Local Media, Public Opinion, and State Government Policy:
Second-Level Agenda Setting and Political Bias
By Yue Tan and David H. Weaver

Introduction
This study aims to explore second-level agenda setting at the state level. In particular, it examines the relationships among media bias of local newspapers, state-level public opinion and state policies, in order to better understand mass media’s role in state policymaking. In addition, it also tests some important intervening variables like newspaper circulation, legislative professionalism, state’s population and geographic size.

In the early research on the agenda-setting role of mass media, the unit of analysis on each agenda has been an object, a public issue or a political candidate. Since 1991, however, McCombs explicitly designates two distinct levels of agenda setting. According to him, each object on the agenda has numerous attributes that are generic terms encompassing the entire range of properties and traits that characterize an object (McCombs, 2004). Just as objects vary in salience, so do the attributes of each object. The transmission of object salience among the media, the public and the government is the first-level agenda setting, and the transmission of attribute salience is the second-level agenda setting.

Exploration and mapping of these second-level effects is the theoretical frontier in agenda setting (Lopez-Escobar, Llamas, McCombs, & Lennon, 1998), and there are to date only a few published studies with hypotheses explicitly framed at two levels. Because the definition of attributes is very broad, the agenda setting function of many important kinds of attributes has not been empirically tested yet. In addition, findings from previous
investigations of first-level agenda setting need to be retested at the second level and integrated into the current framework of agenda-setting literature.

This paper investigates the second level of agenda-setting processes among the media agenda, the public agenda and the policy agenda at the state level. The investigation of the media coverage’s impact focuses on the product of policy making (actual spending and laws) rather than on policy makers (perceptions and behaviors); and on the relationships among policy ideology and issue priorities instead of the details of each issue (e.g. the issue environments and issue frames). In terms of time period, this study concentrates on both election times and off-election times. As to content, it mainly investigates the daily news rather than advertisements.

The importance and necessity of policy agenda studies is recognized both by media researchers and political theorists. Media researchers Dearing and Rogers (1996) argue that the policy agenda is the outcome of the media agenda and the public agenda. It is the solution of societal problems beyond salience and specification. Political theorists Jones and Baumgartner (2005) state that in an information-rich environment, with limited capacity and sporadic institutional responses, the policy agenda has to prioritize issues for action. Kingdon (2003) stresses the necessity to understand the predecision processes of policy making. Additionally, the increasing popularity of legislators’ “going public” has enhanced the impact of the media, the public and the President (Iyengar, 1997; Kernell, 1997; Vinson, 2005).

However, there are fewer studies and less coherent literature of policy agenda-setting than for media and public agenda-setting (Dearing & Rogers, 1996; McCombs, 2004). This is similar to the study of predecision process compared to the study of final enactment of legislation (Kingdon, 2003). Several obstacles are identified. The first
obstacle is the complexity of subjects, which often involves collective political behavior. Many participants (including the president, interest groups, the public, congressional caucus, the media and other administrative branches) both visible and invisible, have a part in this process. Second, the media-policy relationship is very complex. There are at least five features characterizing this relationship: symbiotic, multiplayer, issue specific, time specific, having time disjuncture and circularity. Third, studying the relationship between the media agenda and the policy agenda demands a lot of work to synthesize the theories, terms and traditions from two different disciplines: media research and policy research.

Even though Dearing and Rogers refer to the entire agenda-setting process with the media agenda, the public agenda and the policy agenda, few studies have considered them together, especially the research on framing (Maher, 2001) or the second level of agenda-setting. Political scientists and sociologists are primarily interested in how the public influences policy agendas, while communication scholars usually study how the mass media influence the public agenda (Rogers, 2004).

Agenda setting research also fails to put enough emphasis on aggregate measures of the public and policy agendas (Rogers, 2004). Previous empirical research and theory concentrate on the behavior of the individual citizen despite the fact that most political action and power relationships operate at the societal or other systematic levels (McLeod, Kosicki, & McLeod, 2002). Policy agenda setting is mainly a macroscopic phenomenon. Democratic responsiveness and representation are fundamentally aggregate level process (Erikson, MacKuen, & Stimson, 2002; Cohen, 2006). Policy makers represent groups of people, not individuals.

Political communication scholars who desire a more properly functioning democracy need to be concerned about societal problems. In particular, they need to look at
how media news coverage of an issue relates to individual aggregate perceptions of issue salience and to the response by political institutions (Rogers, 2004). Although the individual level analysis of public opinion helps to understand the aggregate, evaluating the quality of democracy requires an aggregate perspective. Besides, macro-level research has unique methodological advantages. For example, it holds nearly constant those factors that discriminate among individuals and emphasize variation in those that move all together. That makes it possible to observe subtle causes of phenomena without the disruption of individual factors (Erikson, MacKuen, & Stimson, 2002, p.10).

