

medias firms as multi-sided platforms

Jean J. Gabszewicz

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Why industrial economists should be interested in media Industries?

Citizens in developed countries devote the lion's share of their leisure time to consume media.

- Media contents deeply influence social values and shape public opinion.
- Media firms are major operators in the advertising industry and the interaction between media and advertising industries is economically significant.

Outline

- Economic characteristics of media industries
- Competition and media diversity: basic ideas
- More recent work
- Conclusion

Main characteristics of the media markets

- Media markets are *public goods*
 - ⇒ Problem of preference aggregation
 - ⇒ Impossibility of uniform pricing
- Media markets are *merit goods*
- Media production costs entail large economies of scale and weak variable costs
- Intense technological progress
- Most mass-media are financed by advertising
 - ⇒ Bias in the type of programming and in news selection
 - ⇒ Two sided market structure and cross externalities

Competition and media diversity: basic ideas

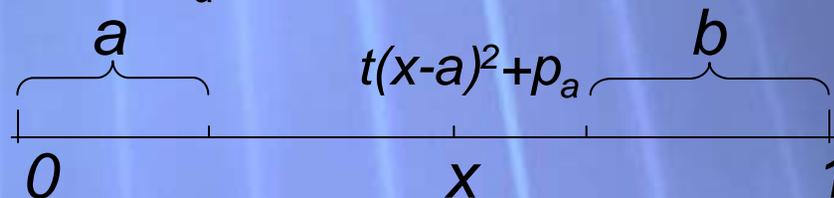
- Viewership maximization and a representation of the TV industry
 - ⇒ The Hotelling (1929) *principle of minimum differentiation*: minimum diversity in program type.
- Is media diversity better protected by monopoly or competition?
 - ⇒ Steiner (1952) example and the *principle of program duplication*.

- Growth of concentration □ in the daily newspaper industry and the theory of the *circulation spiral*
 - ⇒ Furhoff (1973): ad-lover readers create a positive spiral for one of two competing newspapers leading to the exclusion of the other.
- Competition in program scheduling and the problem of existence of a Nash equilibrium (Cancian, Bills and Bergström (1995))

Related recent work

1. Product selection in the daily newspaper industry.

- Newspaper market
 - Represented by a horizontally differentiated model (Hotelling) where the «Main Street», the interval $[0,1]$, is identified with the political spectrum, as well as with the political opinions of the uniformly distributed population.
 - Disutility of buying newspaper with political stance a for reader x at price p_a :



- The advertising market :
 - Represented by a vertically differentiated model (Mussa-Rosen).
 - Advertisers, represented on $[0,1]$ by a parameter θ , are ranked in the interval by order of increasing willingness to pay for an ad. There are k advertisers for each type θ .
 - Utility of buying an ad in newspaper with political stance a for an advertiser of type θ :

$$n_a \theta - s_a$$

(n_a denotes the size of the readership of newspaper a which depends itself on the prices of newspapers set in the newspaper market (two-sided market); s_a is the advertising rate)

- Without the advertising market, editors (platforms) maximizing readership size would locate at the two extremes of the unit interval (quadratic transportation costs) at the SPE of the game in which firms select first location and then price.

⇒ Maximal political diversity at equilibrium.

- After introducing the advertising market we may define a three stage game where editors select first location, then newspaper price and finally advertising rate. Now they maximize the sum of editorial and advertising revenues, taking into account the dependence of advertising demands on readership size (two-sided market).

- PROPOSITION:

When political preferences are strong (t large) and/or unit advertising revenues are small (k small), the opinion (first stage game) has a unique equilibrium with maximal political diversity.

With weak political preferences (t small) and/or significant advertising revenues (k large), the opinion game equilibrium obtains exactly at the center of the political spectrum, a location implying minimal political diversity (median voter theorem).

- ⇒ The tendency to offer readers maximal political diversity is fully reversed when political preferences are weak or advertising revenue potentially important.
- ⇒ The two sided nature of the market may induce editors to influence the political content they display to the readership so as to get higher advertising resources.

2 Concentration in the press industry and advertising

- The readership in the newspaper market is represented as in the previous model.
- Editors (platforms) are located at the extreme left and extreme right of the political spectrum
- For each reader's type, x in $[0,1]$, the corresponding readers are divided into two categories: *ad-avoiders* in proportion γ and *ad-lovers* in proportion $1-\gamma$. For an *ad-avoider* of type x the disutility of buying newspaper a is given by

$$tx + \beta n_a + p_a$$

while, for an *ad-lover*,

$$tx - \beta n_a + p_a$$

(n_a denotes the size of newspaper a readership and depends on demand in the ad market).

- The advertising market is as in the previous model

- An equilibrium is a pair of strategies (newspaper's price, advertising rates) such that in each market, each editor plays its best reply against the price used by its rival, and demands at these prices are consistent with those expected by the agents in each market.

PROPOSITION:

Whatever the proportion γ of ad-avoiders, there always exists an equilibrium corresponding to symmetric expectations, with prices and expectations equal in both markets. This equilibrium is the only one when $\gamma > 1/2$.

With a large majority of ad-lovers there are two asymmetric equilibria, which mirror each other; at each, one editor eliminates the rival completely, and the eliminating editor is the one who is expected to sell more advertising.

- This result is akin to the intuition of Furhoff: It reveals in a static context why ad-attraction drives concentration growth in the daily newspaper industry.

3 The program scheduling game : a reconsideration

- A variant of the CBB game:
 - The whole audience of TV watchers is already at home at 7pm and is uniformly spread in the interval of time between 7pm and 9pm.
 - Each minute in this interval corresponds to a TV watcher for whom this minute is her ideal broadcasting time for the news.
 - Tv-stations maximize their audience by choosing each its news broadcasting time in the interval (7pm,9pm)
- This game has a unique equilibrium with both stations broadcasting their news at 8pm.
 - ⇒ Minimum chronological diversity

- Another variant of the CBB game:
 - Same variant as above but including the advertising market in which the willingness to pay for ads increases with the size of the audience
 - Now TV stations maximize advertising revenues taking explicitly into account the dependence of advertising demand on audience size
 - In this variant one can easily build an example in which *no SPE exists* with TV stations choosing sequentially their news broadcast schedules first and then advertising rates.
- ⇒ The non-existence technical difficulty enters the room again through another door!

Conclusion

- Media markets exhibit several imperfections :
 - Public goods
 - Economies of scale
 - Two-sided market structure
 - Market power
- Nobody would like to see the range, the quality and the breadth of media offerings to be leveled downwards due to these market imperfections.
- This requires regulation of these markets, which is difficult to perform without adequate microeconomic foundations; this partly justifies the above theoretical developments.