Market Definition of Digital Platforms:

Response to the Impact of Two-Sided Platforms and Zero-Pricing

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The Importance of Market Definition

- **Relevant markets**
- **Functions of market definition**
  - Evaluating market power
  - Identifying market participants
  - Analyzing impact of the conduct at issue on competition
  - (For industrial regulation) Avoiding regulatory disparity

Approaches to Defining Markets

- **Demand substitutability**
  - Cross elasticity of demand
  - Hypothetical monopolist (HM) test
    - More profitable or not under small but significant and non-transitory increase in price (SSNIP)
    - Common benchmark: 5-10% price rise for one year
- **Supply substitutability:**
  - To define the market or market participants?

Challenges from Digital Platforms

- **Frequently: two-sided platforms with zero-pricing on one side**
  - One relevant market or two? How to administer SSNIP?
- **Ohio v. American Express (Amex case) from SCOTUS as an example**
  - A 5-4 decision in 2018. Justices quarreled about market definition of credit-card networks.

Challenges from Digital Platforms

- Majority's view:
  - Credit-card networks provides only one product— the transaction itself—in only one market, jointly consumed by a cardholder and a merchant.
- Dissent's view:
  - Credit-card networks provide two separate products in two relevant markets respectively. One is speedy payment service for merchants, and the other is payment and credit to cardholders.

Two-Sided Platforms

- **Definition: Not fully Settled**
- **Common Features:**
  - Joint production of products for two groups of customers
  - Indirect network effect across the two groups
    - The value of the platform for one group of customers depends on the number of the other group of customers.
    - Not necessarily two-way, one-way is enough
  - Non-neutrality of price structure (not necessarily)

Classification of Two-Sided Platforms

1. Transaction platforms

- Observable transactions through the platform
  - Platform can request per-transaction charge .
- Platform provides inherently related services to the two sides, which are integral parts of **a single product**, i.e., the transaction.
- Two-way indirect network effects
- Example: Credit-card network.

Classification of Two-Sided Platforms

2. Non-transaction platform

- Provide all kinds of services for online users (a substantial part are zero-pricing), and advertising for merchants, which are **separate products** with different utilities.
- Usually no transaction made across the platform
- Only one-way indirect network effects

- Increase of users creates positive externalities to advertisers, but advertisements brings no positive, or even negative externalities, to users.

- Example: Newspapers, TV, Google Search, Facebook, etc.

Market Definition of Two-Sided Markets

- **Competitive Constraints:**
  - Two-sided platforms may face competition from:
    1. Platforms with the same two sides
    2. Firms that compete on one side
       - Competition maybe on both sides from different groups of rivals.
       - E.g., Ad-supported TV may face rivalry from subscription-base TV and other advertising media.

3. Three-sided platform.
   - E.g., a cloud computing platform that provide free service for users and software developers under the sponsorship of advertisers.
4. Firms that integrate the merchant side into the platform.
   - E.g., Video game console producers used to make their own games.

- Actually, the four types of rivalry can be reduced to competition either on one side or on both sides of the platform

  ⇨ When defining markets, focus should be on the two sides of the platform respectively.

Number of Relevant Markets

- **Transaction platforms**
  - The services provided to the two sides could not work independently without the other.
  - They have to be consumed in a fixed 1 to 1 ratio, i.e., perfect complements that usually consumed together, which makes them integral parts of a single product.
  - One market for the whole platform.

Number of Relevant Markets

- **Non-transaction platforms**
  - At least two different services provided on separate sides of the platform to respective customers
  - Ad and other services are not integral parts of a single products.
  - Online advertising and other services are frequently supplied separately by different firms.
    - European Comm’n, Telia/Telenor/Schibsted merger, 1998
  - One market for each of the two sides of the platform

Market Definition Debate on Non-Transaction Platforms

- **Newman (2014) and Sun & Zhong (2015):**
  - Only one relevant market.
  - E.g., "online search adverting" market for Google Search
  - Major Reason: Only the side making earnings is where the platform's concern, actual transaction and competition are located. The user side is only to collect user's attention to sell to advertisers.
  - Minor reason: Zero-price services are not a product.

Market Definition Debate on Non-Transaction Platforms

- **Luchetta (2013) and Li (2015):**
  - Two relevant markets for the non-transaction, zero-pricing platform
  - The product—user's attention—is the same.
  - The two markets are in a vertical relationship. The platform is like a retailer, collects user's attention at the upstream side and resell to advertisers at the downstream side.

Market Definition Debate on Non-Transaction Platforms

- **My point of view:**
  - product competition is distinct from financial competition
  - In financial competition, any firm with financial resources can offer to pay and compete for user's data and attention ➪ No need to define a **product** market
  - In product competition, platforms are competing with analogous products for user's data and attention.

    ➪ The rivalry is limited to a particular scope of products. Market definition is thus meaningful.

The HM Test and Zero-Pricing

- **Transaction platforms:**
  - Single market for both sides
  - Use existing price structure, SSNIP on both sides
    - Only one party pays: simply add 5-10% to that side
  - Allow platform to adjust price structure to maximizing profits under SSNIP
  - Use the new prices of the two sides to test profitability of SSNIP

The HM Test and Zero-Pricing

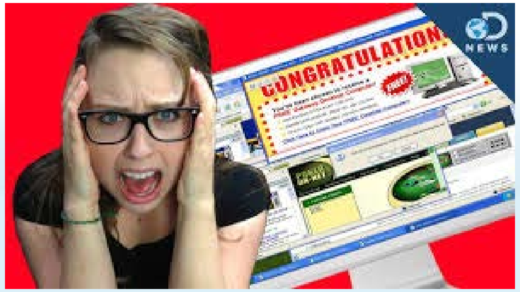
- **Non-Transaction platforms:**
  - One market for each side
  - SSNIP on one side. Allow the platform to adjust price structure. Check overall profitability of both sides.
- **Key issue: how to work with zero-pricing?**
  - **Possibility 1: Test SSNIP on closest products**
    - Drawback: Market definition/HM test are sometimes not symmetric.

The HM Test and Zero-Pricing

- **Possibility 2: SSNDQ (significant decrease in quality)**
- Problems:
  - Which aspect of quality users value the most, just as price?
  - What kind and extent of change in that aspect amounts to 5-10% decrease?
  - 5-10% decrease in quality may not so easy for users to discern
  - Price represents an overall evaluation of the product, not just on one aspect of it.

The HM Test and Zero-Pricing

- **Solution 1: DQ=Decrease in indirect network effects**
  - From Filistrucchi (2018) and Newman (2014)
  - Commonly seen as a significant aspect of zero-price services
  - May be assessed by increase of advertisements
  - Problem:
    - Users think differently towards advertisements.
    - It may not carry as much weight with users as price does concerning their decision to stay or not.



The HM Test and Zero-Pricing

- **Solution 2: DQ=Decrease in Output Quantity**
  - Output Quantity is the flip side of price
  - Quantity of consumption represents customer's overall evaluation of that product.
  - May be measured by band width, connecting speed, or other capacities
  - Connecting speed is one of user's biggest concerns. Congestion could be easily recognized.

Thanks for your attention!

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