

News Sources and Media Bias

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Introduction: Media Bias and News Sources

- Media Bias:
 - Bias of the press in the selection of which events are reported and how they are covered
- Example: U.S. Bureau of Labor Statistics (BLS): “rate of unemployment rising from 6.1 percent to 6.3 percent”
 - Headline 1: Recession Fears Grow. BLS reports that the number of unemployed grew by 20,000 in the last quarter, reaching 6.3 percent
 - Headline 2: Turnaround in Sight. Newly released figures show unemployment inching up just 0.2 percent last quarter
- News sources:
 - Providers of the raw material of news. They include anyone reporters turn to for information - government and business officials, bureaucrats, witnesses of events, parties to the issues, persons on the street...
 - i.e.: News sources provide information (intermediate good) that newspapers use to produce news (final good)

Introduction: Forces for Media Bias

- Demand side forces for media bias:
 - Consumers' political preferences (Mullainathan and Shleifer, 2005)
- Supply side forces for media bias:
 - Ideological bias of owners and journalists (Baron, 2006)
 - Media capture by interest groups (Besley and Prat, 2006)
 - Pressure by advertisers (Gabszewicz et al., 2001)
- This paper: new supply side force for media bias:
 - News sources
- Why news sources can create media bias?
 - Newspapers depend on news sources to create news. News sources can have private gains from published news, and as such can try to influence what information can be published.

Introduction: Media Bias and Competition

- Existing literature on media bias:
 - Competition can make it more likely that news are published, i.e.: competition can reduce media bias
- Rationale:
 - A monopolist can decide not to publish some news (withhold the 'truth') without reducing profits
 - Competition between several media firms can make it profitable for one of them to publish the truth and thereby to capture an audience

Introduction: News Sources

- Political scientists estimate that between half and three-quarters of political news originates from news sources (Manning, 2001).
- Contrary to other sectors, in the news sector the relationship between input suppliers (news sources) and final good producers (newspapers) is usually not mediated by the market.
 - Sources and newspapers base their relationship on informal agreements and unwritten rules.
- Gans (1999) describes the interaction between news sources and journalists like a "tug of war":
 - "While news sources try to 'manage' the news, putting the best light on themselves, journalists concurrently 'manage' the sources in order to extract the information they want".

Introduction: News Sources

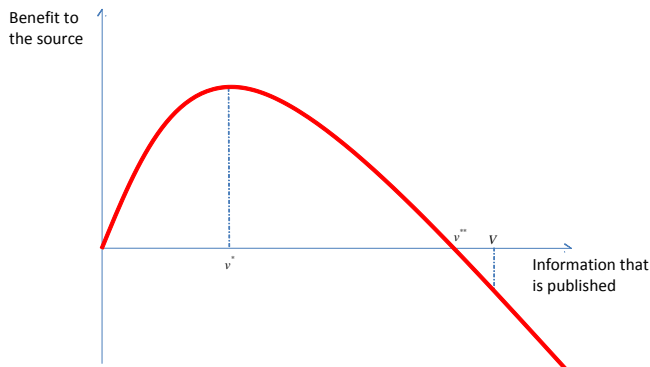
- The existing literature has not taken into account the relationship between news sources and media firms.
- We model this relationship as an informal contract in a repeated game.
- News source: strategic player that can make a proposal concerning how much information can be published
- Our results shed new light on why news are published and how much of the story is published.
 - In particular, some of the conclusions in the existing literature on competition and media bias are reversed.

The Model

- 3 types of agents: newspapers, sources and readers.
- Readers prefer more to less news, and they have a preference for truth.
- Basic model: one source provides information to a monopolist or to a duopolist.
- Information from the source is a scoop, i.e.: increases demand for the newspaper above the regular edition.
 - π_R : demand for the newspaper's regular edition.
 - π_S : additional demand from a scoop.
- V : all information from the scoop
- $v \leq V$: information from the scoop published by the newspaper

The Model

- The source has a strong preference for what it would like to be seen published



- The marginal value for the source of publishing a scoop is positive until $v = v^*$.
- If $v \geq v^{**}$, the source would be better off if no information is published.

