

Political Bias of Corporate News: Role of Conglomeration Reform in China

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Abstract: Using textual analyses of 1.8 million articles, we find that the authoritarian government in China manages to align the newspaper industry to better fulfill its dual role as the government's mouthpiece and an information institution supporting the market economy. More specifically, our evidence shows that through the conglomeration reform that re-organizes official and business newspapers from the same locale into a news group under state control, there is a decrease (increase) in positive tone and political content in business (official) newspaper articles, suggesting that business newspapers become more focused on commercial objectives and official newspapers more concentrated on political goals. Our results are robust to using a matched firm-month research design that examines the content of articles written about the same firm in the same month, a matched firm-event approach that examines concurrent newspaper articles published immediately following corporate earnings announcements and a difference-in-difference approach to test for conglomeration effects.

Keywords: Corporate news, state-owned media, political bias, tone, conglomeration, textual analysis
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1. Introduction

Politics biases news reporting. That bias is much stronger when the press is controlled and owned by an authoritarian government, due to the lack of competition from independent, non-state sources and the autocrats' incentive to demonstrate supremacy (Tullock, 1987). These autocratic governments, when attempting to develop market economies, face the challenge of supplying independent news in a media marketplace that is dominated by politics and frequently devoid of market-based incentives. Thus, they face the tradeoff between controlling the media to protect their autocratic rule and freeing state-owned media outlets to meet market demands for credible, informative news and support their market development activities.

This paper examines whether state media in an authoritarian government can successfully fulfill the dual mission of serving as the government's mouthpiece to secure its rule and as a market-oriented information institution to develop its economy, which are often in conflict with each other. Although state-controlled media is prevalent around the world (Djankov et al., 2003), prior research focuses mainly on the reporting biases of non-state media operating in democratic countries (e.g. Besley and Prat, 2006; Gentzkow and Shapiro 2006, 2008, 2010; Gurun and Butler, 2012). Our goal is to fill a void in the literature by providing a large-scale empirical analysis on how market and political forces interact to shape corporate news coverage in a state-controlled media market under an authoritarian government.

Specifically, we focus on whether the recent media conglomeration reform in China improved state-owned newspapers' ability to serve their dual political and market development roles. With their media reforms and the increased demand for corporate news resulting from the creation of the stock markets, we view China as a natural setting to examine how political and economic forces shape state-controlled media markets. Prior to the conglomeration reform, the Chinese government introduced a new group of state-owned, commercially oriented business newspapers that focus on reporting financial and

economic news, while keeping the existing official newspapers (a.k.a. party papers) to primarily serve as the government's mouthpiece and focus on reporting political news to pre-defined party constituency.

The conglomeration reform we examine involves transferring control of selected stand-alone official and commercialized business newspapers within the same locale, usually a province or major city, into a single news group under direct state control. This new organizational structure allows the government to increase its political control of the press while further engaging in newspaper commercialization. If effective, conglomeration will lead to a greater specialization and diversification within the news group. Business newspapers are expected to become less politically biased, while official newspapers are expected to maintain, or even increase, their political role in corporate news reporting after conglomeration. However, it is unclear whether conglomeration will actually increase the diversity of corporate news. By grouping local newspapers together, conglomeration will likely reduce competition, potentially causing an increase in political bias and reducing the diversity in the news (Besley and Prat, 2006; Gentzkow and Shapiro, 2008; Germano and Meier, 2013).

In addition, the conflicting demands of the Chinese government render the reform outcome uncertain. On the one hand, an independent media helps establish and maintain well-functioning markets and promote economic development.¹ On the other hand, the state-controlled media can play a central role in shaping public opinion, which leads to opaque and biased reporting practices, especially with respect to the revelation of bad news.² As such, politically controlled newspapers frequently bias their coverage of politicians, political events and government policy (e.g., Enikolopov, Petrov, and Zhuravskaya, 2011; see Stockmann, 2012 for a comprehensive review of the China setting).³ It remains an open empirical question whether the demand-side effect from the business newspapers' improved

¹ Media outlets create and disseminate financial information (e.g., Zingales, 2000; Bushman, Piotroski, and Smith, 2004; Bushee, Core, Guay, and Hamm, 2010; Soltes, 2010) and serve as a watchdog in the market (e.g., Dyck and Zingales, 2002; Miller, 2006; Dyck, Volkchkova, and Zingales, 2008; Liu and McConnell, 2013), even helping autocrats to monitor their bureaucrats (Egorov, Goriev, and Sonin, 2009; Lorentzen, 2014).

² In China, negative corporate news will diminish politicians' career prospects (Chen, Li, and Zhou, 2005; Li and Zhou, 2005) and, more broadly, increase public dissent that threatens political stability.

³ Even a democratic government can capture the media and bias electoral outcomes (Besley and Prat, 2006), significantly weakening the media's role in political accountability.

ability to pursue commercial objectives under a group structure offsets the political influence arising from the regime's direct control and ownership of its press.

We test these arguments on a sample of approximately 1.8 million domestic Chinese newspaper articles published about China's listed firms over the period 2000-2010. To capture the political bias of the articles, we use textual analysis techniques to measure the tone and the amount of political slogans that are commonly used by the Chinese Communist Party. Consistent with our predictions, we find that the conglomeration of Chinese newspapers into state-sanctioned media groups have successfully magnified the differences in article tone and political content between business and official newspapers. Specifically, we observe an increase (decrease) in positive reporting biases and the political content of articles published by official (business) news outlets that are conglomerated. The documented divergence in the tone and political slant of these conglomerated newspaper articles is consistent with the underlying objectives of China's media reforms – to increase the credibility of commercialized business newspapers while to simultaneously strengthen the mouthpiece role of official newspapers.

We find that differences in tone and political content associated with inclusion in a media group exist in the broad cross-section of newspaper articles, after matching official and business newspaper articles by publication month for the same listed firm, and after focusing on a subset of newspapers that are conglomerated during our sample period (i.e., a difference-in-difference research design). Additional analyses examining concurrent articles published by competing newspapers immediately following corporate earnings announcements yield similar inferences. Finally, supplemental analyses find that the impact of conglomeration varies by the strength of the province's political and market institutions, with the commercial (political) impact of these reforms on business (official) newspapers being, generally, more pronounced in provinces with stronger (weaker) levels of market-oriented institutions.

This study makes several contributions. First, we extend existing research on how political and economic incentives affect media bias. Recent studies examine how market incentives and competition impact reporting biases (Ellman and Germano, 2009; Gentzkow and Shapiro, 2006; 2008; 2010; Green, Hand, and Penn, 2012; Gurun and Butler, 2012), but these studies focus on democratic societies using

mainly privately controlled newspapers, rather than state-owned newspapers under autocratic governments. Compared with prior research on political incentives, which focus mainly on political news and electoral outcomes (Besley and Prat, 2006; Enikolopov, Petrov, and Zhuravskaya, 2011; Stockmann, 2012), we focus on how politics affect corporate news. Qin, Stromberg, and Wu (2014) directly examine political biases in article selection among Chinese newspapers and document that advertising revenues are predictive of a newspaper's coverage decisions and orientation, yet find no evidence that shifts in market incentives impact the biases of established newspapers. In contrast, our evidence that the formation of news group shelters business newspapers from political intervention and allows them to pursue more commercial interests is new in the literature. To our knowledge, ours is the first study to examine the interplay between the political incentives of state controlled newspapers and economic incentives introduced by media reforms on the reporting bias of corporate news.

Second, we provide large sample evidence on how state controlled media balances the tradeoff between market and political pressures, as captured by the conglomeration of newspapers, with respect to the content of corporate news. Our results suggest that reforms designed to inject market incentives into corporate news reporting yields the desired positive reporting effects, and that the creation of state controlled news groups simultaneously enhances both the market and mouthpiece roles of the business and official media, respectively. Prior research on media reforms in China uses a much smaller sample of news articles or case study approaches (Zhao, 2000; Stockmann, 2012). In addition, by using corporate news articles, as compared with general news articles in prior studies, we can better measure the bias in each article by controlling for the financial performance and fundamental characteristics of the listed firm.

Third, we extend Djankov et al. (2003), who find that prevalent state controlled media is detrimental to financial market development. A big challenge for emerging market governments is to develop financial markets while maintaining political control over the media. We document one example where, through the conglomeration of state-owned newspapers, the government increased the diversity of corporate news articles and reduced the political bias of articles published in newly created commercially-oriented newspapers, without relinquishing control of the press. Future research can investigate how well

these state-owned business newspapers and media groups fulfill their information role and what constraints should be eliminated to further improve the corporate news environment.

Finally, we contribute towards an understanding of the information environment supporting China's capital markets [see Piotroski and Wong (2012) for a summary]. And, because China is the largest economy practicing state capitalization, our paper serves as an important first step towards understanding whether, and under what contextual conditions, China's state-controlled information institutions will be able to fulfill their market development roles within the country's broader institutional, political and economic framework.

2. Overview of China's newspaper industry: Institutional background and hypothesis development

2.1 Creation of commercialized business newspapers

Starting in the early 1980's, the government has encouraged newspapers to operate like stand-alone commercial units. This shift coincided with a liberalization policy in newspaper licensing that urged CCP committees at lower levels of the government to establish new newspapers capable of supporting economic reforms and development. The intention of the Chinese government is to ultimately relax its control over domestic and international information flows to foster economic development and reforms. In the interim, this shift creates a tension, whereby the domestic, state-owned media industry is required to fulfill two, sometimes conflicting, roles: an information institution capable of supporting a well-functioning market economy, and a government mouthpiece.

Prior to these new policies, all published news articles were delivered through China's state-owned and state-supported official newspapers. The commercialization led to the creation of a new category of newspapers - called commercialized newspapers - in China. These commercialized newspapers consist of two primary types: business newspapers, which specialize in business and financial news, and metro and evening newspapers, which serve the general public interest in China's larger cities. Commercialized papers are fundamentally different from the official newspapers established prior to these policies. Whereas the intended audience of official newspapers is party members and government

officials, with the primary goal of conveying the government's political narrative to its constituents, commercialized papers target a specific audience and fill a particular market demand for information. Additionally, unlike official newspapers that continue to receive guaranteed subscription revenue from sponsoring units, commercialized newspapers receive no (or minimal) subsidies and no guaranteed subscriptions from the government. As a result of these differences, commercialized newspapers are more responsive to market demands for news in order to maximize advertising and subscription revenue. Amongst commercialized newspapers, the business newspapers are the most market-oriented outlets, especially after the establishment of the two stock markets in early 1990s.⁴ Together, these liberalization and commercialization policies increased the number of newspapers in the country by more than tenfold, from 186 to 1,943, between 1978 and 2009 (Stockmann, 2012).

There is also evidence suggesting that despite these new policies, the government maintained, if not strengthened, its control of the country's newspapers. First, both official and commercialized newspapers remain state-owned, and each individual newspaper must be sponsored by a government unit to obtain its operating license.⁵ These formal arrangements subject the newspaper to bureaucratic and political pressures arising from China's hierarchical structure.⁶ Second, the government continues to control the country's newspapers through the appointment and dismissal of senior editorial staff by the

⁴ In contrast, metro and evening newspaper are still responsible for spreading propaganda while trying to appeal to the general public for advertisements (Hu, 2010).

⁵ For example, the *People's Daily*, a national newspaper, is sponsored by the Central Propaganda Department of the CCP Central Committee, while *Beijing Daily*, a local newspaper, is sponsored by the CCP committee at the Beijing municipal level. The incentives of both newspapers are shaped by the objectives and agenda of their sponsoring entity.

⁶ The Chinese state is organized based on geographical divisions that span from the center to province, city, county, township and village levels. The state is also composed of the CCP and government units, such as commissions, ministries, bureaus and departments, which exert control vertically from units at the central government level to corresponding units at the lower levels of government. As such, any government unit has to report to the corresponding supervisory unit of the CCP or government agencies through the vertical chain of command, and horizontally to the leadership of the local government where the specific government unit is located. Newspapers are integrated in this broader political structure at their level of government. Thus, obtaining a license requires finding a sponsor within the relevant government framework, with the newspaper then subjected to the bureaucratic and political pressures arising from China's hierarchical structure.

sponsoring organization.⁷ This mechanism ensures that the editorial policies and reporting practices of the newspaper remain aligned with the government's preferences. Third, the Propaganda Departments (i.e., "PD") of the CCP committees (at every level of government) also strongly influences the reporting behavior of newspapers through their guidance and planning of China's ideological development. The power of the PD and relevant regulatory agencies is further strengthened by the absence of laws that protect the freedom of press, allowing politicians to capture the press when deemed necessary. Lastly, during this period of newspaper liberalization, the government concurrently elevated the news media's regulatory and licensing agency, formerly the Publication Bureau under the Ministry of Culture, to an administrative unit under the direct control of the State Council, renamed the State Press and Publication Administration (SPPA). And, in 2001, the SPPA was further elevated to ministerial-level status and was renamed the General Administration of Press and Publication (GAPP). These elevations serve the purpose of strengthening the political clout and legitimacy of the media regulators while signaling the government's commitment to monitoring, and if necessary controlling, China's news media.

That said, the political pressure to interfere with news reporting was moderated by the Asian Financial Crisis in 1997. The collapse in the Asian stock markets called for greater transparency in the market, reinforcing the orientation towards a market driven and independent business media. These views were subsequently supported by the Chinese government, and as a result, a number of prominent business magazines and financial daily newspapers emerged in the late 1990's and early 2000's, including *Caijing*, *21st Century Business Herald*, *Economic Observer*, *New Fortune Magazine*, and *Business Watch*. These publications are characterized by their focus on business and financial news and almost propaganda free reporting. And, in a few cases, these new ventures even served as watchdog against fraudulent activities of the listed firms.⁸

⁷ Specifically, each editorial appointment requires the approval of the relevant CCP's organization committee, while officials from the Propaganda Department (PD) of the corresponding local government and media regulators will occasionally get involved in appointment decisions.

⁸ A prominent example is *Caijing*, a financial magazine established in April 1998. Serving as the watchdog of the financial market, they exposed the fraud cases of listed firms such as Qiong Ming Yuan in 1998 and Yin Guang Xia in 2001. They also exposed irregularities and corruption of the mutual fund industry in 2000.