In a similar manner, there are fewer studies examining the policy making process at the state level than at the national level (Cooper, 2002). It is important to study the state-level agenda-setting effects for at least three reasons. First, media coverage is different between national and state levels. Local media are more likely to cover regional issues and local issues than national media. Even when covering the same national events, local media usually provide a local perspective to make them relevant to the local audience. In addition, local media tend to maintain closer relationships with local governments than national media because they have to rely more on the government’s press releases due to fewer financial resources (Davidson & Oleszek, 2002). Despite this, local newspapers are the major sources of political information for the public, especially for local elections. Living in a different TV market also has significant consequences for the public. Stewart and Reynolds (1990) found that the TV market structure determines the cost of political advertisements and candidates’ visibility; therefore, voters’ knowledge about the candidates is different.

Second, for the past two decades responsibility for some policies has been transferred from the national to the state government, such as welfare and economic
development (Cohen, 2006). The increased autonomy and scope of states as policy makers supports the importance of studying the states. The national government has been the focus of attention of prior research largely because it used to expand its policy scope and tried to direct and mandate the shape of many state and local policies. But this power has been resisted by the state governments in recent years.

Finally, on the state level, some important intervening factors can be controlled when testing the relationships among the media agenda, the public agenda and the policy agenda. State government and legislature is an important and quite independent policy making institution. On the one hand, the 50 states possess the same Madisonian political culture and structure composed of checks and balances and separation of powers. On the other hand, the states vary in terms of public opinion, policy making and media content. Therefore, comparative state politics can be done both cross sectionally and longitudinally.

The major obstacle to comparative state studies was the lack of public opinion data from each state. Since 1990s, this obstacle has been largely removed (Cohen, 2006). Good data on state-level public opinion now exist. They include pooling national surveys, conducting national surveys with states as important subunits of analysis, combining independent state-based surveys, and simulating state public opinion.

Literature Review

Concepts

Agenda. The term agenda has been defined both by political science scholars and media research scholars. From the policymaking perspective, Cobb and Elder (1972) define agenda as “a general set of political controversies that will be viewed at any point in time as falling within the range of legitimate concerns meriting the attention of the polity” (p.14). Kingdon (2003) refers to agenda as “the list of problems (or subjects) to which
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government officials (and people outside of government closely associated with those officials) are paying some serious attention at any given time” (p.3). Problems are conditions when important values are violated, compared with other relevant units, or classified into particular categories (Kingdon, 2003). Cobb and Elder (1972) refer to an issue as a conflict between two or more identifiable groups over procedural or substantive matters relating to the distribution of positions or resources (p.82). Policymaking is a process or a series of governmental activities or decisions that are designed to remedy some public problem, either real or imagined (Lester and Stewart, 1996).

From the media-coverage perspective, McCombs (2005) refers to agenda as “strictly a descriptive term for a prioritized list of items the major topics found in newspapers, television news programs, and other mass media messages, for example, or those topics that the public and policy makers regard as important” (p.156). As mentioned before, McCombs expanded the concept of agenda from objects to attributes that encompass the entire set of properties and traits that characterize an object. Attributes, like objects, can also have an agenda according to their salience. In short, the main points in this concept are: an agenda is (1) a prioritized list of problems, issues, topics or attributes that (2) attract attention from media, public or policy makers and (3) are perceived as important or legitimate.

Attributes. One major argument for second-level agenda-setting effects results from the definitions of attributes and frames. McCombs arranges attributes along a continuum from micro to macro and defines “frame” as an abstract and macrolevel concept that can incorporate a number of lower-level attributes even including arguments and reasoning devices. By doing so, he links second-level agenda setting with framing. Entman’s (1993, p.52) well-known definition of framing “to select some aspects of a perceived reality and
make them more salient in a communication text (...)” looks quite similar to McCombs’s
definition “selection of thematically related attributes when discussing an object.”

However, Maher (2001) used system theory to argue that a system consists of
objects, attributes, relationships among elements, and the environment. He says that
second-level agenda setting only considers objects and attributes, while framing includes
all four components. Reese (2001) and Gandy (2001) emphasize that the relationships
among objects and attributes and their environment are much more important than just the
presence, absence, or frequency of objects and attributes. Reese further argues that the
abstractness is only one characteristic of a frame; a more important feature is its organizing
power that causes information to be characterized by restrictiveness, openness, coherence
and comprehensiveness. Weaver, McCombs, and Shaw (2004) also state that the
“reasoning devices (causes and consequence, moral appeals and treatment
recommendation)” and “arguments” go beyond the commonly held definition of attributes
because they are not characteristics of an object. Reasoning devices and arguments are
more like the aspects of the presentation of an object than attributes of the object.

