Yale SCHOOL OF MANAGEMENT

13 January 2017

Online Vertical Restraints: theory, evidence, and competition policy

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Online commerce is often good for competition

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Internet exacerbates some market failures

Benefit	Problem in theory
Retail Services	Brand needs retailer to provide expensive local services, such as setting where power tools can be tried before purchase, perfume sampled, etc. Retailer that provides service can be undercut by online seller who free-rides, so incentive to provide services falls.
Platform Creation	
Exclusive Brand	
Search Comparison	

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Search Comparison	Brand invests in name. Consumers search using that name and find ads / listings for competing products. Those results induce price competition that lowers profits.

Solutions to these problems?

- Online vertical restraints (OVRs)
- May protect from market failures exacerbated by the internet
  - And allow the creation of new products and new business models
- Or, may harm competition
  - By raising prices, restricting innovation, or foreclosing entry

- Next describe particular OVRs that have attracted attention in legal cases and the theoretical literature
  - EU and US enforcement treatment

Free-riding: offline retail service

- Telser, L. (1960), Rey and Tirole (1986), *many* others
  - Service-providing retailers undercut by lower-cost sellers who free ride
  - Manufacturers cannot contract on needed services
- Empirical literature: Carlton & Chevalier (2001)
  - Manufacturers who distribute their goods online through their own websites charge high prices to internalize free rider issues, and seek to limit the distribution of their goods on discount sites
- RPM is a solution – more useful in the internet setting than ET

RPM enforcement example

- Australia
  - Tooltechnic, seller of high-end Festool power tools, argued its tools were complex products; brand image and sales depend on “high service” model (staff providing advice, product demos, training, in-store repairs, etc.)
  - Australian Competition and Consumer Commission allowed Tooltechnic to specify a minimum resale price to prevent free riding by discount retailers 2014
- EU: “hard core restriction,” or *per se* illegal
- US cases: Leegin (2007), Supreme Court allows rule of reason for resale price maintenance

Exclusive brand image

- Image is worth a higher price: Pesendorfer (1995), Liebenstein (1950), Veblen (1899)
- Buettner, Coscelli, Vergé, & Winter, R. (2009), “An Economic Analysis of the Use of Selective Distribution by Luxury Goods Suppliers,” *European Competition Journal*
  - Image is a key component of luxury goods: Customers value the brand image more than the actual characteristics of these products
  - Brand image would be eroded if the products can be bought anywhere online, creating a justification for selective distribution
- Empirical results:
  - Carlton & Chevalier (2001): manufacturers that limit distribution in the physical world (e.g. luxury perfume makers) also limit distribution online

Enforcement and brand image

- Restricted distribution is another solution useful in internet context
- EC approved selective distribution for Yves Saint Laurent Parfums in 2001: “certain products…have properties such that they cannot be properly supplied to the public without the intervention of specialized distributors”
- EC rejected restriction of online sales for image enhancement in Pierre Fabre case in 2011: “maintaining a prestigious image is not a legitimate aim for restricting competition”

- No challenges to restricted distribution in the US

Platform creation

- Boik, A. & Corts, K. (2016), "The Effects of Platform MFNs on Competition and Entry," *Journal of Law and Economics* 59: 105-134.
  - Pro-competitive: MFN protects platform investments
  - Anti-competitive:
    - MFN protects platform from price competition by other platforms
    - MFN makes entry by lower-end platforms difficult
- Empirical literature on MFNs (prices):
  - Healthcare MFNs: Fiona Scott Morton (1997)
  - Political TV advertising: Moshary, S. (2015), "Advertising Market Distortions from a MFN Clause for Political Campaigns"

Enforcement in online travel booking

Expedia and booking.com in Europe

- MFN prevents hotel from offering its rooms for less
  - On its own website
  - On any other travel platform
- An entrant platform cannot sell hotel rooms for less than the incumbent
  - Will get high-quality/high cost entry
  - Will not get lower-quality entry even if demanded by consumers

- EU: national (not EC) MFN litigation
  - Ban all MFNs: Germany
  - Ban narrow MFNs only: Italy, France, Sweden
- US:
  - eBooks: MFN plus cartel-like behavior among publishers
  - No US cases on platform MFNs

Search traffic and brand - issue

- Suppose brands are substitutes and consumers searching under a particular brand name are elastic
- The more intense is online product market competition, the lower prices will be => Online search that produces substitute brand names will benefit consumers and increase price competition

Therefore --

- Competitors have an incentive to restrict the information consumers see when searching their brand
- Search engine has incentive to maximize profit
  - Given its business model
  - And the product market setting

Example 1: Information withholding

- Airline flight search through OTAs or metasearch sites
- Search costs are very low; huge efficiencies
- US & EU: Last 2 years, “big 3” US airlines and alliance partners withholding fare and schedule info from online search engines
  - ⇒ Search sites allowed to show schedules and fares only if display subset of flights and prices chosen by airline, otherwise cut off
  - ⇒ Airlines in US have high domestic market shares (big 4 > 80%)

⇒ Search costs higher, consumers visit many sites, drives traffic to brand.com

⇒ Theory: equilibrium prices are higher, matches worse, entry more difficult

Enforcement of information withholding

- EU: none
- US: none

Too new?