2.2 Conglomeration reform and reporting bias

In response to the growing prominence and influence of commercialized newspapers during the 1990's, the government embarked on a media reform that orchestrated the conglomeration of existing newspapers from the same locality into commercialized news groups. Conglomeration helped the government to form large domestic news groups capable of competing with foreign news groups that were expected to eventually enter the domestic market through WTO agreements (Lee, He, and Wang, 2006). The first of such conglomeration was the formation of *Guangzhou Daily News Group* in 1996; by 2004, up to 38 news groups were formed across China.⁹

Conglomeration was intended as an organizational innovation that enables member newspapers, as a group, to collectively fulfill their dual political and market missions. The government's fear of losing political control of the press was the biggest constraint to its earlier efforts in commercializing the news media. The rapidly growing and fragmented characteristic of the commercialized media market makes it costly to control the press, which the government felt threatens its autocratic rule. Commercialization also significantly weakened the official newspapers' role in serving as the government's mouthpiece as their popularity dwindled as a result of fierce market competition. Lastly, the commercialized newspapers, which often belonged to lower ranking CCP and government department, would restrain from directly or indirectly engaging in critical reporting because they lacked the political power and/or had difficulty ascertaining the political boundaries for its news reporting.

The group structure can mitigate this constraint in three ways. First, the official paper that belongs to the same group can give political protection and legitimacy, and even assurance of the reporting boundaries, to affiliated commercialized newspapers, allowing them to cater more freely to market demands for reliable information.¹⁰ Second, by having only one management team and one editorial board, the group can coordinate the activities of member newspapers and manage the overall

⁹ The case of the formation of *Shenzhen Press Group* is presented in Lee, He, and Huang (2006).

¹⁰ An example of the official paper taking the leadership position after the conglomeration is found in the Shenzhen Press Group, in which Songying Wu, the former director of the official newspaper, *Special Zone Daily*, served as the head of the news group.

political risks. This will also enable the government to have a stronger chain of command in controlling all the member newspapers, especially the commercialized newspapers. Third, commercialized newspapers can subsidize official papers, reducing the impact of commercial and budget considerations on the official newspapers' reporting activities.

Thus, the new structure will enable the member newspapers to fulfill its political objectives and pursue its commercial interests as a group. Instead of having each member newspaper taking on the dual role in pursuit of the government's political and commercial objectives, which can be excessively costly, the conglomeration structure allows for specialization among member newspapers. That is, the structure allows official newspapers to maintain, or even strengthen, their political role, while business newspapers can strictly cater to consumers' preferences for less positively biased, less politicized and more informative corporate news. This is analogous to family-controlled business groups in emerging economies of which member firms can, through affiliating with the influencing families, secure government connection and protection, and access capital and labor markets that are otherwise difficult for them to do on their own (Khanna and Palepu, 2000).

From the government's perspective, allowing newspapers to pursue more commercial objectives enables them to capture more advertising revenues (thus easing budgetary concerns) through catering to consumers' preferences. The independent news generated by these newspapers also enhances the government's ability to monitor the bureaucrats (Egorov, Guriev, and Sonin, 2009; Lorentzen, 2014). Moreover, as long as the conglomeration can enable the government to better prevent the media for spurring mobilization and collective actions (King, Pan, and Roberts, 2012), it will not restrain newspapers from publishing articles criticizing corporate behaviors.

However, conglomeration may reduce competition and increase reporting bias. Competition means a greater diversity of news suppliers and hence a greater likelihood of having a supplier that operates more independently from the government. Thus, by grouping the newspapers within the same locale, the conglomeration would reduce the likelihood that any of these newspapers to act diversely and independently, causing an increase in political bias. Reduction in competition can further increase bias

because, as Besley and Prat (2006) argue, the cost to influence (or total bribe for) the news suppliers decreases as their number decreases. Although conglomeration does not necessarily reduce the total number of newspapers in the locale, the unified editorial board could exert a more direct control over these newspapers after the conglomeration, which would reduce the editorial freedom enjoyed previously by business newspapers, thus constraining their market-oriented reported practices and increasing the reporting bias. This prediction is consistent with the argument that the government wanted to use the conglomeration reform to tighten control over the commercialized newspapers. Many official newspapers were losing in this competitive landscape to commercial newspapers, especially in terms of circulation and advertising revenue. The resultant decision to form news groups is consistent with the theoretical predictions of Gehlbach and Sonin (2014) that a large advertising market increases the incentive of the government to nationalize private media.

Thus, whether the conglomeration of China's newspapers improves the ability of both affiliated business and official newspapers to specialize and increase the diversity of corporate news coverage is an empirical question. Our main hypothesis is as follows:

The differential in tone and political slant between business and official newspapers is larger after the conglomeration, ceteris paribus.

3. Research design, sample construction and descriptive statistics

3.1 Data sources

To perform our analyses, we utilize data from two commercial databases of domestic Chinese language newspaper and magazine articles: Newswise and China Financial Newspaper Searching System. Newswise, established in 1998, archives all variety of newspaper and magazine articles, including corporate news articles published by China's official party newspapers. The China Financial Newspaper Searching System specifically archives articles published by China's business newspapers. The combination of these two archives allows us to gather the most comprehensive set of financial news articles available about China's listed firms. Due to database limitations before 2000 and data collection

constraints after 2010, we only use domestic newspaper articles published about China's listed firms between 2000-2010 that are included in these databases.

We use the following procedures to construct our sample of company-specific newspaper articles. First, using the trading name of each listed company, we use an automated article-crawling robot to search the archives of each database to identify all Chinese language articles featuring the listed company. This process was performed for each firm listed on the Shanghai and Shenzhen stock exchanges during our sample period. Second, we attribute individual articles to a specific listed firm based upon the corporate name that appears most frequently in the specific article. Articles where multiple firms appear with the same frequency are regarded as covering all firms. To ensure that our sample consists of press-generated news articles, we specifically exclude articles identified as summary lists (e.g., firms with the largest price change, trading activity, etc.) and articles that relate to regulation-mandated announcements or press releases made by the company (e.g., quarterly earnings reports, annual report, ad hoc filings, etc.). After eliminating articles not published in official or business newspapers, these procedures yield a final sample of 1,776,002 unique corporate news articles about 1,757 unique domestic listed companies, drawn from 110 unique newspapers (55 official and 55 business newspapers), during our sample period. (Appendix A presents the summary statistics of the listed firms appearing in the sample of news articles; Appendix B presents the list of unique newspapers in the sample).

3.2 Classification of newspapers

Because our research focuses on corporate news, our sample only includes articles published in official and commercial business newspapers.¹¹ Newspapers are classified as *official newspapers* if they are under the direct control of the central and local Communist Party Committees (party newspapers) or government institutions (political organ papers) and serve as their mouthpiece. We classify newspapers as a *business newspaper* if they have an orientation towards reporting business, economic and financial news. Most business papers are controlled by news groups (e.g. *21st Century Business Herald* by Nan

¹¹ We exclude all commercialized metro and evenings newspapers given orientation toward non-business news content. There could be potential under-identification of official papers as some of the evening papers claim to be official newspapers (e.g., *Hefei Evenings Newspaper*). However, this exclusion should not bias our results.

Fang News Group in Guangzhou), commerce-related ministries (e.g. *Financial News* by the People's Bank of China) or have private individuals or companies as shareholders (e.g. *Economics Observer* by Shangdong Sanlian Group Ltd.); only a few business newspapers are still directly controlled by party committees.¹² Because newspapers are formed to fulfill a specific niche and licensed accordingly, these newspaper classifications are stable through time.

We also identify whether or not the newspaper is included in a commercial news group at the end of a specific month, and if so, is labeled as being *conglomerated*. As discussed earlier, the conglomeration of newspapers into news groups has been occurring since the mid-1990's in China as a means for the government and party to jointly liberalize the media, increase the credibility of the news, and support economic development and reforms while regaining political control over a rapidly fragmenting press and competing against possible foreign entrants. Because conglomeration occurs through the process of media reforms, the conglomerated status of a newspaper can change over time. Our sample contains 59 newspapers controlled by 48 news groups at some point during our sample period.

3.3 Measurement of the tone and political slant of the domestic Chinese financial news article

We measure the tone and political slant of domestic news articles about China's listed firms at the article level. The next two sub-sections outline our measurement of these two characteristics.

3.3.1 Measurement of Tone

We measure the tone of a specific financial news article using a machine learning approach to implement linguistic content analysis. Prior research, such as Antweiler and Frank (2004), Das and Chen (2007), and Li (2010), has used a similar machine learning approach for measuring tone; this approach contrasts to the wordlist approach also used in prior research (see Henry and Leone (2015) for a discussion of the two approaches). Specifically, our approach involves an initial step of manually coding

¹² Ten business newspapers in our sample, e.g. *Economic Daily*, despite their business orientation, also function as official papers. Our main specifications combine these newspapers into a single group of business newspapers. In section 6.1, we discuss estimations where we separately identify these *official* business newspapers and compare them with the remaining sample of *commercialized* business newspapers.

a subsample of 30,000 news articles sentence by sentence.¹³ Each sentence in the article is classified as having a “positive,” “neutral,” or “negative” tone, and the keywords used to make that assessment are recorded. The manually coded data are then input into a LIBSVM classifier algorithm for support vector machines to classify each sentence of the entire sample of the 1.8 million articles as positive, negative or neutral in tone. We use ICTCLAS (Institute of Computing Technology, Chinese Lexical Analysis System) to implement the word segmentation and part-of-speech tagging for the textual analysis of the Chinese articles. Following Tetlock, Saar-Tsechansky, and Macskassy (2008) and Stockmann (2012), we measure the tone of each article ($Tone_{ijkt}$) as the number of positive sentences minus the number of negative sentences in the article, scaled by one plus the sum of the number of positive and negative sentences. We logarithmically transform this ratio to control for right skewness in the data (see Appendix C for all variable definitions).

Our measurement of *Tone* was selected given the characteristics of our research setting. First, there is no predefined wordlist because this is the first large sample textual analysis on the tone of financial news articles about China’s listed firms.¹⁴ Second, the classifier algorithm in the machine learning approach takes into account the combinations of words and phrases when determining the tone, while textual analysis based on a wordlist simply counts up the number of positive and negative words. Although the classifier algorithm does not analyze the detailed structure and context of sentences in the article, making use of the correlations of words and phrases with the manually coded results can reduce classification errors associated with the wordlist method. Third, the initial steps of manually coding sample articles and applying machine learning algorithms allow us to adapt the tone measurement to the contextual nature of the Chinese language and its capital markets, minimizing methodological

¹³ Our manual coding takes the following procedures: 1) We randomly assigned nine research assistants into three groups. 2) Each group of three research assistants was assigned 10,000 news articles randomly sampled from our full sample of 1.8 million corporate news articles. 3) For each group, their sampled news articles were uploaded to a specially-designed website where each research assistant was required to read each article sentence by sentence and to independently record a judgment about the tone of each sentence in each article. 4) We apply a majority principle to determine the sentiment of each sentence according to the judgments of three research assistants in the same group, and the recorded keywords are labeled with the same sentiment as the sentence.

¹⁴ Language differences aside, because we expect a positive bias to financial news articles in our setting, we did not employ other commonly-used tone definitions which focus strictly on the number of negative words in the article (e.g., Gurun and Butler, 2012; Liu and McConnell, 2013; Jin, Xu, and Wang, 2014).

shortcomings highlighted in Loughran and McDonald (2015), such as an under-representation of negative (vs. positive) words in other popular dictionaries and borrowing words created in a different discipline, as well as difficulties translating English terms to their Chinese counterparts.

3.3.2 *Measurement of Political Tags*

We measure the political slant of a specific newspaper article based upon the relative frequency with which Chinese political keywords are included in the story. Specifically, the political slant of the article (*Political Tags_{ijkl}*) is measured as the tf-idf realization of the article, where tf-idf is the term frequency – inverse document frequency of the article with respect to these political keywords. Essentially, tf-idf is a numerical statistic that captures the relative frequency with which a given set of words appear in the document, adjusted for the relative frequency of the word in the corpus, and is frequently employed by search engines to identify a webpage’s relevance for a given search term.¹⁵ We logarithmically transform the tf-idf score to control for right skewness in this data.

Our list of Chinese political keywords is based upon the Dictionary of Scientific Development (Xi, 2007). This dictionary of Chinese political phrases represents the comprehensive list of political slogans included in official Chinese Communist Party economic policy documents between 1978 and 2008, and was created by the government to celebrate 30 years of economic reforms. By focusing on the presence, absence and frequency of these explicit political slogans in corporate news reports, we are able to directly link the content of the article to political aspects of the Chinese business environment. Additionally, because we are searching for well-defined, context-specific political phrases (in Chinese) that are essentially being reproduced and/or reiterated in the news article, we are able to overcome many of the dictionary-related methodological limitations associated with prior research and our *Tone* measure.

We assume that the use of political slogans in an article reflects the presence of pro-government political content (or political slant) in the news outlet’s reporting of the listed firm, with greater usage of political slogans reducing the credibility of the news article. We expect to observe a positive relation

¹⁵ For robustness, we have also measured *Political Tags* using the number of political phrases included in the news article. All reported results are robust to this alternative measure.

between the article's *Tone* and *Political Tags* if both attributes are designed to help the media convey a positive (and politically congruent) message to the reader about the covered firm, the local economy, and/or the performance of the local government.

3.4 Descriptive evidence

3.4.1 Descriptive evidence: Sample of newspapers and newspaper articles

Table 1 provides descriptive statistics on our sample of newspapers and financial news articles, and highlights several key characteristics of China's newspapers. First, as would be expected given the growth in China's capital markets during the 2000's, we document a steady increase in the number of news articles dedicated to China's listed firms during our sample period. Interestingly, this growth appears to be driven by newspaper coverage decisions, not an overall expansion in the number of newspapers providing financial news coverage. Second, the vast majority of the financial news articles are published in commercially-oriented business papers; in our sample, 83.3% (16.7%) of corporate news articles were published in business (official) newspapers. Third, with respect to newspaper conglomeration, we can observe a general shift in the control structure of both official and business newspapers; this shift is most pronounced during the early years of our sample.