As to the operational definition, Tankard (2001) argues that it is difficult to
distinguish second-level agenda setting and framing methodologically. Both of them are
manifested and communicated in content. And both of them are usually measured by
content analysis and textual analysis. McCombs (2004) asserts that one advantage of
converging second-level agenda setting and framing is that defining framing with salience
can distinguish frames from a mass of other attributes. Reese (2001) rebuts this argument
by pointing out that the importance of a frame should be measured by quality rather than
quantity. Tankard (2001) criticized current framing researchers’ unwillingness to test
abstract ideas, which makes their studies lack focus, generalizability and testability. He, like
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many other empirical framing researchers (Pan & Kosicki, 1993), proposed using some discourse mechanisms for identifying frames.

Taking the above discussion into consideration, this study does not define the arguments and reasoning devices themselves as the attributes in second-level agenda setting; however, it makes sense to define attributes as elements whose presence, absence and frequency suggest certain themes like a definition, a causal explanation, a treatment recommendation and a moral judgment of a problem or issue.

In current second-level agenda-setting literature, the most frequently tested object is candidate and its most frequently tested attributes are issue positions and political ideologies, qualifications and biographical data, personality, perceived qualifications and judgment, and integrity. Fewer studies examine what kind of evidence and witnesses that the media use to support particular candidates and issue stances. Mass media often cite the findings or proposals of prestigious think tanks and policy groups to describe political candidates or discuss issues.

This study regards the citation of think tanks and policy groups as one important attribute of media coverage of candidates and issues. This attribute has been emphasized by many framing researchers. For example, Tankard (2001) suggests identifying frames by examining the selection of sources, affiliations, or quotes; Pan and Kosicki (1993) argue that one important framing device is an article’s thematic structures (rules of citing sources and evidence to support them); Entman (2007) states that the concept of media bias is the organizing concept of framing, priming and agenda-setting research; and Terkildsen, Schnell, and Ling (1998) used source cues to analyze media discourse. This attribute determines the overall ideology of the description. The media coverage that cites liberal think tanks more persistently is considered to have a liberal bias, and vice versa.
The main research question of this study is to see whether this kind of attribute agenda influences the public agenda and state policy agenda.

In a meta-analysis of 59 quantitative studies (D’Alessio & Allen, 2000), no selection bias (selection of subjects), coverage bias (amount of coverage of each side of issues), and statement bias (opinion injection into text) was found in newspapers or news magazines. Only TV networks had a small liberal (pro-democratic) coverage and statement bias. However, Groseclose and Milyo (2005) found a strong liberal bias in major news outlets when looking at their pattern of the citation of think tanks and policy groups, which is a more subtle bias than the above three types of bias because many citations refer to facts that are generally beyond dispute. The citation bias is more a question of selection than a question of accuracy or honesty. All the prestigious groups have expertise in their fields and empirical findings to support their views. This attribute is similar to the metaphor definition of framing as a picture frame.

In addition, editorial endorsements are also tested as a component of media bias in this paper. Compared with other types of bias, this one reveals the preferences of media owners and publishers. The endorsement of presidential candidates is one of the few editorial decisions that owners and publishers reserve for themselves (D’Alessio & Allen, 2007). Endorsing democratic candidates indicates a liberal bias, and vice versa. Therefore, reporter’s citation bias does not necessarily duplicate editorial endorsements. Still this bias has a significant impact on news reporting. A meta-analysis of 209 campaign reports shows that a newspaper’s endorsement of a candidate is associated with favorable news coverage of the endorsed candidate (D’Alessio & Allen, 2007).

Theoretical Explanation
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*Agenda setting*. Early political theorists, such as Harold Lasswell and David Easton, referred to agenda setting as “gatekeeping” (Thurber, 2003). Inputs or demands proceed through the political system going through checkpoints occupied by gatekeepers, whose actions determine the policy agenda. Jones and Baumgartner (2005) define agenda setting as “the process by which organizations come to pay attention to some issues rather than others” (p. 38). Nelson (1984) refers to agenda setting as “the course by which issues are adopted for public consideration and, perhaps, remedy” (p. 20). McClain (1990) defines agenda setting as the process by which conflicts and concerns gain prominence and exposure so that they come to the public arena for debate and governmental action. Bratton and Haynie (1999) directly refer to agenda setting as the bill introduction process. In summary, agenda-setting is the formation process of agendas.