Theory of harm:

- Two markets: airline flights and distribution of airline flights
- Market power in airline flights--
- Used to foreclose competitors in *distribution* of airline services

- Classic monopolization argument / abuse of dominance argument of leveraging into adjacent markets

Example 2: Search traffic and brand

- What is the product market impact of Brand A purchasing an ad when the consumer searches for Brand B
  - Is the consumer elastic between the brands or does the consumer’s search for B indicate inelasticity?
  - Likely heterogeneity across markets and search terms
- Will Brand B buy an ad for its own brand to prevent Brand A from securing the top spot?
- Is Brand B willing to pay for an exclusive contract that prevents A from buying an ad on a search for B?
- Will the SE profit from selling an exclusive?

Market practices

- Google has taken an increasingly permissive approach toward branded ads:
  - Pre-2004: buying ad for name of competitor limited
  - 2004: Allowed use of trademarks in ads by third parties even if brand owner objected
  - Mid-2000s: Introduced keyword tool suggesting relevant trademarks for ad clients to bid on
  - 2009: Allowed limited use of trademarks by competitors in advertising text

Trademark cases

- Focal brand sues competitor for trademark infringement
  - Courts have generally said that trademark protection does not allow the owner to block competitors from buying an ad with its name
  - Trademark owners must demonstrate likely consumer confusion, “not mere diversion,” when bringing infringement claims
- US: American Airlines v Google (2008), Rescuecom v Google (2010), Rosetta Stone v Google (2012)
  - Not settled in court, but considered victories for Google after the opposing parties dropped their cases
- EC: Louis Vuitton v Google (2010)
  - ECJ likewise ruled that Google may sell brand name keywords to competitors

1800contacts

- 1800contacts sues rival retailers for trademark infringement
- Settlement with rivals involves each one agreeing not to buy ads for each other’s brand names
- FTC opened an investigation

- Firm’s argument: we invested in our brand name and in consumer recognition. Now rival retailers are free-riding on that investment. Dynamic inefficiency will harm consumers.

Empirical evidence

- Simonov, Nosko & Rao (2016): Substitution is empirically a real threat to brands
  - Lose 15-30% of clicks if competitor buys ad for focal brand
  - Only lose 1-5% of clicks if buy defensive ad for own brand
  - Very expensive because most consumers click on ad and not on organic result
- Blake, Nosko & Tadelis (2015): Ads most useful for capturing infrequent / uninformed users; less effective when brand is already strong
  - Product market structure matters: e.g. eBay
- Still, incidence of advertising on competitor brands is low: Rosso & Jansen (2010) find only 4% of searches for major global brands return ads by a competitor

Many cases of no ads

- Car rental (Hertz, Avis)
  - Problem: Google shows ads for local car rental locations, discount sites, and OTAs
- Luxury watches (Rolex)
  - Problem: Google shows retailers with different prices (e.g. resellers) but not competing brands.
- Luxury cars (BMW, Lexus)
  - Problem: Google shows ads for local car dealerships rather than competing brands
- Cereal (Cheerios)
  - Problem: Google displayed nutritional info for cheerios but not many ads.
- Toothpaste (Colgate, Crest)
  - Problem: Only one of the toothpaste brands turned up competitor ads. Toothpaste is probably too cheap a product for online shopping

But, we found some markets that result in competing brand ads…

Industry	Company	# respondents	Total ads observed
Investment advice	Schwab	99	319
Investment advice	Fidelity	101	229
Investment advice	E-trade	104	327
Investment advice	TD Ameritrade	100	288
Life insurance	MetLife	90	338
Life insurance	NW Mutual	96	259
Life insurance	NY Life	99	297
Life insurance	Prudential	98	287

Example only! Motivational

Five industries searched:

Investment advice
Life insurance
Cell phone plans
Meal kits
Freelancers

Search is, e.g.:
“investment advice Schwab”
“life insurance MetLife”

Industry	Company	# respondents	Total ads
Freelancers	Upwork	101	264
Freelancers	Freelancer.com	96	349
Freelancers	Toptal	86	297
Freelancers	Thumbtack	108	249
Meal kits	Peachdish	87	209
Meal kits	Hello Fresh	95	338
Meal kits	Blue Apron	101	315
Meal kits	Plated	98	365
Cell plans	Verizon	103	147
Cell plans	AT&T	106	145
Cell plans	T-Mobile	89	191
Cell plans	Sprint	95	204

Amazon Mechanical Turk:

