The Echoes of Muted Political Speech in Financial Speech*

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ABSTRACT

Does impairment of political speech affect financial speech? We exploit the introduction of the National Security Law (NSL) in Hong Kong in June 2020 to answer this question. We find that after the NSL enactment, compared to foreign analysts covering the same firms, local analysts self-censor their reports. Specifically, when firm-specific bad news hits, local analysts shade up their forecasts, use vaguer language, and respond more slowly to earnings announcements. This pattern is more pronounced for central state-owned enterprises as negative opinions on their poor performance may be deemed unpatriotic. Markets are aware of this self-censorship and respond accordingly.

Keywords: National security law in Hong Kong, Self-censorship; Analyst forecasts; Political speech.

JEL Classification: D81, G15, G24, K38

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I. INTRODUCTION

"*Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers*."

Article 19, Universal Declaration of Human Rights, United Nations, 1948[1]

In a ranking of regions in 2023, Denmark was ranked as the country with the highest freedom of expression, whereas North Korea was ranked last.[2] These rankings change every year because some regions liberalize, whereas others regress. For example, in India, where an emergency was declared in June 1975, political speech was severely curtailed for two years under the guise of national security. In Taiwan, it was in 1992 that freedom of political speech was guaranteed. In South Korea, it was in 1987 that constitutional democracy arrived.

Freedom of speech is not absolute anywhere.[3] Speech that harms national security is never allowed.[4] However, courts are often skeptical of a government trying to prevent criticism of its own policies under the guise of national security. Nevertheless, as many of these cases show, the lines can be blurred.[5] These lines are arguably more blurred in Hong Kong which did not have a rich history of case law on this subject when "The Law of the People's Republic of China on Safeguarding National Security in the Hong Kong Special Administrative Region" – the National Security Law (NSL) – was introduced at 11 pm local time on June 30, 2020. The letter of the law is like the letter of the law in most countries. The law criminalizes any act of secession, subversion, terrorism, and collusion with foreign forces. The maximum sentence

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[1] This right was one of 30 rights proclaimed by the United Nations General Assembly in Paris on 10 December 1948 (General Assembly resolution 217 A). It has been translated into over 500 languages. Retrieved from: https://www.un.org/en/about-us/universal-declaration-of-human-rights.

[2] "Data Page: Freedom of Expression and Alternative Sources of Information index," part of the following publication: Bastian Herre, Lucas Rodés-Guirao and Esteban Ortiz-Ospina (2013) - "Democracy." Data adapted from V-Dem. Retrieved from https://ourworldindata.org/grapher/freedom-of-expression-index.

[3] Restrictions on speech include avoiding false statements that harm someone's reputation (libel and slander), not inciting illegal actions, respecting copyright laws, protecting trade secrets, refraining from perjury, avoiding the creation or distribution of obscene materials, and avoiding threats and hate speech.

[4] For example, in the United States, under Title 18 of the U.S. Code 2383, "Whoever incites, sets on foot, assists, or engages in any rebellion or insurrection against the authority of the United States or the laws thereof, or gives aid or comfort thereto, shall be fined under this title or imprisoned not more than ten years, or both; and shall be incapable of holding any office under the United States."

[5] Stone (2009) provides a historical narrative of this tension in the United States.

is life in prison. The minimum sentence for "active participants" is set at three years. The NSL does not cover sedition.[6]

What speech was allowed or not allowed?[7] Right after the enactment, it was alleged that the legal uncertainty was so large that even financial research analysts feared critical commentary lest they would be labeled as unpatriotic, thereby affecting their careers.[8] These career concerns were not exaggerated.[9] Financial regulators in Hong Kong, on the other hand, were adamant that the law was clear and a big plus for Hong Kong's financial markets.[10] The Hong Kong government also made the following press release to stress that the line is not blurred: "The offences endangering national security stipulated by the NSL and the Safeguarding National Security Ordinance (SNSO) target acts endangering national security with precision, and define the elements and penalties of the offences with clarity. The prosecution has the burden to prove beyond reasonable doubt that the defendant had the actus reus and mens rea of an offence before the defendant may be convicted by the court. Law-abiding persons will not unwittingly violate the law…"[11]