As Pamela Shoemaker pointed out, everybody can serve as a gatekeeper whenever he or she selects some bits of information for transmission and rejects others. In communication research, the principle gatekeeper under study is a communication organization or a journalist. In a similar sense, agenda setting is a process characterized by whose agenda is the main research subject. Dearing and Rogers (1996) classified three types of agenda-setting according to the dependent variables. They are 1) media agenda setting, in which the media agenda is the dependent variable; 2) public agenda setting, in which the public agenda is the dependent variable; and 3) policy agenda setting, in which the policy agenda is the dependent variable.

Besides different agenda setters, agenda setting can also be characterized by the nature of the agendas. McCombs (2004) calls the transfer of issue salience from the media to the public “issue agenda-setting” or “first-level agenda setting” and the transfer of
attribute salience from the media to the public “attribute agenda-setting” or “second-level agenda setting”.

Walter Lippmann (1922) distinguished between the reality outside and pictures in people’s heads. The pictures in human heads form a pseudo environment that is determined by mass media. Bernard Cohen (1963) stated that the mass media cannot influence what we think but can influence what we think about. In 1972, McCombs and Shaw empirically tested this idea by finding a high correspondence between the issue salience in mass media and the perceived issue salience in the public among 100 undecided voters in the 1968 presidential campaign. They called the transfer of issue salience from the media to the public “issue agenda-setting” or “first-level agenda setting”. Besides high correlations, some studies also examined the time order, isolated the impact of extraneous variables (like reality indicators), and conducted experimental research (Iyengar & Kinder, 1987), which supported a causal relationship between the media issue agenda and the public issue agenda. A meta-analysis of 90 empirical investigations found the mean correlation between the media agenda and the public agenda was $r = .53$ (Wanta & Ghanem, 2007).

As mentioned before, McCombs expanded the concept of agenda from objects to attributes. High correlations between the attribute agenda in the media and in the public were found in the 1976 U.S. presidential campaign (14 attributes in media content and voter’s description of the candidates) (Weaver et al., 1981; Becker & McCombs, 1978), in the 1996 Spanish national election (5 substantial attributes and 3 affective attributes of 3 candidates in 7 media) (McCombs, Lopez-Escobar and Llamas, 2000), in the 1994 Taipei mayoral election (12 attributes of 3 candidates in 3 newspapers) (King, 1997), in the 1995 Spanish local election (McCombs, Llamas, Lopez-Escobar and Rey, 1997), for economic reform issues in the 1993 Japanese national election (system-related frame vs. ethical
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related frame) (Takeshita & Mikami, 1995), for issues of a 1992 UN conference in Japan (Mikami, Takeshita, Nakada and Kawabata, 1995), for causes and solutions of economic issues in Indiana and Minneapolis (Benton & Fraizer, 1976) and for the six facets of a man-made lake (Cohen, 1975). These results, with results from experiment research (Kiousis, Bantimaroudis and Ban, 1999), suggest that there is often acausal relationship between the media’s attribute agenda and the public’s attribute agenda.

**Priming & Framing.** According to priming theory, the audience will use issues of high salience to judge the performance of political officials and institutions. A meta-analysis of 63 media priming studies yielded a correlation coefficient of .10 for the general media priming effects (Roskos-Ewoldsen, Klinger, & Roskos-Ewoldsen, 2007). Framing theory argues that a media frame is a central organizing idea that provides a context to suggest a certain definition, a causal explanation, a treatment recommendation or a moral judgment of a problem or issue through selection, emphasis, exclusion and elaboration (Entman, 1993; Tankard, 2001).

The first level and second level of agenda setting, priming theory and framing theory have been supported by numerous studies. In sum, mass media influences the public on issue importance, the criteria to judge public officials, and how the public defines public problems. Compared with ordinary media consumers, the literature of the media impact on legislators is mixed. On the one hand, legislators are frequent users of national and local news media and pay close attention (Cooper, 2002). They have higher need for orientation and should be more susceptible to those media effects. Particularly, a legislator needs the media to increase reelection chances, to put issues on public agenda, to convince other legislators to support policy proposals and to discuss policy alternatives. Psychologically
speaking, the surveillance function of mass media is essential to extend legislators’ sensors for information of current events, which makes them feel secure (Graber, 2002).

On the other hand, compared with the public, policymakers have multiple sources of information, including the executive branch, lobbyists, interest groups, legislative staff, and professionals. The mass media are only one of them. Local media is the least important information source for the legislators in a five-state survey to figure out the views held by their constituents (Rosenthal, 2004). Cooper’s study (2002) shows that state legislators engage in media tactics less frequently than in traditional tactics because of scarce resources rather than less perceived effectiveness. In contrast, Linskey (1986) and Kedrowski (2000) found that most public officials believe that the media have some or even a strong effect on federal policy. The mass media distinguish themselves in three different ways. These are widely accessible by all the actors in the policy making process; they broadcast an incomparably large amount of information fast and regularly; and their impact is enlarged by intermedia agenda setting effects.