Task is to search a particular industry name plus brand name. Then record what ads appear
-- 5 industries x 4 competitors
-- 100 searches per term

Empirical prevalence of competitor ad-buying

Industry	Avg # ads/search	Defense: % of top-slot ads by own brand	Offense 1: % of total ads w/ competitor brands	Offense 2: competitor brand ad / search	Avg # competitors advertising	Evolution of industry
Meal kits	3.22	52%	76%	2.46	10	Brand new, growing
Freelancers	2.96	70%	67%	1.98	4	Relatively new, growing
Life insurance	3.08	63%	76%	2.36	13	Mature
Investment advice	2.88	90%	62%	1.78	16	Mature
Cell phone plans	1.75	75%	43%	.75	2	Mature, no fringe

Market structure and competitor ad-buying

Industry	Avg # ads/search	Avg # competitors advertising	Market structure	Who advertises? Intensity?	Top offensive advertisers	Evolution of industry
Meal kits	3.22	10	Blue Apron: 1 Hello Fresh: 2 10-12 in fringe	• Middle firms use offensive advertising more • High level of ad intensity	• Sunbasket • Hello Fresh • Marley Spoon	New Growing
Freelancers	2.96	4	Freelancer: 1 Upwork: 2 6-7 in fringe		• Upwork • Toptal • Guru	
Life insurance	3.08	13	4 >5% 10 more 2-4% known Large fringe	• Larger firms using offensive advertising more • Medium level of ad intensity	• NY Life • AIG	Mature
Investment advice	2.88	16	Schwab, Fidelity, TDAmeritrade, eTrade, Scottrade Large fringe		• Fidelity • TDAmeritrade • Vanguard	
Cell phone plans	1.75	2	VZ 33%, ATT 37% Tmo 15%, Sprint 13% US cellular 2%	• Smallest firm advertises most • Low intensity	• Sprint	Mature, no fringe

Search engine incentives

- Hagiu and Jullien (RAND 2011, IJIO 2014)
  - Motives for search diversion (i.e., inducing consumers to search more than they would like)
    - trading off higher total consumer traffic for higher revenues per consumer visit
    - influencing stores' choices of strategic variables (e.g., pricing)
  - Search diversion (e.g., to less relevant paid links) is non-monotonic (highest for intermediate) in the level of competition between search engines if search engine is free for consumers
- White (IJIO 2013)
  - Better quality of organic links cannibalizes advertising revenue from paid links, but raises traffic to monopoly search engine
  - This may reduce advertising retailers' equilibrium prices because organic retailers have an incentive to compete in market of retailers who advertise
- De Cornière (AEJ: Micro 2016)
  - Presence of keyword advertising reduces search costs, improves matching and improves retail competition
  - But monopoly search engine charges excessively high advertising fee which can negate beneficial effects of keyword advertising
  - Search engine competition has ambiguous effect

Brand incentives

- …Identified in the literature
- Prisoner’s dilemma between brands
  - Non-focal brand can divert revenue by bidding on searched brand keywords
  - Brands must bid on own keyword to prevent such revenue diversion
  - Search engine benefits from pricing of (defensive) keyword advertising
- Particularly problematic for weaker brands
  - Forced to bid (more) for advertising links because their underlying reputation and thus resulting organic links compare less favorably

Interesting parameters

- What are the structures of the product and search engine markets?
  - Product market: monopoly or competitive?
  - Search engine: start with monopoly
- Elasticity across brands if advertise
- Loss to searched brand from offensive advertising
- Advertisers may have other substitute methods of advertising, so search engine must make online ads worthwhile for brand retailers

Desired comparative statics

- Monopoly retail product market - benchmark
  - Only one brand advertises
- Competitive retail product market
  - Either brand name ad sold to either brand
    - Search engine revenue from bidding war, but reduced product market prices
  - Exclusive ad sold to one brand
    - Less competition in retail product market generates larger profits for search engine to extract

$\Rightarrow$ Equilibrium product market prices and se revenue

- Monopoly product market with potential entrant
  - Entrant foresees competitive regime above
  - Considers whether to enter if profit > fixed cost

=> Entry incentives

International comparisons

Benefit	OVR	US	EU	Theory-driven policy
Retail Services	RPM			
Platform Creation	1. Wide MFN 2. Narrow MFN			
Exclusive Brand	Restrict resale			
Search Comparison	1. Info ban 2. SE sells exclusive			

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Contract sold by SE may be an underappreciated competition issue

- Nature of search / contracts search engine can sell impact the intensity of inter-brand competition
- Consumer welfare is impacted and so there should be a competition policy implication
- Little empirical research
- Theory has not focused on the product market implications
- Legal cases are in the trademark area so far, and do not make competition arguments. Brands have lost in both the US and the EU
- Should the SE be permitted to sell exclusive contracts?

Thank you