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[6] A colonial-era sedition ordinance, however, had existed since 1938, which was further amended in 1970. See, e.g., Historical Laws of Hong Kong Online, "Sedition Ordinance," accessed November 24, 2024, https://oelawhk.lib.hku.hk/items/show/2043 and Hong Kong Legislative Council, "Official Report of Proceedings," 11 February 1970, accessed November 24, 2024, https://www.legco.gov.hk/yr69-70/h700211.pdf.

[7] South China Morning Post (July 27, 2021) reported: "A panel of three High Court judges appointed by the city's leader ruled on Tuesday that Leon Tong Ying-kit had incited separatism by displaying the signature rallying call of the 2019 anti-government protests, "Liberate Hong Kong; revolution of our times," when he took to the streets of Wan Chai during a July 1 rally in 2020." https://www.scmp.com/news/hong-kong/law-and-crime/article/3142686/hong-kong-national-security-law-first-person-stand?module=inline&pgtype=article.

[8] Bloomberg (November 23, 2022) reported: "Conversations with more than 30 analysts, fund managers, and executives in or connected to the financial hub reveal the extent to which self-censorship has inhibited the research community. They detail a world of paranoia, where analysts worry even mild criticism of China could see them reprimanded, lose their jobs — or worse, face charges under the powerful national security law imposed by Beijing."

[9] For example, Hao Hong, a high-profile Chief Strategist at BOCOM International (a state-owned broker in Hong Kong), had his social media accounts, where he had more than three million followers, suspended on April 30th, 2022, after a series of bearish reports on the Chinese economy and stocks. He then left the company. Outspoken China Strategist Leaves State-Owned Broker After Social-Media Accounts Are Censored - WSJ. It became more explicit in Mainland China on December 20, 2024, after a few more chief economists of brokerage firms revealed their negative views on the Chinese economy China Tells Chief Economists: Be Positive, or Else.

[10] Bloomberg (November 23, 2022) reported: "A spokesman for Hong Kong's Financial Services and the Treasury Bureau said in a written statement that the National security law was clear: "Law-abiding people will not unwittingly violate the law. With stability restored by the NSL as well as our close financial integration with the Mainland, investors have shown more interest in the Hong Kong market and confidence in the prospect of Hong Kong's financial development."

[11] Hong Kong Special Administrative Region Government, "HKSAR Government strongly condemns twisted remarks by US and Canada on Safeguarding National Security Ordinance," April 13, 2024, accessed November 24, 2024, https://www.info.gov.hk/gia/general/202404/13/P2024041300737.htm.

The purpose of our paper is to investigate whether the impairment of certain forms of political speech, using the example from the enactment of Hong Kong NSL, spilled over into one type of financial speech – the opinions of local sell-side equity analysts about their covered firms. We test whether the legal uncertainty that may have arisen about what type of speech was or was not permitted under the law led local analysts with career concerns to self-censor their negative opinions. The reason we focus on sell-side equity analysts is that it is their job to provide opinions to the buy-side clients at regular intervals. Hence, they cannot "stay silent" due to self-censorship, which would allow us to perform the tests of self-censorship using observable actions. Specifically, when a firm had a bad year, did these local analysts not call it as they saw it, lest they be labeled as unpatriotic? If such a bias existed, was it more acute for the central state-owned enterprises (SOEs) they covered, because any criticism of such firms could be considered even more unpatriotic?

