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.
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".
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.
  - \( \pi_R \): demand for the newspaper’s regular edition.
  - \( \pi_S \): 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.
The Model

- 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 Model

- 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 Model

- The readers’ demand for the scoop equals:

\[ \pi_S = \alpha - \beta \left( V - v^{Pub} \right). \]  

(1)

- \( \alpha \): demand for the scoop without media bias (\( \alpha \))
- \( \beta \): readers’ preference for the truth (\( \beta \))
  - 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.
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 ($v^S$):

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

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, $v^S_{Mon}$:

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

- If $v^S < v^S_{Mon}$, 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 $v^S = v^S_{Mon}$. The published information $v^S_{Mon}$ 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 $\beta$), (iii) the lower the demand for the sources’ news (low $\alpha$), and (iv) the less patient the newspaper is (low $\delta$).*
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 \( v_{\text{Mon}}^S \).

**Proposition**

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

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

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

(iii) Regime 3: If \( v_{\text{Mon}}^S \leq v^{*} \), 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"

\[ \begin{align*}
\text{Source's provision of information} & \quad \beta \\
\text{Regime 3} & \quad \text{Regime 2} & \quad \text{Regime 1}
\end{align*} \]
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:

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

- Threshold level of information that promotes the newspaper to cooperate with the source, \(v^S_{Cons}\):

\[
v^S > cV - \frac{\alpha \delta}{\beta} \equiv v^S_{Cons}. \tag{7}
\]
Manufacturing consent: the newspaper finds it profitable not to deviate even if it is allowed to publish less information:

\[ v_{\text{Mon}}^S - v_{\text{Cons}}^S = V (1 - c) > 0. \]  

This has the following implication:

**Proposition**

(i) If \( v_{\text{Mon}}^S \) is the information provided initially, manufacturing consent will lead to a larger media bias.

(ii) If \( v_{\text{Mon}}^S > v^{**} > v_{\text{Cons}}^S \), a shift to manufacturing consent will imply lower media bias since the information \( v_{\text{Cons}}^S \) is being published instead of no information.
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).
Second stage of the game (symmetric newspapers)

Newspaper 1 will find it profitable to cooperate with the source if:

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

(9)

Minimum amount of information needed for newspaper 1 to cooperate with the source, \( v^S_{Duo} \):

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

(10)
Higher $D_1$ and higher $D_2$ (newspapers closer substitutes): lower $\nu^S_{Duo}$.

Competition from a rival newspaper will reduce the incentive for the newspaper to deviate from the cooperation with the source.

![Diagram showing cooperation and deviation over time periods with gain and loss](image-url)
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 \( \frac{\partial v^S_{Duo}}{\partial D_1} < 0 \) and \( \frac{\partial v^S_{Duo}}{\partial D_2} < 0 \).*

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

\[
v^S_{Mon} - v^S_{Duo} = \left[ \pi \left( 1 - \frac{1 - D_2}{1 + D_1} \right) \right] \frac{\delta}{\beta} > 0. \tag{11}\]
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.
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
- $D_i^1$: 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 $D^M_1 > D^L_1$ and $D^M_2 > D^L_2$, and that we have an increased asymmetry due to an increase in $D^L_1$ and/or $D^M_2$.

(i) If the news source provides information initially to the small firm and $v^{SL}_{D\text{U}}$ 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.
Discussion

- 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