While media researchers stress how mass media influence policy making, political scientists emphasize how strategic policymakers use the media to fulfill their own goals. Politicians manipulate the media by controlling its accessibility to governmental information through press release, press conferences, background briefings, and so on. One congressman issues 144 press releases on average per year, about three a week. Congress also prepared and distributed many press releases because wire service reporters are unable to attend the many hearings occurring simultaneously. Press releases enable members of the Congress to tell their stories in their own words. Now all House officers have at least one staff with press responsibilities.
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On the one hand, national media carry critical reports on Congress and they purposely try to maintain an adversarial relationship with Congress (Davidson & Oleszek, 2002). After all, the ratio of journalists to representatives is one to seventy-one and for senators is one to sixteen. They can alienate some legislators without losing direct access to Congressional news. On the other hand, legislators can also ignore national publicity and rely instead on publicity in their own districts (Graber, 2002). However, it has been found that local press relies heavily on Congressional press releases, interview opportunities, and written reports to get congressional news, because of inadequate resources and fewer local congressmen (Davidson & Oleszek, 2002).

Two public policy theories are discussed to provide behavioral perspectives to explain why politicians consciously make policy choice, which supplements the cognitive focus of media effect theories (Walgrave & Aelst, 2006). One is policy cycle model, which divides the policy-making process into several stages. For example, Jones and Baumgartner (2005) specify four stages of the policy-making process: agenda setting (attention allocation), problem definition, proposals and debates (alternative generation), and policy choice. Here, it is noteworthy to emphasize that first-level agenda setting primarily deals with attention allocation, while second-level agenda setting and framing theory mainly concern problem definition and alternative generation. This paper mostly focuses on second-level agenda setting (problem definition and alternative generation).

The other is an eclectic theory that is called punctuated equilibrium and was proposed by Baumgartner and Jones in 1991 and 2005. Punctuated equilibrium is a general hypothesis referring to long periods of policy stability interrupted by episodes of abrupt and substantial change. The punctuation mainly results from the limited cognitive capacity of human decision making and the operation of formal rules that exert checks and balances.
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on policymakers. The cognitive capacity primarily refersto a legislature’s ability to process information including collecting, assembling, interpreting and prioritizing signals from the environment. In this process, mass media play an important role in “helping” (or affecting) the statehouse or Congress with these tasks.

Besides, media also have a part in dismissing policy monopoly by mobilizing the unattentive public. Policy monopoly is similar to iron triangles, a closed system of policy making that is only open to insiders and maintains long-term stability in the policy. Outsiders tolerate this because the policy holds a certain image that looks safe and appropriate. However, when the image changes, attention shifts, and the previously unattentive public and officials will get involved and dissolve the policy monopoly. Mass media is a key player in defining and redefining policy images.

Hypothesis

Generally speaking, both the media effect theories and Baumgartner and Jones’s theories suggest that there is both a direct and an indirect impact of the mass media on state-level public opinion and statehouse policy. The major hypothesis in this study is:

The media content in a state will influence or reflect the ideology of the public and the state policies. In particular,

H1: the more liberal the media content is in a state, the more liberal the public opinion in that state;

H2: the more liberal the media content is in a state, the more liberal the legislative policies are in that state, and the more policy priority the state legislature gives to the particularized policies (e.g., welfare, healthcare, law enforcement, government administration, corrections, hospitals, and parks) than collective goods policies (e.g. education, highways and natural resources).
H3: the more liberal the public opinion is in a state, the more liberal the legislative policies are in that state and the more policy priority the state legislature gives to particularized goods than collective goods policies.

Other factors. State centered and decision theory assumes that the way government is organized and the choices individual governmental officials make are key factors in explaining changes in public policies. In this way, professionalism might be the most significant factor. Cooper and Johnson (2005) found that legislative professionalism positively correlates with statehouse reporters’ perceptions of the adversarial role. More professionalism also links to increased use of media tactics by state legislators (Cooper, 2002). In addition, legislative professionalism also influences the legislators’ perception of public opinions (Ray, 1982) and the public’s evaluation of its state legislature (Squire, 1993). Therefore, this research controls the impact of professionalism by including it into the statistical analysis. State’s population, newspaper’s circulation and the state’s geographic size are also controlled.

Method

This research primarily uses secondary analysis of available datasets and original content analysis.

