

## 1.0 INTRODUCTION

Media bias is a phenomenon that news media outlets slant their reports from the actual information they receive. When it comes to media bias, most papers focus on the positioning on the political spectrum. In the discussion of the source of media bias, it can be divided into two kinds: the supply-side source and the demand-side source.

Baron (2006) presents a supply-side model that media bias appears because of the preference of journalists. In his paper, it is less costly for a profit-maximization media outlet to hire journalists or editorialists who write stories in line with its political preference. Hence, the lower wage is the necessary condition for the presence of media bias.

On the demand side, Mullainathan and Shleifer (2005) assume that readers prefer to hear or read news that more consistent with their beliefs and newspapers can slant stories toward these beliefs. They construct a spatial model which is analogous to Hotelling (1929). Media firms locate themselves through their reporting strategies. Given the "location" of

the newspaper, readers face their "transportation" costs, that is, the psychological costs resulted from the difference between the newspaper location and their beliefs. They show that when readers' beliefs are homogeneous, that is, share close beliefs about some topic, it is optimal for a media outlet to cater to people's love of confirming news. When readers' beliefs are heterogeneous, news providers separate the market and slant toward extreme positions. Furthermore, Mullainathan and Shleifer argue that increased competition will increase the slanting by individual media firms. Also, in their paper, to a conscientious ("rational") reader who read all kinds of newspapers on the market, media bias can be undone. As a result, reader heterogeneity is more important than competition for being a remedy against media bias.

Gentzkow and Shapiro (2006) consider the media firms' reputation concern. Rather than the preference-based method, they think that when a news consumer is uncertain about the quality of media firms, one would infer that the firm who reports the confirmatory news is of higher quality. Here the quality is the ability or the probability of providing accurate reports. Hence, media firms have incentives to distort information to conform with consumers' prior beliefs. In addition, they argue that when the probability for consumers to observe the true state of the object of report is higher, media firms' incentives to distort information are

weakened. One of differences from Mullainathan and Shleifer (2005) is that competition does not increase media bias. Instead, it loosens the connection between consumers' priors and the reports. This is because that the more media firms compete with each other on the market, the more possible for consumers to read a feedback report, thus raise the probability of learning the true state.

Bernhardt, Krasa, and Polborn (2006) investigate the electoral effects of media bias and political polarization. Same with Mullainathan and Shleifer (2005), they also use a preference-based approach to catch the idea of media bias. What different from them is that, in Bernhardt et al (2006), even citizens take media bias into account (i.e., they are "rational"), they cannot recover all of the missing information, so that media bias can lead the election to be inefficient. Their main result is that electoral outcomes depend not only on the location of the median voter (Downs, 1957), but also on the entire distribution of citizen political preferences. They also show that, even if citizens' political preferences do not change, the electorate looks more polarized if media are biased. In a word, "media bias provides a mechanism through which political polarization can affect electoral outcomes."

In this essay, we focus on the media outlets' position choice of ideology. Like Mullainathan and Shleifer (2005), we build a spatial model. One different setting from theirs

is that, compared to their utility-based method, we directly use a function to characterize the purchasing probability of a citizen in facing the news outlet choices. We assume that, whether a consumer purchases a specific news outlet is negatively related to the distance between the consumer and the media and positively related to that between the consumer and its competitor. Here the distance means the difference in ideology. Our finding is that the key to the conclusion is the marginal buying probability which is related to the relative distances of media outlets and citizens. It decides whether the centralization or the polarization would appear. In theory, media firms receive the same information, but they may tend to tell different stories. This is what we call media bias here.

Since our model is obviously a demand-side model we plan to develop some variations based on the consumers' characteristics. One of them is maximum tolerated ideological difference, which means an ideological range that can be tolerated. If everybody does not accept the view different from his or hers to a certain extent, it can be easily imagined that the whole society would be polarized further.

The other significant variation of the model is to consider the possible changes of ideology. Although a number of economic studies have been made on media bias, little attention has

been given to the point.<sup>1</sup> However, it is generally agreed by the mass communication scholars that people will be indeed influenced by the media.<sup>2</sup> When editorialists or journalists want to write stories leaning towards a certain position, they have many tricks to play. They would twist the truth, ignore the facts they don't want people to learn, even fabricate the news.<sup>3</sup> As a result, the audience or readers could not get the whole information, so that their beliefs could not be kept same. We will show that, under such a situation, a polarized society will continue worsening under some conditions.

The arrangement of the whole paper is as the following. Section 2 gives the basic model and two examples in specific form. The analysis of equilibrium is presented in section 3, including the problem of maximum tolerated ideological difference. Section 4 deals with belief updating. Some concluding remarks are given in section 5.

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<sup>1</sup>Some investigate how media bias affect the political (voting) behavior, for example, Gerber, Karlan, and Bergan (2006).

<sup>2</sup>See, for example, Zingrone (2001), Chomsky (2002), and so on.

<sup>3</sup>See, for example, Lee and Solomon (1990).