- Relationship between the source and the newspaper is an informal long term contract (Klein and Leffler, 1981).
 - Common information: the source only collaborates in the future if the newspaper just publishes what the source wants.
- Timing of the game
 - Stage 1: the source decides whether to provide information and if so how much the newspaper can publish.
 - If the source provides information, it sets $v = v^S$ as the information it asks the newspaper to publish.
 - Stage 2: the newspaper knows the full information of the scoop
 - The newspaper then decides either to publish v^S or V .
- The two-stage game is repeated in an infinite number of periods.

- The source has a trigger strategy:
 - If the newspaper publishes the information the source prefers (v^s), the source continues to collaborate.
 - If the newspaper publishes all information (V), the source stops to collaborate.
- v^{Pub} : information that the newspaper publishes.
- $V - v^{Pub}$: Media bias, i.e.: how far from the whole truth the published news are.

- The readers' demand for the scoop equals:

$$\pi_S = \alpha - \beta \left(V - v^{Pub} \right). \quad (1)$$

- α : demand for the scoop without media bias (α)
- β : readers' preference for the truth (β)
 - i.e.: The lower the media bias the higher the demand.
- Newspaper faces a trade-off:
 - Publishing the whole truth increases demand, but at the cost of no more collaboration by the news source in the future.
- $0 < \delta < 1$: the discount factor for the newspaper.

Monopoly in the News Sector

- Second stage: the newspaper has received information from the source and it must decide how much to publish.
- First option: publish what the source has asked (v^S):

$$\Pi_{v^S} = \frac{\pi_R + \alpha - \beta(V - v^S)}{1 - \delta}. \quad (2)$$

- Second option: publish all the information (V):

$$\Pi_V = \pi_R + \alpha + \frac{\pi_R \delta}{1 - \delta}. \quad (3)$$

- The newspaper finds it profitable to publish v^S instead of V if:

$$\frac{\pi + \alpha - \beta(V - v^S)}{1 - \delta} > \pi + \alpha + \frac{\pi \delta}{1 - \delta}. \quad (4)$$

Monopoly in the News Sector

- Critical value of information that promotes the newspaper to cooperate with the source, v_{Mon}^S :

$$v^S > V - \frac{\alpha\delta}{\beta} \equiv v_{Mon}^S. \quad (5)$$

- If $v^S < v_{Mon}^S$, the newspaper finds it more profitable to publish all information rather than what the source asked to.

Proposition

Let us assume a monopoly newspaper, and that it will find it profitable to publish $v^S = v_{Mon}^S$. The published information v_{Mon}^S will then be larger

- (i) the larger the full information from the scoop (large V),*
- (ii) the stronger the preference for the truth for the readers (high β),*
- (iii) the lower the demand for the sources' news (low α), and*
- (iv) the less patient the newspaper is (low δ).*

Monopoly in the News Sector

- Stage 1: The source must decide whether it provides information, and if so, how much it should ask the newspaper to publish.
- The source will not provide information if it expects the newspaper to publish all information.
- To encourage the newspaper to publish, the source must allow it to publish at least v_{Mon}^S .

Proposition

Let us consider the optimal provision of information by the source.

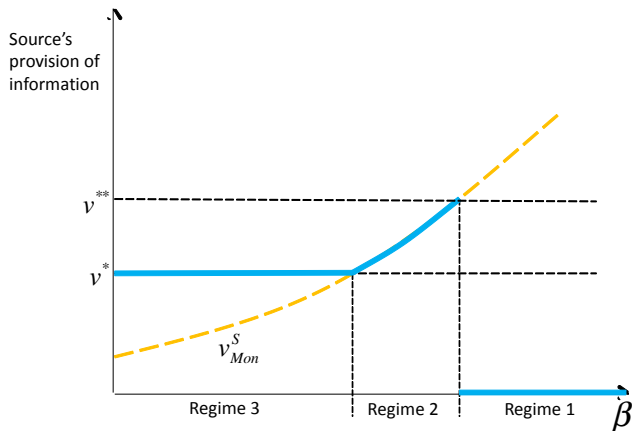
*(i) Regime 1: If $v_{Mon}^S > v^{**}$, the source decides not to provide any information to the newspaper.*