To answer these questions, we collect analyst reports of key Hong Kong firms written in English from 2018 (two years before the law was enacted) to 2022 (two years after the law was enacted). We restrict our sample to reports about 40 firms that continuously remained in the Hang Seng Index (HSI) and whose analyst reports were available.[12] Sell-side equity analysts' reports on these firms receive the most attention from the financial market and society, and thus have the strongest career concerns for analysts (Harford et al. 2019). These firms also have the largest analyst coverage.[13]

We use three dependent variables to examine whether our results can be interpreted as self-censorship of analysts. These variables represent three vastly different dimensions of financial speech: (1) numbers – earnings per share (EPS) forecast errors, (2) language – the vagueness of the text in the reports, and (3) time – the delayed response of the analyst to earnings announcements. If analysts do self-censor their reports for bad news, we expect to see more overly optimistic forecasts (more positive forecast errors), more vagueness in their writings, and longer delays in their responses.

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[12] The Hang Seng Index (HSI) HSI is a market value-weighted index compiled from a selection of the largest companies in Hong Kong. HSI makes up 35.9% and 39.0% of market capitalization in the Hong Kong Stock Exchange in 2018 and 2022, respectively. Our 40 firms make up 34.5% (24.4%) of market capitalization in 2018 (2022) and 53.9% (32.5%) of trading volume in 2018 (2022).

[13] The average numbers of analysts per firm for these 40 firms are 22 and 21 in 2018 and 2022, respectively, whereas the average numbers of analysts per firm following other stocks in the entire exchange are 2 and 3 in 2018 and 2022, respectively.