The policy agenda. The policy agenda is measured in two ways. One is Erickson, Wright and McIver’s (1993) measure of “composite policy liberalism.” The other is Schneider & Jacoby’s (2006) measure of “policy priority.” The former emphasize the ideological stance and the latter focuses on relative spending on different issues. Erickson, et al.’s measure represents eight issues along one dimension: liberalism vs. conservatism. These eight policy measures are education, Medicaid, consumer protection, criminal justice, legalized gambling, the equal rights amendment and progressive taxation.
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The value of composite policy liberalism ranges from -1.55 to 2.13. The state with the most conservative policies is Arkansas and the state with the most liberal policies is New York. Higher scores indicate higher levels of policy liberalism. The strength of this measure has been widely recognized and fairly frequently employed in the recent literature (Schneider & Jacoby, 2006). However, it incorporates an ad hoc array of governmental activities and confounds several aspects of the public policy-making process. In addition, the long-time composite data do not have yearly data and may lose temporal variability. The policy measures date back to the data of 1980s, even though policy liberalism, like public ideology, doesn’t change much over years.

Schneider and Jacoby’s measure of policy priorities use the relative allocation of governmental resources across 10 program areas: education, welfare, hospitals, health, highways, policy, corrections, parks, natural resources, and government administration. The value of this measure ranges from .46 to .56. A higher value indicates that a state spends more on collective goods (education, highways and natural resources). A lower value represents that this state devotes larger portions of its budget to particularized benefits (e.g., welfare, healthcare, law enforcement, government administration, corrections, hospitals, and parks). This dataset is a good supplement to Erikson, et al.’s measure because it has yearly values up to 2004.

The media agenda. The media agenda is measured in two ways. The first measure is the media bias score (liberal vs. conservative) which is based on a measure developed by Groseclose and Milyo in 2005. Particularly, this measure is based on the average adjusted ADA score of each Congress member. Higher scores stand for a higher level of liberalism.

First, they used the official website of Congress, http://thomas.loc.gov, and searched the Congressional Record for instances where each member of Congress cited the
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200 most prominent think tanks and policy groups in the United States. Second, they did a content analysis of a series of famous news outlets and searched the *LexisNexis Academic* database to calculate the instances where each news outlet cited the 200 think tanks and policy groups. Finally, they used a structural model and calculated an adjusted Americans for Democratic Action (ADA) score for various news outlets, including the *New York Times*, the *Washington Post*, *USA Today*, the *Drudge Report*, *Fox News’* Special Report and the three major TV networks’ nightly news shows.

In their paper, they listed the average score of legislators who cite the different think tanks and policy groups. To make the calculation simple and straightforward, this study uses these numbers to compute the ADA score for local newspapers based on the frequencies these papers cited the first 20 think tanks and policy groups who are most frequently cited by the media outlets in Groseclose and Milyo’s paper. These top 20 think tanks are highly accessible and expert and using them can control the extraneous impact from variation in accessibility and expertise. It is noteworthy that the score calculated in this study cannot be directly compared with those scores in Groseclose and Milyo’s paper because they come from different calculation methods.

The major source of data is a content analysis of newspaper archives of the most popular local newspapers (with the highest circulation) in 48 U.S. states. Using the *LexisNexis Academic* database, all the news reports are coded from at least 10 years ago until now. Since some local newspapers’ archives are not included in *LexisNexis Academic*, their archives were directly searched on their websites. There are at least two differences between the online archives and the *LexisNexis Academic*. First, some online archives contain most, but not all, of the articles published by the newspapers. Second, since each newspaper may choose to store different content in their archives, some articles such as
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obituaries, wedding announcements, syndicated columnists, and wire services may not be available for a particular newspaper. Some newspapers will not archive stock quotes, sports scores, death notices or classified ads. However, there is no evidence to believe that any archive stores their articles in a way that is particularly favorable to certain types of think tanks.

As mentioned before, Erikson, et al.’s measure of composite policy liberalism does not have yearly and update values. Therefore, it can only be tested as a long-time aggregate value and compared with the long-time media bias based on more than ten years’ content. The sample size of this cross-sectional analysis is 48 because 48 states are measured. The control of newspaper circulation, state population, legislative professionalism and state size are only included in this analysis.

To probe the variations across years, Schneider and Jacoby’s measure of policy priorities is also used to correlate with media’s yearly bias in their content and yearly public opinion. In particular, four states’ (Kansas, North Carolina, Pennsylvania and South Carolina) local newspapers are randomly selected. Their media bias scores are calculated year by year from 1994 to 2003. The number of cases of this yearly data analysis is 40.

The second measure of media bias is the media’s endorsement of U.S. presidential candidates in the 2000 general election: Bush vs. Gore. This data is available on the website http://www.wheretodoresearch.com. A newspaper can either endorse Bush, Gore or be neutral. In particular, this study tests whether a newspaper’s endorsement of presidential candidates is correlated with the state-level public opinion and state policies. This measure is only tested in the aggregate data because only one year’s (year 2000) data is available.
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These two measures are used simultaneously because they are conceptually different. The former is called citation bias and the latter is presidential endorsement bias. These may not be very closely related, because newspaper’s reporters may consistently cite liberal think tanks but its publisher and owners may endorse the Republican presidential candidates at the same time.

