The power of Big Tech: competition in digital markets (prof. E.Argentesi)

Lecture notes by A.Z.

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1 Lecture 1

Who are big tech? Dominant companies / firms / platforms in information technology industry in terms of:

1. **Market value** combined $\approx$ 7 trillion \$
2. **Market concentration** Dominant Position: e.g. Google market share (search engines) = 83%, Microsoft (desktop OS) = 76%, Android and iOS (duopoly in mobile OS) = 71.8 + 27.6 %, Amazon 13 % of Gross Merchandise Volume [*total sales monetary value of merchandise sold through a marketplace in a certain time*]

Benefits of digital markets

- New products and services
- Highly innovative prod.
- Extremely low prices (even zero)
- Low cost of starting (and operating) a business $\rightarrow$ lots of start-ups

But characterized by strong market power.

Pros and cons of market concentration

Pros
- Firms may become dominant because they offer better products at lower prices
- Market concentration may be efficient (lower costs due to *economy of scale* : reduced cost/unit for larger numbers)
- Dominance may not last forever (*turnover*)

Cons
- Higher prices : unregulated monopolist / oligopolists could exploit market power
- Concerns for non-economic sides : e.g. **Data exploitation** for advertisement (attention market) $\rightarrow$ 'shallow price'
- Lower quality + less innovation : no incentive for firms without challengers (no risk of losign customers)

Gateways = few dominant companies / platforms : broad influence $\rightarrow$ economic, socio-political (can bias political outcomes, drive public opinion), on media pluralism (see Google News), on privacy

How did they get there? Internal growth + **External g. (!)** $\rightarrow$ acquisition of competitors : actual or potential (not only diversification strategy...)

Benefits of competition

- Lower prices
- Wider variety of products (more choice)
- More incentives towards innovation (*Competition breeds i.*)
- Creates better competitors for global markets (exporters)
- Consumer / social welfare improvement : e.g. mobile telecom market → Iliad Italy (2018) ≈ -20% prices, Free France (2012) total welfare gains ≈ 1.2 mln euro

Competition policy = *aims at ensuring that competition in the marketplace is not restricted in a way that is detrimental to society*
Needed to avoid persistence of Dominant Positions (even in markets without *natural anti-competitive features*) due to:

- High sunk costs : high stakes for entry / survival (e.g. R&D)
- Reluctance towards change by consumers (psychological factor) → *lock-in effects*
- Network effects : tendency to 'follow the herd' / difficult for challengers to gain 'critical mass'

Harmful practices for social welfare put in place by firms with DP:

- Abuse of DP : predatory / exclusionary behaviour
- Collusion (Cartel, Trusts → etymology of anti-t. !)
- Mergers and acquisitions

Regulation ≠ competition policy :

R. acts *ex ante* in markets with unavoidable tendency towards monopolization / strategic assets, infrastructure. Has more extensive powers, can intervene on market structure, continuous intervention.

C.P. only *ex post* in *open markets* against dangerous behaviours. Occasional intervention (triggered), longer time span needed ← different information intensiveness: authorities need to gather industry-specific info on case-by-case base

EU Competition Law : pillars

- From Treaty on the Functioning of EU (TFEU, one of the two forming the constitutional base of union) : *art. 101* against anti-competitive agreements (horizontal and vertical) - similar to US Sherman Act, *art. 102* against abuse of DP
- Merger regulation
- State aid control : limit distortions

Authorities enforcing law: Directorate-General for Competition + Commissioner for Competition (Margrethe Vestager) + national competition agency (Italy = Autorità Garante della Concorrenza e del Mercato) - subsidiarity principle

2 Lecture 2

Key features of Digital Markets / industries Supply-side factors:

Economies of scale extremely low *marginal cost* → favours concentration

Economies of scope greater variety of products → lower costs for diversification.
In D.M. most products are oriented towards acquisition and usage of *data*

Data (key input!) → consumers' habits tracking (→ targeted product development, advertisement and pricing*) + data-based services (e.g. Search Engines) + Recommendation systems
Algorithmic price-setting : even led to algorithms colluding!
Data endowments (≈ patrimony) → competitive advantage

Demand-side:

Strong network effects = when benefits for users depend on how many others are relying on the same service

- Direct NE = purely social behaviour (e.g. social media) ≠ Indirect = involve *cross NE* in *multi-sided markets* (e.g. SE : users + advertisers) - positive-feedback loops
- *Gatekeepers* largely control audience attention → *market tipping* (high barriers to entry)

Switching cost (economic + psychological) : unexpectedly strong (*power of default*) - consumers' behavioural bases

Large ecosystems = large platforms / companies increasingly more efficient at offering large set of services. Arise because of Economies of scale, scope + Network effects
Have positive effects but become detrimental if companies voluntarily adopt anti-comp. practices : *incumbency advantage*.
Mitigation : *Multi homing* (easiness of switching or using multiple services - patronizing mult. products) + Product differentiation + Rapid innovation pace

Theories of Harm = *coherent stories that explain why an agreement between firms or a practice put in place by one may harm competition and affect customers - compared to a relevant counterfactual*
Considers market features + incentives, ability of firms, consistent with economic theory and empirical evidence. Consumers = main focus on users (not businesses). Measurement / quantification of consumer welfare (non-price effects e.g. quality, innovation) → econometric techniques - if impossible to apply, evaluation of welfare gains

Abuse of dominance ToH *effect-based approach* (+ behavioural case study) : needed to face new anti-comp practices.
Exclusionary abuses (deterrence of entry or forced exit of potential / actual rivalss) + *exploitative* ones (e.g. concerning data)
Art. 102 : dominant position not in itself illegal - but implies special responsibility. Abuses : exclusive purchasing, predatory pricing / predation (set prices at loss-making level), refusal to supply necessary input for ancillary markets, excessive pricing.
Peculiar practices (challenge for authorities to define and intervene):

3 Lecture 3

Tying and bundling = linkages between digital products → firms may be incentivized.