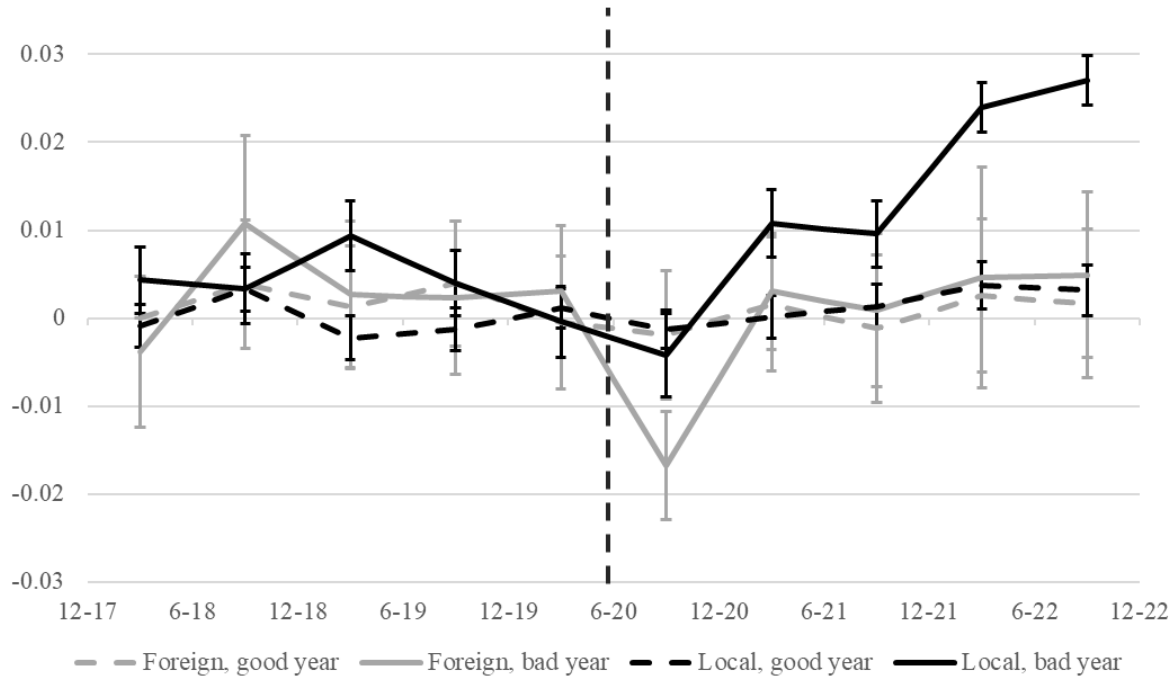

Figure I

Forecast Errors on Year-end EPS by Local and Foreign Analysts

Our empirical tests rely on a triple-difference framework: before versus after the NSL enactment, local analyst versus foreign analyst, and firm-specific bad year versus firm-specific good year. Figure I crystallizes the results of our paper in the first dimension – earnings forecast errors. We notice that the means of earnings forecast errors for most analysts are low (around zero) and unbiased throughout 2018 to 2022, with two exceptions. After a firm-specific bad year, foreign analysts became overly pessimistic just after the passage of the NSL in 2020, but the pessimism is transient. In contrast, local analysts exhibited an increased and lasting positive bias in forecast errors after the enactment of the Hong Kong NSL.

We perform more rigorous tests by triple-difference panel regressions. The results show that local analysts' forecast errors are positively biased for firm-specific bad years after the NSL, and the differences with foreign analysts are statistically and economically significant after controlling for analyst (analyst team) fixed effects, stock fixed effects, and quarter fixed effects. Standard errors are clustered at the analyst level. We conclude that after the NSL, local analysts exhibit an upward bias in their earnings forecasts after a firm-specific bad year, compared to foreign analysts. A subsample test reveals a stronger bias when local analysts cover central state-owned enterprises.

If local analysts self-censor their reports due to perceived legal uncertainty, such career concerns should be reflected in the language used in the reports. We conjecture that using weak

modal words such as "could" and "might" helps local analysts maintain a high level of ambiguity when writing reports for poor-performing firms after NSL. Although we do not find that local analysts, compared to foreign analysts, use more modal words in their reports after a firm-specific bad year for the average firm, they do so for central SOEs.[14]

With a high perception of legal uncertainty after NSL, it might be in the local analysts' best interests to wait and see how other analysts respond before issuing their reports when the covered firms experience a bad year. Self-censorship should thus also be reflected in the timeliness of their reports. We do observe a longer duration between earnings announcements and issuance of local analyst reports for a poor-performing firm after NSL compared to the duration of foreign analysts. The difference is about eight days, and it is statistically significant. When we look at the sub-samples of central vs non-central Chinese state-owned enterprises, the duration is longer for the former, but it is not statistically significant.

These three sets of results collectively indicate that the impairment of certain forms of political speech spilled over into the financial speech of Hong Kong local analysts, especially when the covered firms are owned by the Chinese central government. These results also reject several null hypotheses, including (1) there was no spillover effect from political speech impairment to the other forms of speech such as financial speech, (2) there was no legal uncertainty of NSL, (3) the foreign analysts reacted to NSL the same way as the local analysts, (4) there was no stronger connotation of criticizing Chinese central SOEs to the breach of NSL, and (5) analysts react to NSL symmetrically for good and bad performances of their covered firms. If any of the above null hypotheses are true, there should be no indication of self-censorship in the analyst reports that we document.[15]

An alternate explanation is that heightened patriotism among local analysts after NSL could explain our main findings. That is, local analysts voluntarily offer more positive forecasts than their foreign counterparts when central SOEs underperform to show their support for the country after the implementation of NSL. However, this alternative explanation is unlikely to be true since we find local analysts delay their response and, further, they use more weak modal words in their reports. In general, patriotic actions should be swift and firm, which is the opposite of what we find.

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[14] We utilize the word lists developed by Loughran and McDonald (2011) to assess ambiguity in financial texts. The complete word list is provided in Appendix B.

[15] Our results could be underestimated when foreign analysts also suffer from self-censorship due to career concerns.

Finally, we investigate whether the stock market participants are aware of the existence of self-censorship and respond accordingly. If the market understands that local analysts self-censor their reports, the market may be insensitive to the positive signals sent from local analysts. Although we do not find that the market reaction to the Buy recommendations of local analysts differs significantly from that to the Buy recommendations of foreign analysts after the NSL, they do so for central SOEs. We find that for central SOEs, after the NSL, stock prices respond *significantly negatively* to the Buy recommendations of local analysts. Our result suggests that the market discounts the information content in these positive reports, suggesting that the self-censorship of local analysts is by and large anticipated.