Fourth, panel C highlights the locality of our newspapers. As noted earlier, our sample of financial news articles are drawn from 55 unique official party papers and 55 unique business newspapers. These papers are split between 41 national (central-government-controlled) newspapers (9 official and 32 business) and 69 local (local-government-controlled) newspapers (46 official and 23 business). Interestingly, as reflected by the distribution of articles across these papers, most national newspapers are not controlled within a business group structure, while local governments strongly favor the use of the business group arrangement to allow their newspapers to achieve the party's joint political and market objectives. Lastly, this panel highlights potential selection issues with respect to coverage in our two newspaper article databases. Five provinces (Inner Mongolia, Jilin, Guizhou, Xinjiang and Tibet) are not represented in the sample; one additional province, Chongqing, is not associated with an official

newspaper and fourteen other provinces lack business newspapers in our study. Given these database coverage limitations, we are cautious to examine our main hypotheses using several alternative research methodologies to help mitigate concerns about potential selection biases in our sample.

3.4.2 Descriptive evidence: Tone and political tags

Table 2 presents descriptive evidence on the tone and political slant of Chinese newspaper articles about the country's listed firms. Panel A documents that the average tone is positive over our sample period and the average financial news article contains 0.168 political slogans.¹⁶ Conditional upon the newspaper's orientation, we observe that articles published by commercially-oriented business newspapers exhibit less positive tone and contain fewer political slogans than articles published in official newspapers. Also, the conglomeration of newspapers into a business groups significantly impacts both the tone of the article and frequency of political tagging, with official newspapers experiencing an increase in both attributes and business newspaper experiencing a reduction in political slogans.¹⁷ Although these descriptive data are consistent with prior research and generally support our predictions, we caution that these univariate relations do not control for omitted firm, provincial, time period or article attributes that induce differences across newspapers and articles.

4. Empirical analyses: Influence of newspaper conglomeration reforms on the tone and political slant of Chinese financial news coverage

In this section, we exploit a large cross-section of Chinese language domestic newspaper articles to understand whether changes in market and political incentives arising from the conglomeration reform process affect the tone and political slant of corporate news articles published by China's official and business newspapers. Section 4.1 documents and confirms differences in the tone and political content of articles published by China's official and business newspapers (i.e., differences arising from China's earlier newspaper commercialization reforms). Section 4.2 provides first evidence on the influence of

¹⁶ The distribution of *Political Tags* is extremely skewed. The median *Political Tags* realization is zero, and only 10.64% of articles contain one or more political slogans.

¹⁷ Untabulated analyses document that the pearson correlation between *Tone* and *Political Tags* is 0.16.

newspaper conglomeration on the relative tone and political slant of articles published by official and business newspapers. To address limitations and caveats associated with the preceding analysis, Section 4.3 presents additional evidence using two alternative research designs: one that exploits differences across articles matched on a firm-month basis, and one that exploits a small sample of conglomeration events (when local newspapers are combined into a business group) during our sample period. Section 4.4 examines how newspaper commercialization and conglomeration activities affect the tone and political content of news coverage conditional upon differences in the strength of prevailing commercial and political incentives in the newspaper's province.

4.1 Influence of newspaper orientation on the tone and political slant of financial news coverage

Prior research on media in China documents – quite convincingly – that commercialized newspapers reliant on external readership and advertising revenues exhibit less positive bias than official party papers (e.g., Stockmann, 2012). This commercialization effect exists across a range of news topics, including coverage of natural disasters, environmental issues, activities of politicians, and government policy. Absent uniquely weak (strong) market (political) incentives in our setting, or research design biases introduced through our data collection and measurement techniques, we expect to find similar differences between corporate news articles published by official and business newspapers.

To document whether the relative tone and political slant of corporate news articles is associated with newspaper orientation (i.e., official newspaper vs. business-oriented newspaper), we estimate variations of the following cross-sectional models using newspaper article-level data:

$$\begin{aligned}
 \textit{Tone}_{ijkt} \textit{ or } \textit{Political Tags}_{ijkt} = & \alpha + \textit{Province-Year-Month} + \textit{Industry} + \beta_1 \textit{Business Newspaper}_k \\
 & + \beta_2 \textit{National Newspaper}_k + \beta_3 \textit{Outside Province}_{ijkt} + \beta_4 \textit{SOE}_{jt} + \beta_5 \textit{Firm Size}_{jt} + \beta_6 \textit{ROA}_{jt} \\
 & + \beta_7 \textit{Market-to-Book}_{jt} + \beta_8 \textit{Leverage}_{jt} + \beta_9 \textit{Return}_{jt} + \beta_{10} \textit{Article Length}_{ijkt} + \varepsilon_{ijkt}
 \end{aligned} \tag{1}$$

In these estimations, the dependent variable \textit{Tone}_{ijkt} ($\textit{Political Tags}_{ijkt}$) captures the relative tone of article i about firm j in newspaper k in month t (relative frequency of political rhetoric imbedded in article i about firm j in newspaper k in month t). $\textit{Business Newspaper}_k$ is an indicator variable equal to one if the article was published in a newspaper with a focus on reporting financial and economic news, zero

otherwise. Because commercialization increases incentives to respond to market demands and minimizes the impact of political incentives when publishing financial corporate news articles vis-à-vis incentives faced by official party newspapers, we expect a negative coefficient on *Business Newspaper* ($\beta_1 < 0$). Such a negative relation would confirm inferences found in prior research, and serve as a validation for our underlying data.

We also include a set of indicator variables to capture effects arising from the locality of the newspaper. The first variable captures which level of government controls the newspaper (i.e., central government versus local government-related entities). *National Newspaper_k* is an indicator variable equal to one if the newspaper is controlled by either a central government entity or national party organization, zero otherwise. The second variable captures reporting biases arising from the locality of the covered firm. Specifically, the local newspapers are expected to report more (less) favorably on local (non-local) firms. Local newspapers are less critical of local firms because of strong incentives to please local government officials, but it is condoned or even encouraged to report negatively on firms domiciled outside its locality. *Outside Province_{ijkl}* is an indicator variable equal to one if the listed firm is located outside the local newspaper's province, zero otherwise.

We also include firm-level control variables (*Firm Size*, *ROA*, *Market-to-book*, *Leverage*, and *Return*) to capture fundamental characteristics expected to influence the tone or political slant of media coverage over the reporting period. The indicator variable *SOE* is included to capture a positive political bias introduced because the covered firm is state-owned. Because longer articles afford the reporter greater opportunity to soften a negative news story, wax poetic about good news, or include economic policy issues in the article, we include the log number of sentences in the article (*Article Length_{ijkl}*) to control for any systematic differences in the measurement of our dependent variables arising from the length of the underlying article. We include province-year-month indicator variables to capture systematic news shocks and economic trends that are expected to vary across provinces. The provincial fixed effects are based upon the locality of the newspaper, and designed to control for differences in underlying

institutions, macro-economic conditions, and transparency incentives across these regions.¹⁸ We include industry fixed effects to control for differences in fundamentals and coverage biases across sectors.

Table 3 presents select coefficients (and t-statistics) from various estimations of these models.¹⁹ We find that articles published in commercial, business-oriented newspapers exhibit less positive tone and less political tagging than financial news articles published official newspapers. This result is new to the literature on corporate news coverage in China, and reinforces earlier commercialization findings and case studies suggesting that official news outlets are positively biased in their news coverage of political events vis-à-vis commercialized news outlets (both in China and globally). This commercialization effect is robust after including controls for firm characteristics that could drive selection issues across the newspaper types, suggesting that our business / official newspaper characterization successfully captures factors correlated with the market-oriented vs. political objectives of the respective media outlet.²⁰

These estimations reveal several other interesting attributes of financial news coverage in China. First, after controlling for commercialization incentives, central government newspaper articles are more positively biased and contain more political tags than articles published in local government newspapers. Second, the tone and political slant of local newspapers is influenced by whether the covered firm is domiciled in the same province as the newspaper, with local firms receiving more favorable coverage.²¹ Third, firms with strong recent financial performance are associated with more favorable coverage and political slant. Fourth, articles about large (i.e., economically important, successful and/or visible) firms are more positive, while articles about SOEs tend to contain greater political content than non-state-owned entities. Lastly, longer articles are more positive in tone and contain more political rhetoric.

¹⁸ We control for year-months because information about Chinese listed firms is expected to vary over time based upon prevailing economic conditions and political incentives (e.g., Piotroski, Wong, and Zhang, 2015). By interacting year-month effects with our provincial indicators, our fixed effect structure can capture average time-varying effects on *Tone* and *Political Tags* by province.

¹⁹ All t-statistics from multivariate estimations reported in the paper are based on standard errors clustered by firm.

²⁰ Untabulated analyses also document that this commercialization effect is robust within subsets of both national and local newspapers.

²¹ This result is similar to the advertising-driven effect documented in the US about the local media's decision to bias the coverage of small, local firms (e.g., Gurun and Butler, 2012).

4.2 Influence of conglomeration on the relative tone and political slant of financial news articles

Our primary empirical analyses examine whether newspaper conglomeration influences the relative tone and political slant of financial news articles in China. Specifically, we extend equation (1), and estimate variations of the following cross-sectional models using newspaper article-level data:

$$\begin{aligned}
 \textit{Tone}_{ijkt} \textit{ or } \textit{Political Tags}_{ijkt} = & \alpha + \textit{Province-Year-Month} + \textit{Industry} + \beta_1 \textit{Conglomerated}_{kt} \\
 & + \beta_2 \textit{Business Newspaper}_k + \beta_3 \textit{Business Newspaper}_k * \textit{Conglomerated}_{kt} + \beta_4 \textit{National Newspaper}_k \\
 & + \beta_5 \textit{Outside Province}_{ijkt} + \beta_6 \textit{SOE}_{jt} + \beta_7 \textit{Firm Size}_{jt} + \beta_8 \textit{ROA}_{jt} + \beta_9 \textit{Market-to-Book}_{jt} \\
 & + \beta_{10} \textit{Leverage}_{jt} + \beta_{11} \textit{Return}_{jt} + \beta_{12} \textit{Article Length}_{ijkt} + \varepsilon_{ijkt}, \tag{2}
 \end{aligned}$$

In these estimations, *Conglomerated_{kt}* is an indicator variable equal to one if the article was published in a newspaper that is controlled by a news group in month t, zero otherwise. To the extent that the formation of commercial news groups allows affected individual newspapers to better achieve the state’s dual commercial and political objectives, we expect a positive coefficient on *Conglomerated* and a negative coefficient on the interaction term *Business Newspapers*Conglomerated*. All other variables are as defined previously (see equation (1) and Appendix C). Our estimations of equation (2) are effectively unbalance panel regressions with the coefficients on *Conglomerated* terms capturing both the effects of newspapers switching control structure during our sample period and the baseline effects of being a conglomerated newspaper throughout our sample.

Table 4 presents select coefficients (and t-statistics) from various estimations of these models. Consistent with main hypothesis, we observe that differences in tone and political slant between business and official newspapers are larger among conglomerated newspapers. Specifically, we find that the influence of conglomeration on tone and political content is dependent upon the objective of the underlying newspapers. Articles published in conglomerate-affiliated business newspapers have a *less* positive tone and contain fewer political slogans than non-affiliated business newspapers. To the extent that reductions in *Tone* and *Political Tags* are eliminating positive “biases” in the news reporting, the evidence is consistent with business newspapers being more credible than official newspapers and, more

importantly, with conglomeration serving as an effective mechanism to increase the credibility of financial news reporting activities of commercialized business newspapers. In contrast, conglomerate-affiliated official newspapers generate reports that are incrementally *more* positively biased and have a greater frequency of including political slogans than articles published by official newspapers not included in a news group. This difference is consistent with conglomerated official newspapers better fulfilling their mouthpiece role in China.

These effects are robust to utilizing all newspapers articles (first column) and separate estimations for samples of official and business newspapers (second and third columns).²² Together, the combined evidence suggests that conglomeration is an effective mechanism for the government to strike a delicate balance between liberalizing and enhancing the credibility of state-controlled business news coverage and maintaining, or potentially tightening, her control over the media as broadcasting outlets. The next sections will address limitations to this conglomeration analysis, and shed further light on the impact of conglomeration on newspaper behavior.

4.3 Alternative research designs: Influence of conglomeration on tone and political slant

4.3.1 Alternative empirical specification: Matched firm-month analyses

The preceding analyses exploit all available Chinese language newspaper articles about domestic listed firms, and the evidence is consistent with conglomerated newspapers more effectively utilizing their resources to achieve the dual mission of the state controlled media. However, several empirical concerns exist with that analysis. First, archive coverage appears to be incomplete. As documented in Table 1, not all provinces nor all newspapers in a province (official or business) are included in the archives. To the extent this selection bias is non-random, our results may be driven by unobservable selection biases for official and non-official newspapers. Second, articles themselves are endogenously produced by the media, so our results could simply reflect selection biases with respect to the decision to publish an article. For example, official and business newspapers may choose to cover different types of firms or

²² Untabulated analyses also document that the conglomeration effects are generally robust within subsets of both national and local newspapers, except that the positive effect of conglomeration on the tone and political tags of national official newspapers is no longer statistically significant.

choose to cover firms at different points in time (e.g., conditional upon the sign and magnitude of the news being conveyed). Finally, the average positive tone in our sample may not reflect a bias, per se, but instead reflect systematic measurement error or newspaper coverage decisions (e.g., only write about good news).

To address these concerns, we employ a methodology that captures the differences in average newspaper article tone and political content between official and professional newspapers for a given listed firm in a specific calendar month. Specifically, we measure:

$$Diff_Tone_{jt} = Average\ Tone_{jt}^{Official} - Average\ Tone_{jt}^{Business}$$

$$Diff_Political\ Tags_{jt} = Average\ Political\ Tags_{jt}^{Official} - Average\ Political\ Tags_{jt}^{Business}$$

where $Average\ Tone_{jt}$ ($Average\ Political\ Tags_{jt}$) is the arithmetic average of $Tone_{ijkt}$ ($Political\ Tags_{ijkt}$) for all articles published about firm j in calendar month t in either official or business-oriented newspapers, respectively. The advantage of this methodology is that we are capturing sets of articles published about the same firms over the same time window, thus increasing the likelihood that the newspapers are writing about the same economic performance and events and minimizing selection biases arising at the newspaper level. This methodology is similar to Engelberg and Parson (2011).

