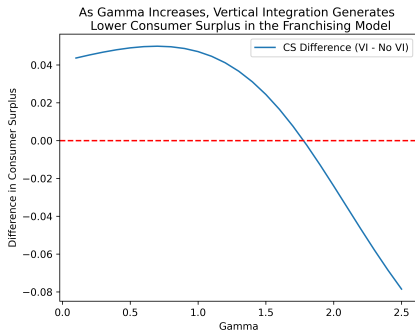


- VI leads to lower platform-owned product price (double markup effect), BUT
- VI leads to a higher commission on the unintegrated product (raising rival's cost effect)
- Consumer surplus is lower in the hybrid platform case if c is small and/or intense competition.

Retail vs Agency: Which difference is crucial?

- VI lowers CS due to the fee structure being % fee/revenue sharing, not because the platform sets the terms of the vertical contract
- When fee structure is %, CS may fall with VI regardless of the timing (both in Agency and in Franchise)

Franchise model



- VI leads to lower retailer-owned product price (double markup effect), BUT
- The unintegrated manufacturer raises the retailer's revenue share and this dampens competition.
- Consumer surplus is lower with VI if c is small and/or intense competition.

Anderson and Bedre-Defolie, IJIO, 2022

Hybrid mode is **mostly good for consumers**: The platform prefers to sell own products if and only if they are more efficient

- A gatekeeper platform hosts competitive fringe sellers

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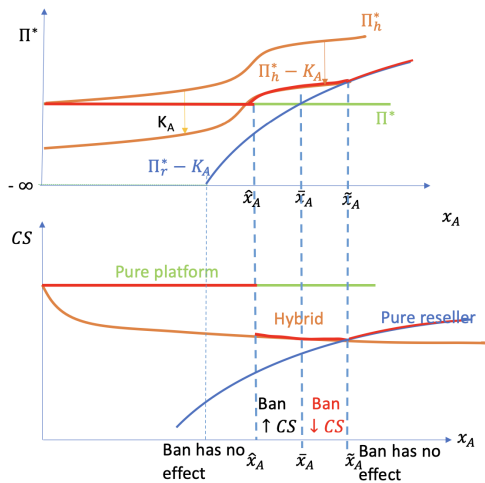
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Intuition: The platform sells its products to capture more rent from the big seller. [▶ Back](#)

The impact of a ban on hybrid mode



Amazon fees

Category	Referral fee
Amazon Device Accessories	45%
Automotive & Powersports	12%
Books, Music, Video & DVD, Software & Games, Toys & Games	15%
Consumer Electronics, Camera & Photo, Cell Phone Devices	8%
Clothing & Accessories	17%
Home & Garden, Kitchen	15%
Luggage & Travel Accessories	15%
Music, Musical Instruments, Office Products, Outdoors, Sports	15%
Personal Computers	6%
Video Game Consoles	8%
Extended warranties, protection plans	96%

Remark: Amazon's reseller channel is significant in clothing & accessories (14.5%), electronics (24%), sporting goods and entertainment (19%) (Statista 2018).

OLS Estimations: ASIN level

$$AmaSeller_{ic} = \beta_0 + \beta_1 No.offers_{ic} + \beta_2 FBA_{ic} + \beta_3 NewPrice_{ic} + \theta X_{ic} + \epsilon_{ic}$$

where X_{ic} includes a dummy showing if the product is prime eligible, product rating, number of reviews for the product, average seller rating and sales rank.

Table: Amazon seller in ASIN group

	Baby	Games	Kitchen	Lighting	Luggage	Pet Supp.
No. offers	.0143*	.0027*	.0122*	.0190*	.0098*	.0194*
FBA Fees	.0412*	.0143*	-.0015	-.0071	.0020	.0328*
New Price	-2.2526*	-.0698	.5736*	.4187	3.2252*	-.00251*
Prod. Prime	.5487*	.4159*	.5817*	.6483*	.5568*	.4689*
Prod. Rating	.1953*	.2909*	.0884*	-.0771	.32173*	.2682*
No. Reviews	-6.30*	4.79*	-1.72*	2.55	6.67*	-1.38*
Avr. Seller Rating	-.0035*	-.0036*	-.0048*	-.0031*	-.0035*	-.0040*
Sales Rank	-3.952*	5.166*	2.296*	-3.132	3.909*	-5.352*
Constant	-.4790*	-.7018*	.1686	.7390*	-1.1425*	-.6740*
Adj R^2	0.72	0.50	0.66	0.38	0.63	0.73

Regression results for equation 1 by category. * denotes significant at 5% level. No. reviews $\times 10^{-6}$, Sales Rank $\times 10^{-4}$, New Price $\times 10^{-3}$.

OLS Estimations: ASIN group (Sub-category level)

$AmazonPr_j$ is the share of ASIN groups in subcategory j where Amazon sells.

$$AmaPr_j = \beta_0 + \beta_1 FBAFees_j + \beta_2 ProdR_j + \beta_3 Price_j + \beta_3 Offers_j + \beta_5 SellerR_j + \beta_6 ASIN_j + \epsilon_j$$

Table: Amazon's presence in subcategory

	Coefficient	Std. err.	t	$P > t$
FBAFees	.02073	.0072	2.89	0.004
ProdRating	.2922	.0742	3.94	0.000
NewPrice	.0000545	.0003704	0.15	0.883
TotalOffers	.0006505	.0001183	5.50	0.000
SellerRating	-.008285	.0007552	-10.97	0.000
ASINCount	-.0018666	.0003478	-5.37	0.000
Constant	-.2328	.3373	-0.69	0.490

Discussion of Assumptions