To the best of our knowledge, our paper is the first to provide empirical evidence for the spillover effects of impaired political speech on financial speech. Our paper thus expands the research on the consequences of media influence by the government. For example, Besley and Prat (2006) show that media capture by political incumbents can lead to increased corruption as a free and independent press serves as a crucial watchdog against corrupt practices.[16]

Our paper is related to the literature on the consequences of political biases of media as well (e.g., Gentzkow and Shapiro 2010; Enikolopov, Petrova, and Zhuravskaya 2011; Yanagizawa-Drott 2014; Adena et al. 2015). In the case of China, Qin, Strömberg, and Wu (2018) show that reduced media competition due to a reform that forces most county-level newspapers to exit the market results in some of the remaining newspapers focusing on political propaganda. However, despite strict government censorship in China, Qin, Strömberg, and Wu (2024) show that social media has a sizeable effect on the spread of protests. We complement these studies by providing novel evidence that a national security law, the aftermath of political events, could induce financial media biases.

Our findings on the self-censorship of local analysts are also related to the large literature showing that analysts tend to refrain from expressing their negative opinions due to economic conflict of interests between their employers and the covered firms (e.g., Dugar and

[16] Chen and Yang (2019) show that free access to uncensored internet alone does not lead to a higher demand for politically sensitive information in a field experiment in China. Guriev, Melnikov, and Zhuravskaya (2021) find that the global expansion of 3G mobile networks reduces the government approval rate because the internet helps expose corruption in government. However, such an effect exists only when the internet is not censored. Our paper differs from these studies as we document a spillover effect from political speech censorship into financial media self-censorship Our paper is also related to Piotroski, Wong, and Zhang (2015) who find that during two important political events, local politicians and their affiliated firms have the incentives to restrict the release of negative information, leading to an observable change of stock return skewness.

Nathan 1995; Michaely and Womack 1999; Hong, Kubik, and Soloman 2000; Lim 2001; Hong and Kubik 2003; Jackson 2005; Kadan et al. 2012). We add to these existing studies a political dimension: to avoid violating the NSL, Hong Kong local analysts paint a rosier picture by altering their earnings forecasts, using vaguer language, and delaying response to earnings announcements for poor-performing covered firms after NSL, especially for central SOEs.

Finally, while we use the example of the NSL in Hong Kong because of the cleaner identification strategy it offers, our findings regarding the spillover of constraints on political speech into financial speech are more general and relevant. We see contemporary instances of this spillover even in democracies.[17]

The rest of the paper is organized as follows. Section II introduces the institutional background of the National Security Law and develops the main hypothesis. Section III describes the data sources and variables used in the paper. Section IV presents the main results. Section V studies the impact of impaired commercial speech on the market. Section VI provides some concluding thoughts.

II. INSTITUTIONAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

II.A. The institutional background of the Hong Kong National Security Law

The Hong Kong National Security Law (NSL), officially known as the Law of the People's Republic of China on Safeguarding National Security in the Hong Kong Special Administrative Region, was enacted on June 30, 2020. This law marked a significant shift in Hong Kong's legal landscape, with arguably profound implications for its autonomy and civil liberties. To understand the NSL, it is essential to appreciate the context of Hong Kong's unique status within the People's Republic of China (PRC). Following over 150 years of British colonial rule, Hong Kong was handed back to China on July 1, 1997, under the Sino-British Joint Declaration signed in 1984. This handover agreement established the "One Country, Two