Table 5, panel A presents descriptive statistics on these average differences. Consistent with results using the full data, articles published in official newspapers exhibit a more positive tone and greater political content than articles published in business newspapers (i.e., both average $Diff_Tone$ and $Diff_Political\ Tags$ are greater than zero).

To test the effects of conglomeration on reporting behavior using this matched data, Table 5, panel B presents select coefficients from various estimations of the following cross-sectional models:

$$\begin{aligned} Diff_Tone_{jt} \text{ or } Diff_Political\ Tags_{jt} = & \alpha + Year\text{-}month + Industry + Province + \beta_1 \%Conglomerated_{jt} \\ & + \beta_2 \%National\ Newspaper_{jt} + \beta_3 \%Outside\ Province_{jt} + \beta_4 SOE_{jt} + \beta_5 Firm\ Size_{jt} + \beta_6 ROA_{jt} \\ & + \beta_7 Market\text{-}to\text{-}Book_{jt} + \beta_8 Leverage_{jt} + \beta_9 Return_{jt} + \beta_{10} Relative\ Article\ Length_{jt} \\ & + \beta_{11} Relative\ Article\ Timing_{jt} + \varepsilon_i \end{aligned} \quad [3]$$

In these estimations, *%Conglomerated* is the percentage of articles about firm j published in newspapers controlled within a news group structure in month t , *%National Newspaper* is the percentage of articles published in national newspapers, and *%Outside Province* is the percentage of articles written by newspapers outside the firm's province. The explanatory variable *Relative Article Length* measures differences in the average length of official and professional newspaper articles, while the variable *Relative Article Timing* measure the absolute average number of calendar days between the publication of the articles in official and business newspapers in month t . To the extent that conglomeration leads to official and business newspapers achieving their separate objectives (i.e., increases the divergence in the tone and political content of news articles, as documented in Table 4), we expect *Diff_Tone* and *Diff_Political Tags* to be increasing in *%Conglomerated* (i.e., $\beta_1 > 0$). To the extent that official newspapers are incrementally more critical of non-local firms than non-local business newspapers, we expect *Diff_Tone* and *Diff_Political Tags* to be decreasing in *%Outside Province*. Similarly, to the extent that national newspapers have greater latitude to criticize firms and serve a greater role communicating party messages, we expect *Diff_Tone* and *Diff_Political Tags* to be increasing in *%National Newspapers*.

These firm-month estimations confirm the basic inference found in Table 4 and provide additional support for our main prediction, namely, conglomeration increases the spread in relative tone and political content observed between official and business newspapers. These tests also reconfirm that the divergence between business and official newspapers is much larger (smaller) when the covered firm is domiciled within (outside) the reporting newspaper's province and much larger when the articles are written by national newspapers.

4.3.2 Alternative empirical specification: Difference-in-difference approach around conglomerations

To specifically isolate the incremental effects of newspaper conglomeration activities, we employ a difference-in-difference methodology that exploits changes in the newspapers control structure during our sample period. Specifically, we re-estimate variants of equation (2) using only articles published in

local newspapers that are conglomerated into a media business group between 2001 and 2010.²³ In this cross-sectional specification, the indicator variable *Conglomerated* captures the shift in *Tone* and *Political Tags* arising from the change in control structure (i.e., post-conglomeration related incentives).

The advantage of this methodology is our ability to attribute shifts in article characteristics to incentives created via newspaper conglomeration. The downside is that our analysis is limited to a subsample of 15 local newspapers controlled by seven news groups. The reduction in sample size is due to limited conglomeration activity after 2000 and because the research design requires at least one official newspaper and one business newspaper to have been conglomerated into the same business group in the year of formation. As such, this difference-in-difference specification may lack power to detect conglomeration effects. Additionally, the conglomeration activity we observe in this analysis is occurring during later stages of the China's media reforms. Because the timing of provincial-level reforms is self-selected, local governments engaging in this activity after 2000 are inherently different than local governments engaging in similar media reforms prior to 2000. Lastly, our sample is heavily influenced by observations drawn from the politically liberal, market-oriented city of Shenzhen.²⁴

We present select coefficients (and t-statistics) from these various estimations in Table 6. For each dependent variable, the first estimation uses the full subsample of fifteen local newspapers; the next two estimations use subsamples of official and business newspapers respectively. In the regressions using the full subsample of local newspapers, we include newspaper fixed effects to control for unobserved heterogeneity of the newspaper. These full estimations yield mixed results. However, after allowing separate estimations by newspaper orientation, we continue to find evidence supporting our main hypothesis. Specifically, we observe that the effect of conglomeration activity is to attenuate the positive tone and political content found in business newspapers; in contrast, local official newspapers maintained their heightened level of political content and actually increased their positive reporting bias following

²³ We do not include newspapers that are conglomerated in 2000 to ensure that each newspaper has at least one year's worth of pre-conglomeration articles in this sample. Our data precludes an examination of the conglomeration of national newspapers, as all national newspaper groups in our sample were created before 2001.

²⁴ *Shenzhen Economic Daily* (business newspaper) and *Shenzhen Special Zone Daily* (official newspaper) account for 39.96% and 24.12% of this sample, respectively.

conglomeration. Although these official newspaper effects are less pronounced than those documented in the full sample, we again caveat that this particular analysis is based on a small sample of late reforming local governments, with the sample disproportionately affected by Shenzhen observations. For these localities, it is possible that official newspapers articles were already optimally biased given prevailing commercial and political forces, especially as it relates to the amount of political slogans.²⁵

4.4 Influence of provincial-level incentives on the impact of conglomeration reforms

In this section, we extend our primary analyses to examine the impact of conglomeration reforms after conditioning upon the prevailing political and market orientation of the newspaper's province. As discussed earlier, economic development creates a demand for credible, market-oriented information; however, the underlying consumer preferences for this information, and ability of newspapers to deliver this information for political reasons, is expected to vary across locations. Specifically, the market demand-side effects of commercialization should be stronger in commercial centers such as Guangdong and Shanghai and weaker in political centers such as Beijing and Shaanxi. Similarly, the political role of official newspapers should be stronger in highly politicized regions and weaker in settings with strong market institutions. We expect the impact of conglomeration to reflect differences in the relative strength of these local incentives.

To examine conglomeration effects conditional upon these local incentives, we estimate variations of the following model conditional upon both newspaper orientation and the strength prevailing political / market incentives in the newspaper's province:

$$\begin{aligned}
 \textit{Tone}_{ijkt} \textit{ or } \textit{Political Tags}_{ijkt} = & \alpha + \textit{Province-Year-month} + \textit{Industry} + \beta_1 \textit{Conglomerated}_{kt} \\
 & + \beta_2 \textit{Outside Province}_{ijkt} + \beta_3 \textit{SOE}_{jt} + \beta_4 \textit{Firm Size}_{jt} + \beta_5 \textit{ROA}_{jt} + \beta_6 \textit{Market-to-Book}_{jt} + \beta_7 \textit{Leverage}_{jt} \\
 & + \beta_8 \textit{Return}_{jt} + \beta_9 \textit{Article Length}_{ijkt} + \varepsilon_{ijkt},
 \end{aligned}
 \tag{4}$$

Using the full sample of newspaper articles, provinces are classified as having high or low market orientation using the Fan and Wang (2003) marketization index. Because of potential provincial-level

²⁵ Re-estimating these analyses after excluding the Shenzhen newspapers yields results similar to those reported in Table 6, with one notable exception – stand-alone estimations for official newspapers yield a significant increase in *Political Tags* after conglomeration, as predicted by our main hypothesis.

selection biases imbedded in our newspaper database (i.e., not all regions represented in the sample), we also perform an analysis that only examines newspapers domiciled in two large provinces that capture China's political versus market orientation continuum: Beijing and Guangdong. Beijing, as the seat of government, is a highly political region; in contrast, the southern province of Guangdong is a large, market-oriented province in China (anchored by the long-standing Special Economic Zone of Shenzhen). We use the year-month fixed effect for the regressions of the two provinces. Table 7 presents select coefficients from these sets of estimations.

Results using these two approaches yield very similar inferences, namely, the commercial (political) effects of conglomeration on local business (official) newspapers are, generally, more pronounced in provinces with stronger levels of market-oriented (politically-oriented) institutions. Specially, the incremental positive bias and political content introduced into official newspaper articles following conglomeration is amplified in politically-oriented provinces and attenuated in those settings where readership is more likely to demand and reward credible journalism. In contrast, the incremental reduction in positive tone embedded in business newspaper articles following conglomeration is generally only found in market-oriented regions; in highly politicized regions, conglomeration seems to have only a minimal impact on the credibility of business newspaper's articles.

Together, these results demonstrate that the impact of newspaper conglomeration on reporting behavior is not uniform; instead, the response of both official and business newspapers is heavily influenced by the importance of local market and political forces, respectively.

5. Newspaper coverage of corporate earnings announcement events

The preceding analyses document that the conglomeration of Chinese newspapers into business groups impacted the tone and political content of financial news articles. However, a weakness of the preceding analyses is our inability to directly control for the content of the news articles written. As such, observed differences in article tone and political content could simply reflect differences in topics and/or coverage decisions of conglomerated versus non-conglomerated newspapers.

To address this concern, we employ a secondary research design that examines the attributes of financial news articles written immediately following corporate earnings announcements. Earnings announcements have two features that make for a powerful setting to study media bias. First, earnings announcements are well-defined, value relevant events during which newspapers have salient market-based incentives to report and interpret the financial performance of the listed firm. Second, because multiple newspapers have economic and political incentives to report on the performance of the announcing firm, earnings announcements are a setting where newspaper professionals (journalists and editors) across China are concurrently performing the same task (e.g., publishing a story) in response to the same underlying economic event and using similar inputs (i.e., the earnings announcement press release and related financial disclosures). Thus, articles written immediately following the earnings announcement should relate to the same underlying topic, but individually reflect the preferences and editorial direction of each publishing newspaper. Homogeneity in underlying content should mitigate research design concerns imbedded in our main analyses; however, if the media outlets have less discretion or weaker incentives to bias or inject political rhetoric into their coverage of earnings related news, this research design choice may hinder our ability to detect conglomeration effects.

We perform this analysis using two distinct types of samples: Full sample of all available earnings announcement news articles (section 5.1), and restricted samples that require that all four types of newspapers write an article about a specific earnings announcement event (section 5.2).

5.1 Full sample of earnings announcement news articles

We identify quarterly, semi-annual and annual earnings announcement dates for all Chinese listed firms over the time period 2000 to 2010 through CSMAR. We then match our full sample of newspaper articles against these earnings announcement event dates, and retain all news articles published on or within seven days of the listed firm's respective earnings announcement date (days 0 to +7). We next eliminate all earnings announcement events without any newspaper coverage, thus retaining only those firm-specific reporting events garnering at least one newspaper article during the seven-day window. This selection procedure results in a sample of 175,662 articles published by 110 newspapers, covering 39,026

unique earnings announcement events for 1,751 unique listed firms.²⁶ Using this full sample of articles, we find that the average (median) firm-specific earnings announcement event is associated with 5.43 (2) articles written by 3.13 (1) newspapers. As expected, business newspapers account for the majority of articles written around each event, with business (official) newspapers publishing an average total of 4.65 (0.77) articles around each earnings announcement events. Table 8, panel A presents descriptive evidence on newspaper coverage, and the mean Tone and Political Tags characteristics, of this full sample of earnings announcement period articles.

To test our main hypotheses, we re-estimate the following variant of equation (2) using this full sample of earnings announcement period newspaper articles:

$$\begin{aligned}
 \text{Tone}_{ijkt} \text{ or } \text{Political Tags}_{ijkt} = & \alpha + \text{Province-Year-month} + \text{Industry} + \beta_1 \text{Conglomerated}_{kt} \\
 & + \beta_2 \text{Business Newspaper}_{kt} + \beta_3 \text{Business Newspaper}_{kt} * \text{Conglomerated}_{kt} + \beta_4 \text{National Newspaper}_{kt} \\
 & + \beta_5 \text{Outside Province}_{ijkt} + \beta_6 \text{SOE}_{jt} + \beta_7 \text{Firm Size}_{jt} + \beta_8 \text{ROA}_{jt} + \beta_9 \text{Market-to-Book}_{jt} \\
 & + \beta_{10} \text{Leverage}_{jt} + \beta_{11} \text{Return}_{jt} + \beta_{12} \text{Article Length}_{ijkt} + \beta_{13} \text{Good News}_{ijkt} + \varepsilon_{ijkt}, \quad [5]
 \end{aligned}$$

In this estimation, we are including the indicator variable *Good News* to capture the sign of news being released by the announcing firm. *Good News* equals to one if the firm is reporting an increase in net income this period, zero otherwise. All other variables are as defined previously. Select coefficients and t-statistics from estimations of equation (5) are reported in Table 8, panel B.

Consistent with our main predictions, the full and separate estimations document an increase in the positive tone and political content of official newspapers following conglomeration. Thus, after indirectly limiting the sample articles to reflect a common topic (i.e., coverage of earnings news), we continue to find support for our main conglomeration hypotheses as it relates to the behavior of official newspapers. These full estimations also reveal that the positive tone of business news articles is reduced after conglomeration, consistent with our main hypothesis; however, this effect is attenuated when the impact of conglomeration is separately estimated on business newspaper articles alone. We are also

²⁶ Untabulated analyses document that coverage of an earnings announcement is non-random, with business newspapers more likely to report on the announcing firm than official newspapers. Conglomeration increases the likelihood of coverage for both type of newspapers, with the effect incrementally stronger for business newspapers.

unable to document a material difference in the political content of business newspapers conditional on conglomeration status.

5.2 Sample restricted to earnings announcements covered by all four types of newspapers

A significant concern with the preceding approach is that not all four types of newspapers (e.g., official vs. business; conglomerated vs non-conglomerated) are covering each earnings announcement event. As such, the coefficients on *Conglomeration* and *Business*Conglomeration* could still reflect differences correlated with their respective coverage decisions. Thus, despite the evidence in Table 8 being consistent with our main hypothesis for official newspapers, this preceding research design does not adequately address differences in article content across these newspaper types.