The public agenda. The measure of state-level public opinion is also cited from Erickson, McIver and Wright’s study (1993). They pooled national surveys (CBS News/New York Times polls) to construct state-level opinion measures. Ideology is assessed by asking the question: “How would you describe your views on most political matters? Generally, do you think of yourself as liberal, moderate, or conservative?” They aggregated the response of ideological category by state. In each state, the mean difference between the percentage point difference between liberals and conservatives is the measure of state ideology.

Simple correlations and one-way ANOVA are run to analyze the bivariate relationships among the media agenda, the public agenda and the statehouse agenda. In addition, multiple regressions and multinomial logistic regressions are conducted to test the predictors of media citation bias and editorial endorsement bias.

Findings and discussions

Citation bias. The mean value of the media’s citation bias in the 48 local newspapers over more than 10 years is 57.48 (SD=3.42); and the yearly mean of the 4 local newspapers from 1994 to 2003 is 59.03 (SD=2.99). By this standard, the three most liberal newspapers are The Clarion-Ledger in Mississippi, Baton Rouge Advocate in Louisiana, and the Baltimore Sun in Maryland, and the three most conservative newspapers are the Tennessean in Tennessee, Casper Star-Tribune in Wyoming and Des Moines Register in...
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Iowa. It is noteworthy that, as mentioned in the method section, the absolute value of these media bias scores cannot be evaluated independently or compared with the ADA scores of Congressmen because they use different calculation methods.

The media’s citation bias has no or negligible relationship with liberal state ideology of the public, both in the aggregate data $r(46) = .09, p = .54$, and in the yearly data, $r(40) = -.02, p = .92$. Here, H1 is not supported. So it is with the state policy liberalism $r(45) = .05, p = .77$. The local media’s tendency to cite liberal think tanks is only slightly and negatively associated with a state government’s spending on collective goods (natural resources, highway and education) rather than particularized benefits (e.g. welfare, healthcare, law enforcement, government administration, corrections, hospitals, and parks), $r(48) = -.16, p = .29$ in the aggregate data, and $r(40) = -.19, p = .22$ in the yearly data. Then, H2 is only partly supported. Overall, these findings suggest that the local media’s citation bias is independent from the public’s ideology and the statehouse’s policy ideology, but slightly relates to the statehouse’s spending priority.

State public opinion has a strong positive relationship with a state’s policy liberalism $r(47) = .76, p < .001$, and a moderate relationship with policy priority both in the aggregate data, $r(48) = -.42, p < .01$, and in the yearly data, $r(40) = -.30, p = .06$. The more liberal the state’s population is, the more liberal the state policy is, and the more financial priority the state puts on particularized goods (e.g. welfare, healthcare, law enforcement, government administration, corrections, hospitals, and parks) over collective goods (natural resources, highway and education). Thus, H3 is strongly supported.

Furthermore, the media’s citation bias, as a dependent variable, is predicted by policy liberalism, policy priority, newspaper circulation, public opinion, state size, state population, and legislative professionalism in the aggregate dataset with multiple
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regression tests. None of the predictors is significant. These predictors can only explain 8 percent of the total variance of media’s citation bias. In the bivariate correlations, only professionalism has a slightly positive relationship with liberal bias of the media, \( r (48) = .17, p = .25 \). That is, the more professional the state legislature is, the more likely it is that the local media cites liberal think tanks. However, this relationship disappears when other variables are controlled in the regression analysis. In the yearly data, only policy priority and public opinion are included in the model, which only explained 4 percent of total variance of media’s citation bias.

**Presidential endorsement bias.** Of the 48 most popular states’ newspapers, 16 papers supported Bush for presidency in the 2000 general election, 15 favored Gore, and two stayed neutral. The newspapers who endorsed Bush have higher levels of liberal citation bias (group mean=57.8) than those who advocated Gore (group mean=56.9), even though the difference is not statistically significant, \( F (2, 30) = .50, p = .61 \). This result reveals that these two bias measures are conceptually independent of each other.

The presidential endorsement does influence and reflect the state ideology, \( F (2, 31) = 3.12, p = .06, \) and \eta = .41. The local newspapers that endorse Bush, compared with the newspapers that endorse Gore, are located in the states that have significantly more conservative public opinion (group mean difference=−71.90, \( p < .05 \)). Here, \( H1 \) is supported.