(ii) Regime 2: If $v^ \leq v_{Mon}^S \leq v^{**}$, the source provides information and the newspaper is asked to publish v_{Mon}^S .*

(iii) Regime 3: If $v_{Mon}^S \leq v^$, the source provides information and the newspaper is asked to publish v^* .*

Monopoly in the News Sector

- Effects of a change on the readers' preference for "truth"



Manufacturing Consent

- Manufacturing Consent: ability of media firms to change consumers' views (Herman and Chomsky, 1998)
- $0 < c < 1$: how much the newspaper can change readers' views about the truth (V) when it just publishes what the source prefers (v^S)
- The newspaper finds it profitable to cooperate with the source if:

$$\frac{\pi + (\alpha - \beta(cV - v^S))}{1 - \delta} > \pi + \alpha + \frac{\pi\delta}{1 - \delta}. \quad (6)$$

- Threshold level of information that promotes the newspaper to cooperate with the source, v_{Cons}^S :

$$v^S > cV - \frac{\alpha\delta}{\beta} \equiv v_{Cons}^S. \quad (7)$$

Manufacturing Consent

- Manufacturing consent: the newspaper finds it profitable not to deviate even if it is allowed to publish less information:

$$v_{Mon}^S - v_{Cons}^S = V(1 - c) > 0. \quad (8)$$

- This has the following implication:

Proposition

- (i) If v_{Mon}^S is the information provided initially, manufacturing consent will lead to a larger media bias.
- (ii) If $v_{Mon}^S > v^{**} > v_{Cons}^S$, a shift to manufacturing consent will imply lower media bias since the information v_{Cons}^S is being published instead of no information.

Duopoly in the News Sector

- 2 newspapers: The source can provide information to only one newspaper
- Newspapers compete for readers: business stealing effect.
 - Higher sales and profit if it publishes the scoop (lower sales and profit if the rival publishes the scoop).
- D_1 : increase in profit if it publishes the scoop
- D_2 : reduction in profit if the rival publishes the scoop.
- Higher D_i ($i = 1, 2$), newspapers are closer substitutes (i.e.: tougher competition).

Duopoly in the News Sector

- Second stage of the game (symmetric newspapers)
- Newspaper 1 will find it profitable to cooperate with the source if:

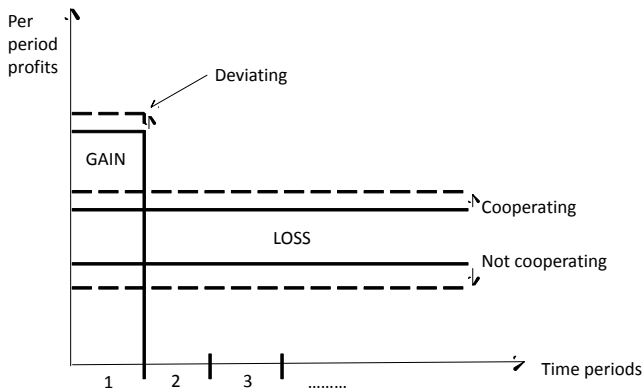
$$\frac{(\pi + \alpha - \beta(V - v^S))(1 + D_1)}{1 - \delta} > (\pi + \alpha)(1 + D_1) + \frac{\pi(1 - D_2)\delta}{1 - \delta}. \quad (9)$$

- Minimum amount of information needed for newspaper 1 to cooperate with the source, v_{Duo}^S :

$$v^S > V - \left[\pi \left(1 - \frac{1 - D_2}{1 + D_1} \right) + \alpha \right] \frac{\delta}{\beta} \equiv v_{Duo}^S. \quad (10)$$

Duopoly in the News Sector

- Higher D_1 and higher D_2 (newspapers closer substitutes): lower v_{DuO}^S .
 - Competition from a rival newspaper will reduce the incentive for the newspaper to deviate from the cooperation with the source.