Bundling more products sold together as a package: can be pure or mixed (still possible to buy / use separately)

Tying purchase of a product conditioned to the p. of another

Benefit for customers : common interface, one-stop shopping (exploit complementarities of products) + price discrimination = mixed net effect on market welfare
Abuse of Dominance? Can cause *foreclosure* / entry deterrence → *Leverage theory* : monopoly in one market exploited to deter challengers' entry in another one somehow complementary with the first → **Bundling with complementarities** complem. products that can only be used together : impossible to focus on production of single one → difficult entry + competitors need to match bundle composition
Jean Tirole (Nobel 2014) : start-ups enter niches (not all segments altogether → bundling prevents efficient entrants (expecially in case of NE - reinforcement, amplification) → strenghtening / extension of market power
Cases Windows Media Player, Internet Explorer, Android (2018 - sued by US DoJ in 2020) → used mobile OS to cement dominance of SE (required manufacturers to install Chrome + Google app as condition for play store licensing, prevented selling of devices with forks)

Platform Envelopment = combination of functionalities in platforms → analogous to bundling but new and peculiar of DM from technical standpoint. Leads to user base leveraging, foreclosure, benefits from economies of scope and NE.
Special case: *Privacy Policy tying* = consumer required to grant consent to combination of data → effects: monetization of combined data (*static incentive*) + monopolization of target market + reinforcement / entrenchment of DP in native market segment

Self-preferencing = platform in which transaction take place is also a competitor in inner market → advantages own products
Debate on anti-comp. effects (leveraging) → Solutions : *presumption* of anti-competitiveness in case of relevant intermediate infrastructure + Obligations for Gatekeepers (DMA)

Sherlocking = free-riding (taking advantage of other's work) or cloning of innovative products by big firms (name from Apple's macOS file search tool Sherlock, which copied indipendent developer's Watson)

Other ToH **Access to data** require public access? Negative trade-offs : authoritarian gov.ts, collapse of data market
Combination of D., **Predation** difficulties in proving illicit and assessing *recoupment* (reparation)

Limitations of current approach

- Lenght of intervention (critical in fast-changing markets!)
  ↑
- New ToH (new practices put in place) and high burden of proof required (strong defence) → under-enforcement ?
- Limited effectiveness of remedies (hard to design effective ones)
- Impossibility to adress *structural* problems
- Possibile necessity of a more regulatory approach

The DMA approved 10/2022, will enter into force ≈ 05/2023 → definition of *Gatekeepers* + list of obligations (e.g. No self-preferencing, no exclusionary practices against challenging platforms, no extended tracking for targeted advertisement outside core service)

The Digital Services Act (11/2022) protects customers' rights, establishes *transparency and accountability framework*, promotes / fosters common, integrated european market

Anti-competitive agreements (prohibited by art.101 TFEU)

Horizontal / collusive generally harmful for comp.

Vertical between platforms and providers of services (often in two-sided markets, e.g. Expedia Booking) → can have efficiency justification, lead to issues in case of large market power (foreclosure in distribution channel)

4 Lecture 4

Merger review by competition authorities to prevent entrenchment of DP → EU *Merger Guidelines* (2004) : more general case, horizontal m. prohibited if would *significantly impede effective competition* (established *threshold* - events below it are 'automatically' authorized)

Authorities EU : Commission + national auth
US : Federal Trade Commission + Department of Justice

Type of mergers

Horizontal between competitors (most concerning x authorities) : increased market power / risk of collusion between few dominant firms → harmful to consumers in case of *unilateral effect* : arbitrary price setting

Vertical = different levels of *value / production chain*

Conglomerate = different industries : can have financial reasons or happen between adjacent markets / complementary products

Last two are less concerning because of possible positive effects on efficiency
Good mergers = actual increase of ability of new firms to enter market + efficiency gains → cost savings can lead to lowered prices, but socio-economical and consumer welfare should be considered as a whole : quality ?
Powerful buyers / retailers with relevant *bargaining power* → limit ability of merged entity to exert market power
□ 'Guess exercise' for authorities : need to predict effects before mergers happen in order to choose if authorize - block - impose remedies (concerning specific segments where negative eff. are confidently expected)
Mergers decisions in EU 1990 - 2022 : mostly authorized (7796), remedies much more frequent than block (490 vs 32)

Giphy - Facebook (UK) : firms have to notify authorities in all country in which they operate → can op. as merged only where green-lighted

Start-ups acquisitions / mergers often go undetected ! (see thresholds)
:) financial stability, innovation scaled-up, products integrated in richer, better functioning platforms, new functionalities, highly skilled stuff
: (for SU: less freedom, less incentive towards innovation // for market : *direct* prevention of potential threat (in market with rapid technological progress) → *Killer acquisitions* (Microsoft), *Zombie acq.* (kept 'alive') or *indirect* : weakening direct competitors by acquiring companies in complementary market
Even if not competitors (conglomerate) : SU's product may fit into ecosystem (e.g. Fitbit - Google) or complements may become substitutes (e.g. Instagram, from photo app to social medium)

NE → Market tipping → competition between dominant firms *for* the market (not *in* anymore) - for dominance
Advertising-financed platforms rely on consumer *attention* → mergers may help change size + composition of audience and also allow multi-homing across platforms → siphoning (capturing) attention = foreclose entry

Conclusions Need for reinforced merger rules : ex ante regime for firms with *strategic market status*
Lesson from Facebook-Insta : importance of likehood of possibile counterfactual for ToH !