To address this limitation, we construct a restricted sample of earnings announcement (EA) events requiring each type of newspaper to have published at least one article about the announcing firm during the seven-day (0,+7) earnings announcement window. This restricted sample consists of 56,346 articles published by 108 newspapers, covering 1,988 unique earnings announcement events by 619 firms.²⁷ For this restricted earnings announcement sample, the average (median) firm-specific earnings announcement event is associated with 28.20 (19) articles written by 11.88 (10) newspapers. Thus, many newspapers are publishing multiple articles during our seven-day window. To ensure that we capture the individual newspaper's first impression about the listed firm's financial performance, and thus create better content comparability across articles, we also further restrict this sample to include only the first article published by each individual newspaper during the earnings announcement window. This limits the final restricted sample to 23,749 articles for 1,988 unique earnings announcement events. For this most restrictive sample, the average (median) firm-specific earnings announcement event is associated with 11.88 (10) "first" articles. Table 9, Panel A presents descriptive statistics on these sample articles.

²⁷ This restricted sample contains listed firms that are larger, more profitable, have fewer growth options, and more likely to be state-owned than the full sample of earnings announcement firms. These sample restrictions also result in two newspapers (domiciled in Henan province and Shanghai) being dropped for this analyses.

The advantage of these restricted earnings announcement samples is that we can test our primary hypothesis using an identification strategy that mimics a traditional difference-in-difference research design. Specifically, we estimate the following cross-sectional model:

$$\begin{aligned}
 \text{Tone}_{ijkt} \text{ or } \text{Political Tags}_{ijkt} = & \alpha + EA \text{ Event} + \text{Year-week} + \beta_1 \text{Conglomerated}_{kt} \\
 & + \beta_2 \text{Business Newspaper}_k + \beta_3 \text{Business Newspaper}_k * \text{Conglomerated}_{kt} + \beta_4 \text{National Newspaper}_k \\
 & + \beta_5 \text{Outside Province}_{ijkt} + \beta_6 \text{Article Length}_{ijkt} + \varepsilon_{ijkt}, \quad [6]
 \end{aligned}$$

In this model, we include fixed effects for each unique firm-specific earnings announcement event (*EA Event*); as such, the coefficients on *Conglomerated* and *Business*Conglomerated* capture the treatment effects of conglomeration on each type of newspaper, after removing the mean *Tone* and *Political Tags* realization associated with each unique earnings announcement event and newspaper orientation. We also include year-week fixed effects to control for time-varying factors affecting *Tone* and *Political Tags* arising from differences in the timing of article publication. We also control for explicit attributes of the newspaper (*National Newspaper*; *Outside Province*) and article (*Article Length*) that are correlated with *Tone* and *Political Tagging* but are not absorbed by the fixed effect structure.

Select coefficients from estimations of equation (6) are presented in Table 9, Panels B and C. Panel B presents estimations using all observations from the restricted sample; Panel C presents estimations using only the first article published by each newspaper in the restricted sample. These estimations reveal that both the tone and political content of contemporaneously published articles are affected by the respective newspaper's orientation and conglomeration status. For the most restrictive sample (i.e., first article published by each newspaper), we observe that articles of official (business) newspaper displaying greater (less) positive tone and more (less) political content in both full and separate estimates. Results using a less restrictive version of this sample – where we include all articles published by all four types of newspapers – yields mostly similar inferences. The sole exception relates to

conglomerated business newspapers, where we only document limited reductions in political content and no material changes in tone in the stand-alone estimations.²⁸

Together, our earnings announcement tests, which are designed to control for differences in coverage and topic selection that could confound our primary tests in Section 5, yield compelling evidence that the political bias embedded in corporate news coverage in China is affected by whether the reporting newspaper belongs to a conglomerated media group.

6. Additional analyses and robustness tests

6.1 Assessing tradeoff between political and commercial incentives: “Official business newspapers”

Our main commercialization analysis classifies newspapers based upon their orientation (i.e., official versus business newspapers). However, ten of the business newspapers in our sample, despite their strict business orientation, are affiliated with specific party organizations and also appear to function as official papers. Our main specifications combine these newspapers into a single group of business newspapers; this research design choice should bias against our ability to detect conglomeration effects for business-oriented newspapers. That said, this small sample of “official business newspapers” gives us the novel opportunity to examine how political biases arising from the official, mouthpiece role of the media impact a newspaper whose clientele is strictly market-oriented.

To examine this issue, we separately identify these few *official* business newspapers and compare them with the remaining sample of *commercialized* business newspapers. Specifically, we estimate variations of equation (1), only we replace the indicator variable *Business Paper* with the indicator variables *Official Business* and *Non-Official Business Paper*, which equal one if the newspaper focuses on business news and functions or does not function as an official newspaper, respectively. To the extent that market forces dominate these newspapers reporting decisions, we would expect commercialization effects to be similar across these two groups of business newspapers (i.e., the coefficients on *Non-Official*

²⁸ The weaker business newspaper results could relate to the fact that follow-up articles are subject to different types of incentives (e.g., toning down criticism as they cater for advertising revenue) than their initial report.

Business Paper and *Official Business* to be the same). However, any incentive arising from these official newspapers political / mouthpiece role should attenuate observed commercialization effects for these official business papers (i.e., the coefficient on *Official Business* will be larger (less negative) than the coefficient on *Non-Official Business Papers*).

In untabulated analyses, we find that coefficients on *Non-Official Business Paper* and *Official Business* are both significantly negative in both full sample estimations (i.e., for both dependent variables, *Tone* and *Political Tags*), consistent with these newspapers' market orientation reducing political biases. However, these negative commercialization effects are substantially smaller for official business newspapers than for non-official business newspapers (F-value for the difference in the coefficient on official and non-official business is 153.82 and 194.94 in the *Tone* and *Political Tags* models, respectively), suggesting that the commercial incentives of these official business newspapers are attenuated by conflicting political incentives.

In terms of newspaper conglomeration, only one of these official business newspapers (Market Guide News, from Hubei province) is affiliated with a conglomerated news group. Re-estimating equation (2) after partitioning our business newspapers into official and non-official newspapers revealed that the conglomeration effect for this official business newspaper (i.e., reduction of positive tone and political rhetoric) was incrementally stronger than non-official business newspapers. These results would suggest that conglomeration can play an important role of mitigating the political forces that currently offset the commercial incentives of party-controlled business newspapers. However, we caution that these inferences are based on a very limited sample of observations.

6.2 Additional analysis: Conditional upon the political characteristics of the listed firm

Our main analyses document that articles about state-owned companies have more positive tone and contain more political content than articles about non-state-owned firms, with these biases strongest among official newspapers. Interestingly, state ownership of the covered firm also (marginally) increases the political rhetoric contained in business newspaper articles, but does not appear to affect the tone of these articles. As a result of these differential biases, the difference in the tone and political content of

articles published by business newspapers compared to official newspapers is marginally larger for SOEs than non-SOEs.

Given that state ownership of the covered firm affects the tone and political content of corporate news articles, we next examine whether conglomeration differentially affects articles published about state and non-state firms. Untabulated results reveal the impact of conglomeration on official newspapers does not vary based upon the state's ownership of the covered firm, while the reduction in bias and political content of articles published by business newspapers after conglomeration is primarily found in articles about state-owned firms. Thus, the media conglomeration reform seems to have enabled more critical reporting of state-owned firms by the commercial business press.

6.3 Analysis of newspapers located in Tier 1 cities

Our descriptive evidence suggests that our newspaper databases are not comprehensive across all provinces. The systematic absence of local official and/or business newspapers in these databases has the potential to induce a selection bias into our analysis if these database coverage decisions are non-random. To validate that our results are not driven by such a coverage bias, we re-estimate our main analysis using only newspapers domiciled in China's three tier 1 cities (Beijing, Guangzhou, Shenzhen and Shanghai). We focus on Tier 1 cities for two reasons. First, these cities capture China's leading political and business centers. Second, our primary data sources, Newswise and China Financial Newspaper Searching System, provide comprehensive coverage of leading local newspapers in these three cities. Untabulated estimations of equation (2) using this restricted, comprehensive sample of local newspapers confirm our main conglomeration results.

7. Conclusion

This paper provides large sample evidence that the formation of commercial news groups is capable of increasing the diversity of corporate news reported by state controlled newspapers. We find that the conglomeration of local newspapers into a single media group magnified these differences in the tone and political content of corporate news articles published by business and official newspapers. The

results are robust to alternative research designs that attempt to address selection biases and potential endogeneity concerns in the sample. Together, the results suggest that conglomeration affects the publishing incentives of China's state media, with the resultant behavior consistent with the media better fulfilling its dual mouthpiece and market-oriented roles.

The evidence in this paper suggests that carefully structured media reform can enable the state media under an authoritarian government to balance between its political and market development roles. These results have important implications for other emerging economies where many of their governments are autocratic and a large portion of the press, if not all, is under state control (Djankov et al., 2003). Future research should focus on whether the observed reduction in political bias significantly enhances the overall information environment of China's capital markets. For example, do these news articles convey as much information as news articles published outside China? Did these reforms reduce information asymmetry of the listed firms and/or improve the stock price formation process? Are there other institutional constraints that hamper the press' role in serving as an information intermediary in China?

Another future extension is to understand the types of information being conveyed in these various types of news articles. Although the official newspapers are found to have more positive bias or political slant, does the political content of official news articles convey any information to the market, and under what conditions do these political messages have value? Do these articles convey government policy news that impacts not only the firm being mentioned in the article but the industry in which the firm operates? Compared to official newspapers, do business newspapers focus more on firm specific information and convey less policy or macro-economic news? Answering these questions will further enhance our understanding in how political and market forces shape the reporting incentives of newspapers and their role as an information intermediary in an emerging market.

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Appendix A: Sample of listed firms appearing in domestic Chinese newspaper articles

This appendix provides descriptive evidence on the firms and firm-year observations included in our analyses.

Panel A: Distribution of firm-year observations over time

Year	Number of Firms	Percent of Sample
2000	922	6.44%
2001	1,056	7.38%
2002	1,127	7.88%
2003	1,196	8.36%
2004	1,250	8.74%
2005	1,328	9.28%
2006	1,337	9.35%
2007	1,378	9.63%
2008	1,491	10.42%
2009	1,567	10.95%
2010	1,655	11.57%
Total	14,309	100%

Panel B: Descriptive statistics on listed firms (firm-years)

	N	Mean	Median	Std. Dev.	P25	P75
SOE	14,307	0.674	1.000	0.469	0.000	1.000
Firm Size	14,307	14.815	14.706	1.046	14.105	15.391
ROA	14,307	0.022	0.030	0.084	0.009	0.056
Market-to-Book	14,307	1.969	1.259	2.220	0.696	2.462
Leverage	14,307	0.525	0.507	0.271	0.362	0.642
Return	14,307	0.028	-0.060	0.662	-0.224	0.152

The definition of all the variables are in Appendix C.

Appendix B: List of Newspapers

Official Newspapers				Business Newspapers			
Chinese Name	English Name	Ownership	Conglomerated	Chinese Name	English Name	Ownership	Conglomerated
人民日报	People's Daily	Central	NO	21世纪经济报道	21st Century Business Herald	Local	YES
人民日报(华东版)	People's Daily (East China)	Central	NO	上海商报	Shanghai Business News	Local	YES
人民日报(华南版)	People's Daily(South China)	Central	NO	上海经济报	Shanghai Economy	Local	NO
人民日报(时政版)	People's Daily(Makret Edition)	Central	NO	上海证券报	Shanghai Securities News	Central	NO
人民日报(海外版)	People's Daily Overseas Edition	Central	NO	上海金融报	Shanghai Financial News	Central	NO
光明日报	Guangming Daily	Central	YES	东方早报	Oriental Morning Post	Local	YES
兰州日报	Lanzhou Daily	Local	NO	中华工商时报	China Business Times	Central	NO
北京日报	Beijing Daily	Local	YES	中国产经新闻	China Industrial and Economic News	Central	NO
北京青年报	Beijing Youth Daily	Local	NO	中国企业报	China Enterprises News	Central	NO
南京日报	Nanjing Daily	Local	YES	中国会计报	China Accounting Post	Central	NO
南方日报	Nan Fang Daily	Local	YES	中国保险报	China Insurance News	Central	YES
南昌日报	Nanchang Daily	Local	NO	中国信息报	China Information News	Central	NO
合肥晚报	Hefei Evening	Local	NO	中国商报	China Business Herald	Central	NO
哈尔滨日报	Harbin Daily	Local	YES	中国城乡金融报	China Town and Villege Financial News	Central	YES
四川日报	Sichuan Daily	Local	YES	中国审计报	China Audit Post	Central	NO
四川青年报	Sichuan Youth Daily	Local	NO	中国工业报	China Industry News	Central	NO
大众日报	Dazhong Daily	Local	YES	中国工商报	China Industry & Commerce News	Central	NO
大连日报	Dalian Daily	Local	YES	中国房地产报	China Real Estate Business	Central	NO
上海青年报	Shanghai Youth Daily	Local	NO	中国改革报	China Reform Daily	Central	NO
中国青年报	China Youth Daily	Central	NO	中国税务报	China Taxation News	Central	NO
云南日报	Yunnan Daily	Local	YES	中国经济导报	China Economic Herald	Central	NO
天津日报	Tianjin Daily	Local	YES	中国经济时报	China Economic Times	Central	NO
宁夏日报	Ningxia Daily	Local	YES	中国经营报	China Business Journal	Central	NO
安徽日报	Anhui Daily	Local	YES	中国证券报	China Securities News	Central	NO
山西日报	Shanxi Daily	Local	YES	中国财经报	China Economics and Finance News	Central	NO
广州日报	Guangzhou Daily	Local	YES	中国贸易报	China Trade News	Central	NO
广西日报	Guangxi Daily	Local	YES	华夏时报	China Times	Local	YES