Duopoly in the News Sector

- We then have the following result:

Proposition

Let us consider a duopoly in the newspaper market. The tougher the competition from a rival newspaper, the lower will the optimal information needed for the newspaper to cooperate with the news source be ($\partial v_{Duo}^S / \partial D_1 < 0$ and $\partial v_{Duo}^S / \partial D_2 < 0$).

- In fact, the relationship between critical values under monopoly and duopoly is:

$$v_{Mon}^S - v_{Duo}^S = \left[\pi \left(1 - \frac{1 - D_2}{1 + D_1} \right) \right] \frac{\delta}{\beta} > 0. \quad (11)$$

Duopoly in the News Sector

- Stage 1: The source decides whether to provide information and how much if it decides to do so.
- We then have the following results:

Proposition

Let us consider the optimal provision of information by the news source.

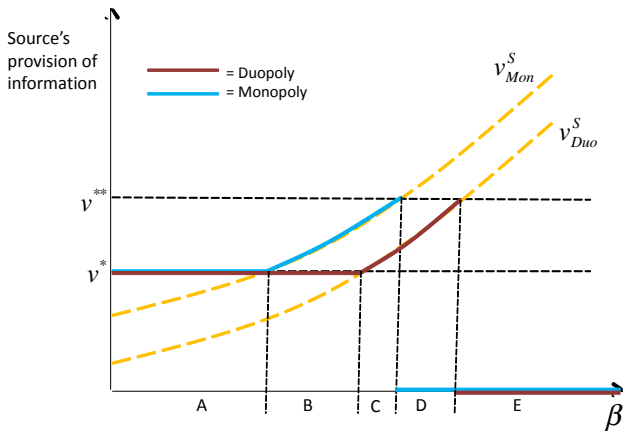
*(i) If $v_{Mon}^S > v^{**} > v_{Duo}^S$ more information will be provided with duopoly than with monopoly in the newspaper market*

(ii) If $v^ \leq v_{Duo}^S < v_{Mon}^S \leq v^{**}$ or $v_{Duo}^S < v^* < v_{Mon}^S \leq v^{**}$, less information will be provided with duopoly than with monopoly in the newspaper market*

(iii) If $v_{Duo}^S < v_{Mon}^S \leq v^$ or $v_{Mon}^S > v_{Duo}^S > v^{**}$, the same information will be provided in duopoly and in monopoly in the newspaper market.*

Duopoly in the News Sector

- More information with duopoly than with monopoly in area D, less in area B + C, and the same in area A and E.



Asymmetry between the Media Firms

- One newspaper has a larger circulation
- D_1^i : increase in sales due to the publishing of a scoop, $i = L, M$ represents the large (L) and the small (M) firm.
- v_{Duo}^{SL} and v_{Duo}^{SM} : critical values concerning provision of information to the large and the small firm, respectively.
- The following result can then be derived:

Proposition

Let us assume asymmetries between the firms.

- (i) If $\frac{1-D_2^M}{1+D_1^M} > \frac{1-D_2^S}{1+D_1^S}$, then $v_{Duo}^{SL} > v_{Duo}^{SM}$ (sufficient and necessary condition)
- (ii) If $D_1^M > D_1^L$ and $D_2^M > D_2^L$, then $v_{Duo}^{SL} > v_{Duo}^{SM}$ (sufficient condition)

- Stage 1. The next proposition summarizes the results for the asymmetric case:

Proposition

Let us assume that $D_1^M > D_1^L$ and $D_2^M > D_2^L$, and that we have an increased asymmetry due to an increase in D_1^L and/or D_2^M

- (i) If the news source provides information initially to the small firm and $v_{D_{uo}}^{SL}$ is the binding constraint, then the increased asymmetry leads to less information being provided.*
- (ii) If the news source provides no information initially, a sufficiently large increase in the asymmetry will lead to information being provided to the small firm.*

- We analyze a new supply side force of media bias: news sources
- Contrary to other supply side forces, more competition on the news market not necessarily contribute to less media bias
- Implication for competition policy: competition authorities need to be supplemented by media authorities
 - See the current debate in the UK
- Future work: analyze the impact of more than one source in the news market