The presidential endorsement also is related to policy ideology, \( F (2, 29) = 5.68, p < .01, \) and \( \eta = .53, \) in the aggregate data. The states whose local newspapers support Bush have significantly less liberal policy than the states whose local newspapers support Gore (\( \Delta M = -.7, p < .05 \)) or stay neutral (\( \Delta M = -1.77, p < .01 \)). In contrast, media’s presidential endorsement has no relationship with policy priority \( F(2, 31) = .73, P = .49 \) and \( \eta = .21 \). That
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is, the states’ most popular newspapers’ advocating of presidential candidates has no impact on their state legislatures’ decisions of financial priority on either collective or liberal policies. Again, H2 is partly supported.

ANOVA tests show that the endorsement bias has significant bivariate relationships with none of the controlled variables (newspaper circulation, state size, state population, and legislative professionalism). When all the controlling variables are entered into multinominal logistic regression, all the predictors, including policy liberalism, policy priority and public opinion, became nonsignificant. The McFadden’s pseudo $R^2$ is .20.

Limitations and suggestions

Generally speaking, local media has some association with state-level public opinion and state policies. The second-level agenda-setting exists among the media, the public and the governmental policy at the state level in a way that media endorsement of Democratic candidates correlates to liberal public opinion and liberal policies. However, local media’s tendency to cite liberal think tanks has no correlation with public opinion, policy priorities, and policy ideology. Overall, a media’s citation bias is quite different from its candidate endorsement bias. This finding suggests that reporters have different and independent ideologies from the media owners and publishers.

The think-tank citation bias is subtle and latent and embedded in the reporters’ daily practice. This relationship is very small but not an adversary one; that is, when a state legislature spends more money on particularized benefits goods (e.g. welfare, healthcare, law enforcement, government administration, corrections, hospitals, and parks) rather than collective goods (natural resources, highway and education), its local newspaper tends to cite more findings and proposals from liberal think-tanks and policy groups. In contrast, the media’s presidential endorsement, which is apparent and open, substantially and positively
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correlates with the state’s public opinion and policy ideology. The local newspapers that
locate in the states that have significantly more conservative public opinion significantly
more likely to endorse Bush rather than Gore, and vice versa.

However, it is noteworthy that state reporters’ bias in citing think tanks and policy
groups is independent from the public’s ideology and the statehouse’s policy ideology.
This bias neither significantly influences nor is influenced by the public’s liberalism and
the statehouse’s policy liberalism. This finding suggests that local reporters have a high
degree of autonomy in citing different think tanks, yet this pattern of media framing has no
real power on public opinion and policy-making. Its negligible relationship with public
opinion and state policy challenges the construct validity of Groseclose & Milyo’s measure
of media bias. Yet, compared with presidential endorsement bias, the finding of the
media’s citation bias provides empirical evidence of mass media’s day-to-day practice of
exerting power within the ideological confines of mainstream American politics.

In addition, a state’s public opinion has a strong and positive relationship with the
state’s policy liberalism and a moderate relationship with its policy priority. The more
liberal the state’s population is, the more liberal the state policy is, and the more financial
priority the state put on particularized goods (e.g. welfare, healthcare, law enforcement,
government administration, corrections, hospitals, and parks) over collective goods (natural
resources, highway and education).

This study agrees with Entman’s (2007) suggestion that media bias is the
organizing concept to integrate framing, priming and agenda-setting research. In particular,
this concept could not only converge empirical evidences about patterns in the media
framing that do make a continuing difference to who gets what, when and how, but it could
also improve normative prescriptions for enhancing the media’s contribution to democracy.
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The findings in this study suggest that when examining the second-level agenda-setting, we need to look into the specific characteristics of media content and legislative policy. This study has tested two kinds of media bias (citation bias and presidential endorsement bias) and two kinds of policy measures (policy liberalism and policy priority). However, more measures need to be explored.

This study is limited in at least three aspects. The first aspect is the measure of media bias. The measure compiled the frequency that a newspaper cites 20 different think tanks. Those 20 think tanks are most frequently cited by national news media but not necessarily as useful and accessible to local newspapers. Local news outlets usually have less emphasis on foreign issues and national issues than national news outlets. In addition, this study did not evaluate the context of media’s citations of those think tanks. It assumes that every mention is equally important and positive. It is also noteworthy to say that the absolute value of the media bias scores calculated in this study cannot be evaluated independently or compared with the ADA scores of Congressmen because of its simple calculation.

The second limitation is about the measure of policy liberalism. The data used in this study is not current and dates back to the 1980s. It is very likely that policy liberalism has changed in the recent 20 years. Future research is warranted to test the same research questions again, when a new dataset is available.

Finally, the policy priority measure deserves more detailed analysis of media coverage more than the frequency of citations. Subject categories can be included in the content analysis to determine whether the policy priority on collective goods is related to certain types of media coverage. More subtle content analysis is warranted to reveal the media’s impact on the detailed attributes of policy content.
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