成都日报	Chengdu Daily	Local	YES	北京商报	Beijing Business Today	Local	YES
成都晚报	Chengdu Evening	Local	YES	四川经济日报	Sichuan Economic Daily	Local	NO
文汇报	Wen Hui Daily	Local	YES	国际商报	International Business Daily	Central	NO
无锡日报	Wuxi Daily	Local	YES	国际金融报	International Finance News	Central	NO
昆明日报	Kunming Daily	Local	NO	大众证券报	Chinese Securities Journal	Local	YES
汕头日报	Shan Tou Daily	Local	NO	安徽商报	Anhui Commercial News	Local	YES
江西日报	Jiangxi Daily	Local	YES	市场报	Market News	Central	NO
沈阳日报	Shenyang Daily	Local	YES	市场导报	Market Guide News	Local	YES
河南日报	Henan Daily	Local	YES	新农村商报	New Countryside Commerce	Central	NO
河南日报农村版	Henan Daily Countryside Section	Local	YES	期货日报	Futures Daily	Local	YES
济南日报	Jinan Daily	Local	YES	每日经济新闻	National Business Daily	Central	YES
浙江日报	Zhejiang Daily	Local	YES	民营经济报	Private Economy News	Local	YES
海南日报	Hainan Daily	Local	YES	深圳商报	Shenzhen Economic Daily	Local	YES
深圳特区报	Shenzhen Special Zone Daily	Local	YES	第一财经日报	China Business News	Local	YES
湖北日报	Hubei Daily	Local	YES	粤港信息日报	Guangdong-Hong Kong Information Daily	Local	YES
环球时报	Global Times	Central	NO	经济参考报	Economic Information Daily	Central	NO
甘肃日报	Gan Su Daily	Local	YES	经济观察报	Economic Observer	Local	YES
石家庄日报	Shijiazhuang Daily	Local	NO	经济视点报	Economic Focus	Local	NO
福建日报	Fujian Daily	Local	YES	经理日报	Manager's Daily	Central	NO
经济日报	Economic Daily	Central	YES	西部商报	Xi Bu Business	Local	YES
西安日报	Xi An Daily	Local	NO	证券导报	Securities Herald	Local	YES
解放日报	Jiefang Daily	Local	YES	证券日报	Securities Daily	Central	YES
辽宁日报	Liaoning Daily	Local	YES	证券时报	Securities Times	Central	NO
银川晚报	YinChuan Evening	Local	NO	财经时报	China Business Post	Local	YES
长江日报	Changjiang Daily	Local	YES	辽宁经济日报	Liaoning Economic Daily	Local	NO
长沙晚报	Changsha Evening	Local	YES	重庆商报	Chongqing Economic Times	Local	YES
青岛日报	Qingdao Daily	Local	YES	金融时报	Financial News	Central	NO
青海日报	Qinghai Daily	Local	NO	河南商报	Henan Business Daily	Local	YES

Appendix C: Definition of variables

Variable	Definition of Variable
$Tone_{ijkt}$	The natural logarithm of one plus the ratio of the number of positive sentences minus the number of negative sentences about a listed firm in a specific financial news article, scaled by one plus the sum of positive and negative sentences.
Political Tags S_{ijkt}	The natural logarithm of one plus the frequency of political keywords appearing in the article. The political keywords are from Dictionary of Scientific Development (Edit by J. Xi, 2007), available at http://30.people.com.cn/GB/134884/ . The frequency, measured as the article's tf-idf (term frequency-inverse document frequency) is a numerical statistic that reflects how important a word is to a document. The tf-idf value increases proportionally to the number of times a word appears in the document, but is offset by the frequency of the word in the corpus.
Diff_Tone	The difference in the average <i>Tone</i> between official and business newspapers in a given firm-month. Measured as the average article <i>Tone</i> about firm <i>i</i> in month <i>t</i> in official newspapers minus the average article <i>Tone</i> in business newspapers over the same month.
Diff_Political Tags	The difference in the average <i>Political Tags</i> between official and business newspapers in a given firm-month. Measured as the average article <i>Political Tags</i> about firm <i>i</i> in month <i>t</i> in official newspapers minus the average article <i>Political Tags</i> in business newspapers over the same month.
Official Newspaper k	An indicator variable equal to one if the news article appeared in an official party newspaper, zero otherwise.
Business Newspaper k	An indicator variable equal to one if the news article appeared in a business newspaper, zero otherwise.
Conglomerated k_t	An indicator variable equal to one if the newspaper is a part of a commercial news group at the end of year <i>t</i> , zero otherwise.
National Newspaper k	An indicator variable equal to one if the newspaper is owned by the central government or national party organization, zero otherwise.
Local Newspaper k	An indicator variable equal to one if the newspaper is owned by a local government entity or local party organization, zero otherwise.
Outside Province e_{ijkt}	An indicator variable equal to one if the firm covered in the news article is located outside the province of the local newspaper, zero otherwise. Firms and local newspapers are assumed to be domiciled in the provinces where their headquarters are located.
SOE $_{it}$	An indicator variable equal to one if the company is ultimately controlled by either the central or local government. We identify a firm as being state-controlled if the state owns greater than 20% of the firm's equity in year <i>t</i> .
Firm Size $_{it}$	Log of the firm's total market value of equity at the end of fiscal year <i>t</i> .
ROA $_{it}$	The firm's return on assets, measured as net income in year <i>t</i> scaled by total assets at the end of fiscal year <i>t</i> .
Market-to-book $_{it}$	Ratio of the firm's market value of equity to book value of equity at the end of year <i>t</i> .
Leverage $_{it}$	Ratio of the firm's long-term debt to shareholder's equity at the end of year <i>t</i> .
Return $_{it}$	Annual market-adjusted stock return for the firm in year <i>t</i> .
Article Length $_{ijkt}$	Log of the number of sentences contained in a given financial news article about firm <i>i</i> in newspaper <i>k</i> in time period <i>t</i> .
% Commercial	Percent of firm-month articles published in conglomerated newspaper.
% Outside	Percent of firm-month articles published in local newspapers outside the province of the listed firm.

Table 1
Distribution of domestic Chinese newspaper outlets and corporate news articles

This table presents descriptive evidence on the distribution of domestic Chinese newspaper outlets and articles about Chinese listed firms over time (Panels A and B) and across localities (Panel C). Newspaper articles were gathered from two commercial databases of domestic Chinese language newspaper and magazine articles: Newswise and China Financial Newspaper Searching System. Due to database limitations before 2000, we only use domestic newspaper articles published about China's listed firms between 2000-2010 that are included in these databases.

Panel A: Distribution of domestic Chinese newspaper outlets over time

Year	All Newspapers	Official Newspapers			Business Newspapers		
		All Newspapers	Conglomerate Newspapers	Non-Conglomerate Newspapers	All Newspapers	Conglomerate Newspapers	Non-Conglomerate Newspapers
2000	74	44	11	33	30	3	27
2001	81	45	15	30	36	7	29
2002	74	41	18	23	33	8	25
2003	94	50	27	23	44	15	29
2004	91	47	30	17	44	17	27
2005	90	47	29	18	43	17	26
2006	78	39	25	14	39	17	22
2007	79	37	25	12	42	18	24
2008	96	51	34	17	45	19	26
2009	77	39	27	12	38	16	22
2010	54	24	20	4	30	14	16
Total	888	464	261	203	424	151	273

Panel B: Distribution of corporate news articles over time

Year	All Newspapers	Official Newspapers			Business Newspapers		
		All Newspapers	Conglomerate Newspapers	Non-Conglomerate Newspapers	All Newspapers	Conglomerate Newspapers	Non-Conglomerate Newspapers
2000	67,729	15,609	5,997	9,612	52,120	1,324	50,796
2001	106,881	21,901	7,948	13,953	84,980	13,623	71,357
2002	109,949	25,056	12,576	12,480	84,893	13,414	71,479
2003	117,762	24,623	15,331	9,292	93,139	18,836	74,303
2004	122,403	22,385	15,315	7,070	100,018	18,562	81,456
2005	183,470	27,255	18,371	8,884	156,215	31,411	124,804
2006	160,600	21,561	14,473	7,088	139,039	26,726	112,313
2007	196,303	27,462	19,925	7,537	168,841	47,302	121,539
2008	251,429	39,994	29,741	10,253	211,435	75,884	135,551
2009	239,166	38,099	31,834	6,265	201,067	82,176	118,891
2010	220,310	32,621	27,982	4,639	187,689	81,318	106,371
Total	1,776,002	296,566	199,493	97,073	1,479,436	410,576	1,068,860

Table 1 (continued)
Distribution of domestic Chinese newspaper outlets and articles

Panel C: Distribution of domestic Chinese newspaper outlets and corporate news articles across localities

	Newspaper Outlets			Newspaper Articles						
	All Newspapers	Official Newspapers	Business Newspapers	All Newspapers	Official Newspapers			Business Newspapers		
					Conglomerate Newspapers	Non-Conglomerate Newspapers	Total	Conglomerate Newspapers	Non-Conglomerate Newspapers	Total
National	42	9	33	1,272,471	34,033	23,197	57,230	162,187	1,053,054	1,215,241
Beijing	5	2	3	62,100	4,785	24,115	28,900	33,200	-	33,200
Tianjin	1	1	-	6,076	3,316	2,760	6,076	-	-	-
Shanghai	7	3	4	109,345	19,694	13,307	33,001	76,264	80	76,344
Chongqing	1	-	1	3,105	-	-	-	2,424	681	3,105
Hebei	1	1	-	318	-	318	318	-	-	-
Shanxi	1	1	-	1,299	967	332	1,299	-	-	-
Inner Mongolia	-	-	-	-	-	-	-	-	-	-
Liaoning	4	3	1	4,913	4,054	477	4,531	-	382	382
Jilin	-	-	-	-	-	-	-	-	-	-
Heilongjiang	1	1	-	728	728	-	728	-	-	-
Jiangsu	3	2	1	11,870	4,846	1,013	5,859	6,011	-	6,011
Zhejiang	1	1	-	4,259	4,230	29	4,259	-	-	-
Anhui	3	2	1	6,968	650	3,542	4,192	2,319	457	2,776
Fujian	1	1	-	5,695	2,969	2,726	5,695	-	-	-
Jiangxi	2	2	-	4,008	1,774	2,234	4,008	-	-	-
Shandong	3	3	-	3,965	3,914	51	3,965	-	-	-
Henan	5	2	3	13,728	2,760	-	2,760	10,773	195	10,968
Hubei	3	2	1	13,487	8,937	1,861	10,798	1,694	995	2,689
Hunan	1	1	-	10,805	10,731	74	10,805	-	-	-
Guangdong	8	4	4	203,137	75,802	10,723	86,525	109,504	7,108	116,612
Guangxi	1	1	-	3,617	533	3,084	3,617	-	-	-
Hainan	2	1	1	6,984	1,383	1,699	3,082	2,535	1,367	3,902
Sichuan	5	4	1	14,933	9,028	1,690	10,718	-	4,215	4,215
Guizhou	-	-	-	-	-	-	-	-	-	-
Yunnan	2	2	-	3,069	2,303	766	3,069	-	-	-
Shaanxi	1	1	-	679	-	679	679	-	-	-
Gansu	3	2	1	7,550	1,834	1,725	3,559	3,665	326	3,991
Qinghai	1	1	-	400	-	400	400	-	-	-
Ningxia Hui	2	2	-	493	222	271	493	-	-	-
Xinjiang	-	-	-	-	-	-	-	-	-	-
Tibet	-	-	-	-	-	-	-	-	-	-
Total	110	55	55	1,776,002	199,493	97,073	296,566	410,576	1,068,860	1,479,436

Table 2
Descriptive evidence on the tone and political slant of domestic Chinese corporate news articles

This table presents descriptive evidence on the average tone and political content of domestic newspaper articles about Chinese exchange-listed firms over the period 2000-2010. *Tone* is measured as the natural logarithm of one plus the ratio of the number of positive sentences minus the number of negative sentences in a given corporate news article about a listed firm scaled by the sum of the number of positive and negative sentences plus one. *Political Tags* is the relative frequency of Chinese political slogans appearing in the newspaper article, where frequency is estimated as the article tf-idf score using these political keywords. N=1,776,002 newspaper articles.

Measure of article slant:	<i>Tone_{ikt}</i>			<i>Political Tags_{ikt}</i>		
	All Newspapers	Official Newspapers	Business Newspapers	All Newspapers	Official Newspapers	Business Newspapers
Unconditional	0.413	0.473	0.401	0.168	0.321	0.137
Conglomerated	0.430	0.488	0.402	0.206	0.351	0.135
Non-Conglomerated	0.404	0.443	0.401	0.148	0.258	0.138
Difference (C - NC) (t-statistic)	0.026 (59.16)	0.045 (45.88)	0.001 (2.22)	0.058 (74.30)	0.093 (36.38)	-0.003 (-3.82)

Table 3
Newspaper commercialization and the relative tone and political content of Chinese corporate news articles

The following panel presents select coefficients from pooled, cross-sectional estimations of the following models:

$$Tone_{ijkt} \text{ or } Political\ Tags_{ijkt} = \alpha + Province\text{-}Year\text{-}month + Industry + \beta_1 Business\ Newspaper_{kt} + \beta_2 National\ Newspaper_{kt} + \beta_3 Outside\ Province_{ijkt} + \beta_4 SOE_{jt} + \beta_5 Firm\ Size_{jt} + \beta_6 ROA_{jt} + \beta_7 Market\text{-}to\text{-}Book_{jt} + \beta_8 Leverage_{jt} + \beta_9 Return_{jt} + \beta_{10} Article\ Length_{ijkt} + \varepsilon_{ijkt}$$

The dependent variable *Tone* captures the degree of positive or negative tone contained in article *i* about firm *j* in newspaper *k* in month *t*. *Tone* is measured as the natural logarithm of one plus the ratio of the number of positive sentences minus the number of negative sentences, scaled by one plus the sum of positive and negative sentences, in a specific news article about the firm. The dependent variable *Political Tags* captures the frequency of a set of political keywords contained in article *i* about firm *j* in newspaper *k* in month *t*, which is formally defined in Appendix C. *Business Newspaper* is an indicator variable equal to one if the reporting newspaper (i.e., newspaper *k*) is focused on financial and economic news, zero otherwise. *National Newspaper* is an indicator variable equal to one if the newspaper is a national publication, zero otherwise. *Outside Province* is an indicator variable equal to one if the news article relates to a firm domiciled outside local newspaper's province, zero otherwise. All other variables are defined in Appendix C. T-statistics derived using clustered standard errors by firm are presented in parentheses. Models include province-year-month and industry fixed effects [*Province-Year-month and Industry*, respectively; coefficients not reported]. The superscripts ***, **, * indicate that the estimated coefficient is significantly different than zero at the one, five and ten percent level (two-tailed test), respectively.

Dependent Variable:	<i>Tone_{ijkt}</i>		<i>Political Tags_{ijkt}</i>	
Business Paper		-0.071*** (-29.549)		-0.187*** (-18.636)
National Paper	-0.005*** (-2.771)	0.022*** (12.394)	-0.014*** (-4.963)	0.057*** (15.726)
Outside Province	-0.027*** (-9.625)	-0.024*** (-9.078)	-0.044*** (-10.148)	-0.035*** (-8.791)
SOE	0.007* (1.761)	0.007* (1.751)	0.019*** (2.751)	0.018*** (2.797)
Firm Size	0.012*** (5.824)	0.012*** (5.972)	0.002 (0.514)	0.002 (0.578)
ROA	0.249*** (10.689)	0.248*** (10.713)	0.052** (2.203)	0.048** (2.141)
Market-to-book	-0.003*** (-4.653)	-0.003*** (-4.575)	-0.002** (-2.243)	-0.002** (-2.027)
Leverage	-0.020 (-1.499)	-0.020 (-1.557)	0.029** (2.343)	0.027** (2.328)
Return	0.001 (1.617)	0.002* (1.720)	-0.008*** (-6.273)	-0.008*** (-6.143)
Article Length	0.024*** (23.763)	0.026*** (26.090)	0.120*** (26.004)	0.124*** (26.605)
Fixed effects	Included	Included	Included	Included
Adjusted R ²	0.072	0.078	0.101	0.112
Observations	1,776,002	1,776,002	1,776,002	1,776,002

Table 4
Influence of conglomeration on the relative tone and political slant of corporate news articles

The following panel presents select coefficients from pooled, cross-sectional estimations of the following models:

$$\begin{aligned}
 \text{Tone}_{ijkt} \text{ or } \text{Political Tags}_{ijkt} = & \alpha + \text{Province-Year-month} + \text{Industry} + \beta_1 \text{Conglomerated}_{kt} \\
 & + \beta_2 \text{Business Newspaper}_{kt} + \beta_3 \text{Business Newspaper}_{kt} * \text{Conglomerated}_{kt} + \beta_4 \text{National Newspaper}_{kt} \\
 & + \beta_5 \text{Outside Province}_{ijkt} + \beta_6 \text{SOE}_{jt} + \beta_7 \text{Firm Size}_{jt} + \beta_8 \text{ROA}_{jt} + \beta_9 \text{Market-to-Book}_{jt} \\
 & + \beta_{10} \text{Leverage}_{jt} + \beta_{11} \text{Return}_{jt} + \beta_{12} \text{Article Length}_{ijkt} + \varepsilon_{ijkt},
 \end{aligned}$$

The dependent variable *Tone* captures the degree of positive or negative tone contained in article i about firm j in newspaper k in month t. *Tone* is measured as the natural logarithm of one plus the ratio of the number of positive sentences minus the number of negative sentences, scaled by one plus the sum of positive and negative sentences, in a specific news article about the firm. The dependent variable *Political Tags* captures the frequency of a set of political keywords contained in article I about firm j in newspaper k in month t, which is formally defined in Appendix C. *Conglomerated* is an indicator variable equal to one if the reporting newspaper (newspaper k) is directly controlled by a commercial news group, zero otherwise. The first estimation utilizes the full sample of domestic Chinese newspaper articles; the second and third estimations are conditional upon the orientation of the newspaper (i.e., official versus business paper). All other variables are defined in Appendix C. T-statistics derived using clustered standard errors by firm are presented in parentheses. Models include province-year-month and industry fixed effects [*Province-Year-month and Industry*, respectively; coefficients not reported]. The superscripts ***, **, * indicate that the estimated coefficient is significantly different than zero at the one, five and ten percent level (two-tailed test), respectively.

Dependent Variable:	<i>Tone_{ijkt}</i>			<i>Political Tags_{ijkt}</i>		
	All Newspapers	Official Newspapers	Business Newspapers	All Newspapers	Official Newspapers	Business Newspapers
Conglomerated	0.021*** (10.783)	0.035*** (17.954)	-0.005*** (-2.770)	0.059*** (10.654)	0.043*** (5.942)	-0.010*** (-4.206)
Business Newspaper	-0.064*** (-24.681)			-0.169*** (-19.835)		
Business*Conglomerated	-0.009*** (-4.202)			-0.024*** (-4.629)		
National Newspaper	0.030*** (14.791)	0.096*** (20.427)	-0.000 (-0.133)	0.080*** (17.822)	0.321*** (23.708)	-0.006* (-1.840)
Outside Province	-0.024*** (-8.967)	-0.040*** (-12.398)	-0.018*** (-6.612)	-0.035*** (-8.564)	-0.079*** (-8.147)	-0.020*** (-6.017)
SOE	0.007* (1.738)	0.011** (2.221)	0.006 (1.434)	0.018*** (2.782)	0.040*** (3.211)	0.011** (2.289)
Firm Size	0.012*** (5.958)	0.007*** (3.227)	0.012*** (6.532)	0.002 (0.552)	-0.007 (-1.269)	0.004* (1.690)
ROA	0.248*** (10.736)	0.235*** (8.318)	0.249*** (10.721)	0.049** (2.185)	0.010 (0.202)	0.059*** (3.294)
Market-to-book	-0.003*** (-4.589)	-0.004*** (-3.654)	-0.003*** (-4.384)	-0.002** (-2.039)	-0.005** (-2.454)	-0.001 (-1.202)
Leverage	-0.020 (-1.564)	-0.033 (-1.540)	-0.019* (-1.671)	0.027** (2.317)	-0.003 (-0.135)	0.031*** (3.197)
Return	0.002* (1.747)	0.003* (1.687)	0.001* (1.671)	-0.008*** (-6.113)	-0.012*** (-5.132)	-0.007*** (-5.413)
Article Length	0.026*** (26.033)	0.046*** (31.255)	0.021*** (22.765)	0.123*** (26.802)	0.232*** (29.402)	0.100*** (29.320)
Fixed effects	Included	Included	Included	Included	Included	Included
Adjusted R-squared	0.078	0.148	0.066	0.113	0.238	0.063
Number of Observations	1,776,002	296,566	1,479,436	1,776,002	296,566	1,479,436

Table 5
Influence of conglomeration: Evidence from matched firm-month newspaper analysis

Panel A presents descriptive evidence on the mean and t-statistic of the differences in the average Tone and Political Tags between articles published in official and business newspapers. Panel B presents select coefficients from pooled, cross-sectional estimations of the following models:

$$Diff_Tone_{jt} \text{ or } Diff_Political\ Tags_{jt} = \alpha + Province\text{-}Year\text{-}month + Industry + \beta_1 \% Conglomerated_{jt} + \beta_2 \% National\ Newspaper_{jt} + \beta_3 \% Outside\ Province_{jt} + \beta_4 SOE_{jt} + \beta_5 Firm\ Size_{jt} + \beta_6 ROA_{jt} + \beta_7 Market\text{-}to\text{-}Book_{jt} + \beta_8 Leverage_{jt} + \beta_9 Return_{jt} + \beta_{10} Relative\ Article\ Length_{ijkt} + \beta_{11} \% Relative\ Article\ Timing_{jt} + \epsilon_{jt}$$

The dependent variable *Diff_Tone* (*Diff_Political Tags*) is the difference in the average *Tone* (*Political Tags*) between articles published in official and business-focused newspapers for firm *j* in month *t*. *% Conglomerated* is the fraction of articles about firm *j* in month *t* published in a newspaper controlled by an organized business group. *% Outside* is the fraction of articles about firm *j* in month *t* published in local newspapers outside firm's province. *% National* is the fraction of all articles published in national newspapers. *Relative Article Timing* is the absolute average difference in number of days between the publication of official and business newspaper articles in month *t*. All other variables are defined in Appendix C. T-statistics derived using clustered standard errors by firm are presented in parentheses. Models include province-year-month, and industry fixed effects [*Province-Year-month and Industry*, respectively; coefficients not reported]. The superscripts ***, **, * indicate that the estimated coefficient is significantly different than zero at the one, five and ten percent level (two-tailed test). N=76,129

Panel A: Descriptive statistics

Measure of difference:	<i>Diff_Tone_{it}</i>	<i>Diff_Political Tags_{it}</i>
Mean	0.067	0.121
(t-statistic)	(76.381)	(68.264)

Panel B: Multivariate Analysis

Dependent Variable:	<i>Diff_Tone_{it}</i>		<i>Diff_Political Tags_{it}</i>	
% Conglomerated	0.033*** (6.749)	0.048*** (7.853)	0.095*** (8.263)	0.138*** (10.064)
% National Newspaper		0.040*** (6.217)		0.141*** (9.981)
% Outside Province		-0.070*** (-9.691)		-0.358*** (-16.218)
SOE	-0.002 (-0.769)	-0.002 (-0.757)	0.017** (2.513)	0.017** (2.545)
Firm Size	-0.005*** (-4.565)	-0.006*** (-5.049)	0.010*** (2.996)	0.008** (2.372)
ROA	0.037** (2.125)	0.032* (1.843)	0.069** (2.250)	0.046 (1.506)
Market-to-book	-0.001* (-1.840)	-0.001 (-1.603)	-0.007*** (-5.169)	-0.006*** (-4.736)
Leverage	-0.003 (-0.581)	-0.003 (-0.538)	-0.001 (-0.057)	0.001 (0.121)
Return	-0.002 (-1.590)	-0.002 (-1.476)	-0.010*** (-3.374)	-0.010*** (-3.184)
Relative Article Length	0.037*** (31.575)	0.036*** (31.115)	0.153*** (47.412)	0.152*** (47.338)
Relative Article Timing	-0.003* (-1.956)	-0.003* (-1.947)	0.002 (0.623)	0.002 (0.621)
Fixed effects	Included	Included	Included	Included
Adjusted R-squared	0.061	0.063	0.098	0.109

Table 6
Influence of conglomeration: Evidence from the formation of local newspaper groups

The following panel presents select coefficients from pooled, cross-sectional estimations of the following models using a sample of local newspapers that conglomerated (i.e., were re-organized into a news group) during our sample period (2000-2010):

$$Tone_{ijkt} \text{ or } Political\ Tags_{ijkt} = \alpha + Year\text{-}month + Industry + Province + Newspaper + \beta_1 Conglomerated_{kt} + \beta_2 Business\ Newspaper_{kt} + \beta_3 Business\ Newspaper_{kt} * Conglomerated_{kt} + \beta_4 Outside\ Province_{ijkt} + \beta_5 SOE_{jt} + \beta_6 Firm\ Size_{jt} + \beta_7 ROA_{jt} + \beta_8 Market\text{-}to\text{-}Book_{jt} + \beta_9 Leverage_{jt} + \beta_{10} Return_{jt} + \beta_{11} Article\ Length_{ijkt} + \epsilon_{ijkt}$$

The first (second) set of columns present coefficients from estimations using *Tone* (*Political Tags*) as the dependent variable. *Conglomerated* is an indicator variable equal to one if the newspaper is controlled by an organized business group in year t, zero otherwise. The first estimation utilizes all available newspaper articles; the second set of estimations are conditional upon the orientation of the newspaper (i.e., official versus business paper). All other variables are defined in Table 1, Table 3 and Appendix C. T-statistics derived using clustered standard errors by firm are presented in parentheses. All newspaper models include year-month, industry and provincial fixed effects [*Year-month*, *Industry*, *Province* and *Newspaper*, respectively; coefficients not reported]. Official and business newspaper models include year-month, industry and provincial fixed effects [*Year-month*, *Industry* and *Province*, respectively; coefficients not reported]. The superscripts ^{***}, ^{**}, ^{*} indicate that the estimated coefficient is significantly different than zero at the one, five and ten percent level (two-tailed test), respectively.

Dep. Variable:	<i>Tone_{ijkt}</i>			<i>Political Tags_{ijkt}</i>		
	All Newspapers	Official Newspapers	Business Newspapers	All Newspapers	Official Newspapers	Business Newspapers
Conglomerated	-0.032** (-2.149)	0.022** (2.173)	-0.060*** (-4.005)	-0.047*** (-3.040)	-0.034 (-1.397)	-0.064*** (-4.782)
Business Newspaper	0.024* (1.806)			-0.400*** (-11.149)		
Business*Conglomerated	-0.020*** (-2.760)			-0.014 (-1.318)		
Outside Province	-0.044*** (-6.773)	-0.045*** (-6.418)	-0.040*** (-5.802)	-0.084*** (-7.506)	-0.078*** (-4.220)	-0.089*** (-8.806)
SOE	0.006 (1.043)	0.011 (1.596)	0.002 (0.316)	0.030*** (3.033)	0.043** (2.458)	0.021*** (2.945)
Firm Size	0.012*** (4.842)	0.005* (1.653)	0.016*** (6.308)	0.000 (0.092)	-0.000 (-0.046)	0.001 (0.360)
ROA	0.253*** (9.317)	0.234*** (6.820)	0.262*** (8.172)	0.037 (0.966)	0.012 (0.195)	0.054* (1.679)
Market-to-book	-0.003*** (-2.834)	-0.003** (-2.329)	-0.002** (-2.368)	-0.003* (-1.924)	-0.005 (-1.644)	-0.002 (-1.407)
Leverage	-0.022 (-1.362)	-0.027 (-1.232)	-0.019 (-1.365)	0.025 (1.511)	0.020 (0.745)	0.026** (2.110)
Return	0.002 (1.171)	0.001 (0.557)	0.002 (1.207)	-0.012*** (-4.560)	-0.022*** (-4.133)	-0.007*** (-3.185)
Article Length	0.063*** (25.708)	0.048*** (20.989)	0.076*** (23.536)	0.114*** (17.199)	0.149*** (15.362)	0.088*** (15.887)
Year-month, industry and province fixed effects	Included	Included	Included	Included	Included	Included
Newspaper fixed effects	Included	Not Included	Not Included	Included	Not Included	Not Included
Adjusted R ²	0.151	0.151	0.149	0.169	0.225	0.072
Number of Observations	131,293	48,925	82,368	131,293	48,925	82,368

Table 7
Influence of conglomeration reforms conditional upon prevailing provincial incentives

The following panels present select coefficients from pooled, cross-sectional estimations of the following models:

$$Tone_{ijkt} \text{ or } Political\ Tags_{ijkt} = \alpha + Province\text{-}Year\text{-}month + Industry + \beta_1 Conglomerated_{kt} + \beta_2 Outside\ Province_{ijkt} + \beta_3 SOE_{jt} + \beta_4 Firm\ Size_{jt} + \beta_5 ROA_{jt} + \beta_6 Market\text{-}to\text{-}Book_{jt} + \beta_7 Leverage_{jt} + \beta_8 Return_{jt} + \beta_9 Article\ Length_{ijkt} + \varepsilon_{ijkt}$$

The dependent variable *Tone* captures the degree of positive or negative tone contained in article *i* about firm *j* in newspaper *k* in month *t*. *Tone* is measured as the natural logarithm of one plus the ratio of the number of positive sentences minus the number of negative sentences, scaled by one plus the sum of positive and negative sentences, in a specific news article about the firm. The dependent variable *Political Tags* captures the frequency of a set of political keywords contained in article *i* about firm *j* in newspaper *k* in month *t*, which is formally defined in Appendix C. *Conglomerated* is an indicator variable equal to one if the reporting newspaper (newspaper *k*) is directly controlled by a commercial news group, zero otherwise. The first and second set of estimations, for each dependent variable, is conditional upon the orientation of the newspaper (i.e., official versus business paper). Within each set of estimations, we partition on the strength of provincial market institutions (only sample of local newspapers, panel A) and whether the newspaper is domiciled in Beijing or Guangdong province (panel B). All other variables are defined in Appendix C. T-statistics derived using clustered standard errors by firm are presented in parentheses. Models include province-year-month and industry fixed effects [*Province-Year-month and Industry*, respectively; coefficients not reported] for Panel A regressions. Models include year-month and industry fixed effects [*Year-month and Industry*, respectively; coefficients not reported] for Panel B regressions. The superscripts *******, ******, ***** indicate that the estimated coefficient is significantly different than zero at the one, five and ten percent level (two-tailed test), respectively.

Panel A: Conditional upon Fan and Wang (2003) Marketization Index

Dependent Variable:	<i>Tone_{ijkt}</i>				<i>Political Tags_{ijkt}</i>			
	Official		Business		Official		Business	
	High	Low	High	Low	High	Low	High	Low
Conglomerated	0.050*** (17.429)	0.070*** (21.074)	-0.056*** (-6.738)	-0.023** (-2.301)	0.043*** (6.630)	0.236*** (20.295)	0.011 (0.822)	0.004 (0.332)
Difference	-0.020		-0.033		-0.193		0.007	
Test of Diff. (χ^2)	(21.71)***		(6.19)**		(240.84)***		(0.16)	
Adjusted R ²	0.110	0.147	0.100	0.131	0.137	0.283	0.058	0.102
Number of Obs.	139,304	100,032	198,967	65,228	139,304	100,032	198,967	65,228

Panel B: Guangdong (Strong market orientation) vs. Beijing (Strong political Orientation)

Depend. Variable:	<i>Tone_{ijkt}</i>				<i>Political Tags_{ijkt}</i>			
	Official		Business		Official		Business	
	Guangdong	Beijing	Guangdong	Beijing	Guangdong	Beijing	Guangdong	Beijing
Conglomerated	0.018*** (4.484)	0.023*** (8.261)	-0.041*** (-7.526)	-0.008*** (-3.230)	-0.066*** (-7.612)	0.075*** (6.883)	0.002 (0.272)	-0.001 (-0.263)
Difference	-0.005		-0.033		-0.256		0.03	
Test of Diff. (χ^2)	(80.78)***		(32.35)***		(405.25)***		(0.011)	
Adjusted R ²	0.103	0.126	0.064	0.071	0.084	0.194	0.049	0.060
Number of Obs.	86,525	86,130	342,357	607,690	86,525	86,130	342,357	607,690

Table 8
Newspaper behavior around annual earnings announcements: complete sample

Panel A presents descriptive statistics on the average Tone and Political Tags for the complete sample of corporate news articles published in official and business newspapers between 2000 and 2010 following the earnings announcements (days 0 to +7) of Chinese listed firms. Panel B presents select coefficients from pooled, cross-sectional estimations of the following models:

$$Tone_{ijkt} \text{ or } Political\ Tags_{ijkt} = \alpha + Province\text{-}Year\text{-}month + Industry + \beta_1 Conglomerated_{kt} + \beta_2 Business\ Newspaper_{kt} + \beta_3 Business\ Newspaper_{kt} * Conglomerated_{kt} + \beta_4 National\ Newspaper_{kt} + \beta_5 Outside\ Province_{ijkt} + \beta_6 SOE_{jt} + \beta_7 Firm\ Size_{jt} + \beta_8 ROA_{jt} + \beta_9 Market\text{-}to\text{-}Book_{jt} + \beta_{10} Leverage_{jt} + \beta_{11} Return_{jt} + \beta_{12} Article\ Length_{ijkt} + \beta_{13} Good\ News_{ijkt} + \epsilon_{ijkt}$$

The dependent variable *Tone* captures the degree of positive or negative tone contained in article i about firm j in newspaper k in month t. *Tone* is measured as the natural logarithm of one plus the ratio of the number of positive sentences minus the number of negative sentences, scaled by one plus the sum of positive and negative sentences, in a specific news article about the firm. The dependent variable *Political Tags* captures the frequency of a set of political keywords contained in article i about firm j in newspaper k in month t, which is formally defined in Appendix C. *Conglomerated* is an indicator variable equal to one if the reporting newspaper (newspaper k) is directly controlled by a commercial news group, zero otherwise. The first estimation utilizes the full sample of domestic Chinese newspaper articles; the second and third estimations are conditional upon the orientation of the newspaper (i.e., official versus business paper). All other variables are defined in Appendix C. T-statistics derived using clustered standard errors by firm are presented in parentheses. Models include province-year-month, and industry fixed effects [*Province-Year-month and Industry*, respectively; coefficients not reported]. The superscripts ***, **, * indicate that the estimated coefficient is significantly different than zero at the one, five and ten percent level (two-tailed test), respectively.

Panel A: Descriptive evidence

	Mean <i>Tone</i>		Mean <i>Political Tags</i>		Total # of Articles		Articles per EA	
	Official	Business	Official	Business	Official	Business	Official	Business
Non-Conglomerated	0.422	0.371	0.212	0.112	9,478	135,205	0.24	3.46
Conglomerated	0.472	0.383	0.290	0.106	20,645	46,468	0.53	1.19
Difference (C-NC)	0.050	0.012	0.078	-0.006	-	-	-	-
(t-statistic)	(15.56)	(7.81)	(10.29)	(-2.72)	-	-	-	-

Panel B: Multivariate estimations

Dep. Variable:	<i>Tone_{ijkt}</i>			<i>Political Tags_{ijkt}</i>		
	All Newspapers	Official Newspapers	Business Newspapers	All Newspapers	Official Newspapers	Business Newspapers
Conglomerated	0.037*** (7.472)	0.048*** (8.814)	-0.004 (-1.378)	0.040*** (3.703)	0.067*** (4.390)	0.006 (1.473)
Business Newspaper	-0.056*** (-10.312)			-0.168*** (-11.972)		
Business*Conglomerated	-0.026*** (-4.603)			0.009 (0.776)		
Good News	0.033*** (11.712)	0.018*** (3.767)	0.035*** (12.485)	-0.003 (-0.622)	-0.011 (-0.931)	-0.000 (-0.110)
Control Variables	Included	Included	Included	Included	Included	Included
Fixed Effects	Included	Included	Included	Included	Included	Included
Adjusted R ²	0.106	0.225	0.094	0.117	0.273	0.067
Number of Observations	175,662	23,959	151,703	175,662	23,959	151,703

Table 9
Newspaper coverage behavior around annual earnings announcements: restricted sample

Panel A presents descriptive statistics on the average Tone and Political Tags for restricted samples of corporate news articles published in official and business newspapers between 2000 and 2010 following the earnings announcements (days 0 to +7) of Chinese listed firms. These sample require a particular earnings announcement to be covered all four types of newspapers. The first restricted sample includes all articles published; the fully restricted sample only include the first article published by each newspaper after the earnings announcement.

Panels B and C present select coefficients from pooled, cross-sectional estimations of the following models using our two restricted samples:

$$Tone_{ijkt} \text{ or } Political\ Tags_{ijkt} = \alpha + EA\ Event + Year\text{-}week + Province + \beta_1 Conglomerated_{kt} + \beta_2 Business\ Newspaper_k + \beta_3 Business\ Newspaper_k * Conglomerated_{kt} + \beta_4 National\ Newspaper_k + \beta_5 Outside\ Province_{ijkt} + \beta_7 Article\ Length_{ijkt} + \varepsilon_{ijkt}$$

The dependent variable *Tone* captures the degree of positive or negative tone contained in article i about firm j in newspaper k in month t. *Tone* is measured as the natural logarithm of one plus the ratio of the number of positive sentences minus the number of negative sentences, scaled by one plus the sum of positive and negative sentences, in a specific news article about the firm. The dependent variable *Political Tags* captures the frequency of a set of political keywords contained in article I about firm j in newspaper k in month t, which is formally defined in Appendix C. *Conglomerated* is an indicator variable equal to one if the reporting newspaper (newspaper k) is directly controlled by a commercial news group, zero otherwise. The first estimation utilizes the full sample of domestic Chinese newspaper articles; the second and third estimations are conditional upon the orientation of the newspaper (i.e., official versus business paper). All other variables are defined in Appendix C. T-statistics derived using clustered standard errors by firm are presented in parentheses. Models include unique earnings announcement, year-week, and provincial fixed effects [*EA Event*, *Year-month* and *Province*, respectively; coefficients not reported]. The superscripts ^{***}, ^{**}, ^{*} indicate that the estimated coefficient is significantly different than zero at the one, five and ten percent level (two-tailed test), respectively.

Panel A: Descriptive evidence

	Mean <i>Tone</i>		Mean <i>Political Tags</i>		Total # of Articles		Articles per EA	
	Official	Business	Official	Business	Official	Business	Official	Business
Restricted sample: All articles								
Non-Conglomerated	0.432	0.410	0.232	0.132	4,087	30,180	2.05	15.11
Conglomerated	0.479	0.413	0.334	0.123	7,249	14,830	3.63	7.42
Difference (C-NC)	0.047	0.003	0.102	-0.009	-	-	-	-
(t-statistic)	(9.47)	(0.843)	(8.10)	(-2.04)	-	-	-	-
Fully restricted sample: Only first article								
Non-Conglomerated	0.343	0.423	0.236	0.162	3,118	8,678	1.56	4.34
Conglomerated	0.477	0.414	0.332	0.118	5,113	6,750	2.56	3.38
Difference (C-NC)	0.134	-0.009	0.096	-0.044	-	-	-	-
(t-statistic)	(7.57)	(-2.16)	(6.71)	(-5.93)	-	-	-	-

Table 9 (continued)
Newspaper behavior around earnings announcements: restricted Sample

Panel B: Multivariate analysis: Restricted sample (At least one article per each type of newspaper)

Dep. Variable:	<i>Tone_{ijkl}</i>			<i>Political Tags_{ijkl}</i>		
	All Newspapers	Official Newspapers	Business Newspapers	All Newspapers	Official Newspapers	Business Newspapers
Conglomerated	0.030*** (5.165)	0.036*** (4.968)	-0.002 (-0.390)	0.069*** (4.846)	0.079*** (4.025)	-0.014* (-1.812)
Business Newspaper	-0.036*** (-5.231)			-0.133*** (-7.553)		
Business*Conglomerated	-0.014* (-1.941)			-0.037*** (-2.620)		
National Newspaper	0.022*** (4.198)	0.085*** (7.208)	-0.009 (-1.240)	0.075*** (6.417)	0.227*** (8.539)	-0.007 (-0.771)
Outside Province	-0.017*** (-3.991)	-0.021*** (-2.651)	-0.016*** (-3.464)	-0.028*** (-3.333)	-0.055*** (-2.700)	-0.015* (-1.840)
Article Length	0.020*** (7.079)	0.034*** (8.881)	0.015*** (5.176)	0.133*** (20.569)	0.193*** (13.593)	0.114*** (21.021)
Firm-Event Fixed Effect	Included	Included	Included	Included	Included	Included
Year-week	Included	Included	Included	Included	Included	Included
Province	Included	Included	Included	Included	Included	Included
Adjusted R ²	0.171	0.309	0.154	0.181	0.337	0.117
Number of Observations	56,346	11,336	45,010	56,346	11,336	45,010

Panel C: Multivariate analysis: Fully restricted sample (First article published by each type of newspaper)

Dep. Variable:	<i>Tone_{ijkl}</i>			<i>Political Tags_{ijkl}</i>		
	All Newspapers	Official Newspapers	Business Newspapers	All Newspapers	Official Newspapers	Business Newspapers
Conglomerated	0.032*** (4.577)	0.040*** (4.324)	-0.020*** (-2.827)	0.080*** (5.615)	0.083*** (3.955)	-0.031*** (-2.892)
Business Newspaper	-0.025*** (-3.313)			-0.131*** (-6.876)		
Business*Conglomerated	-0.026*** (-2.894)			-0.049*** (-3.316)		
National Newspaper	0.025*** (3.903)	0.089*** (6.714)	-0.015* (-1.681)	0.077*** (6.455)	0.220*** (7.790)	-0.018 (-1.475)
Outside Province	-0.019*** (-3.550)	-0.016* (-1.745)	-0.019*** (-2.745)	-0.038*** (-3.507)	-0.045** (-2.273)	-0.025** (-2.201)
Article Length	0.025*** (9.417)	0.037*** (9.008)	0.018*** (5.839)	0.149*** (17.273)	0.209*** (14.173)	0.114*** (14.575)
Firm-Event Fixed Effect	Included	Included	Included	Included	Included	Included
Year-week	Included	Included	Included	Included	Included	Included
Province	Included	Included	Included	Included	Included	Included
Adjusted R ²	0.199	0.300	0.168	0.216	0.326	0.120
Number of Observations	23,749	8,321	15,428	23,749	8,321	15,428