[17] In the United States, a case in point is that Michael Cembalest, JPMorgan Chase & Co. strategist, voluntarily blacked out several passages in his report on April 10, 2025, to highlight fears on Wall Street over speaking out against the Trump administration (https://www.bloomberg.com/news/articles/2025-04-10/jpmorgan-analyst-highlights-wall-street-fears-over-criticizing-trump). In Turkey, JP Morgan Chase & Co was investigated after they advised their clients to short the lira (https://www.businessinsider.com/turkey-probes-jpmorgan-for-lira-advice-before-currency-plunged-2019-3). In India, it was alleged that short-seller Hindenburg shut down because of lawsuits filed against it for his claim that the empire of Adani (who is a friend of the Indian Prime Minister) was a house of cards. (https://frontline.thehindu.com/news/hindenburg-research-closure-nate-anderson-adani-group-short-seller-wall-street/article69134775.ece)

Systems" principle, allowing Hong Kong to maintain its capitalist economic system, common law legal framework, and a high degree of autonomy for 50 years after the handover. The notion of "One Country, Two Systems" was designed to guarantee Hong Kong's residents various rights and freedoms, including freedom of speech, assembly, and the press.

Article 23 of the Basic Law, Hong Kong's mini-constitution, required the city to enact its own national security law. Attempts to do so in 2003 were met with massive protests, leading to the bill's withdrawal. There were protests again in 2014, but this time it was because mainland China proposed changes to the Hong Kong electoral system.[18] Finally, in May 2020, the National People's Congress (NPC), China's top legislative body, passed a decision to draft a national security law for Hong Kong. This political action bypassed Hong Kong's local legislative process, raising certain concerns over the erosion of the city's autonomy. The NPC's decision followed a year of widespread pro-democracy protests in Hong Kong, which the Chinese government viewed as a threat to national security and stability. On June 30, 2020, the NPC Standing Committee unanimously passed the NSL, and it was subsequently added to Annex III of the Hong Kong Basic Law. The law took effect on July 1, 2020, the 23rd anniversary of Hong Kong's handover to China.

The swift enactment and implementation of the NSL caught stakeholders by surprise, leaving Hong Kong residents, legal professionals, and the international community with little time to study and assess the full implications of the law.[19] The law criminalizes four types of activities: secession, subversion, terrorism, and collusion with foreign forces, with maximum penalties of life imprisonment. The law also allows for cases to be tried in mainland China and for judges in national security cases to be handpicked by the Chief Executive. Concerns were thus expressed about judicial independence and the right to a fair trial.[20] More importantly and relevant to our research, the law also raised concerns for its broad and vague definitions, which could lead to legal uncertainty and self-censorship.[21]

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[18] Cantoni et al (2019) provide experimental evidence to interpret these protests as strategic games. Bursztyn et al (2021) examine the causes of sustained participation in these protests.

[19] Laignee Barron, "It's So Much Worse Than Anyone Expected.' Why Hong Kong's National Security Law Is Having Such a Chilling Effect," TIME, July 23, 2020, accessed November 24, 2024, https://time.com/5867000/hong-kong-china-national-security-law-effect/.

[20] The Hong Kong government, however, strongly argued that NSL does not jeopardize judicial independence. https://www.news.gov.hk/eng/2022/03/20220330/20220330_190244_135.html.

[21] Both Schauer (Boston University Law Review 58:685, 1978) and Penney (Minnesota Law Review 106.3, 2022) argue that legal uncertainty is a core element of chilling effects.

Given its vague definitions and little time to judge the "red line of the law," the legal uncertainty of NSL could have a spillover effect that extended to other opinion providers.[22] For example, journalists, editors, and scholars may feel that they are more likely to face scrutiny when reporting on or discussing issues that matter to national security.[23] When such an opinion provider is subject to uncertainty avoidance, this spillover effect may lead to increased self-censorship manifested in giving optimistic opinions, especially when the actual situation is not promising. Meanwhile, opinion providers could also change the content's tone and the degree of vagueness if their jobs require them to express their views or comment on events publicly and constantly. They may even delay giving their opinions. Sell-side equity analysts are one such professional opinion provider.

II.B. Career concerns of sell-side equity analysts

It is well documented that sell-side equity analysts refrain from expressing their true opinions or alter their financial forecasts and recommendations due to (i) having potential conflicts of interest, (ii) avoiding negative repercussions, or (iii) maintaining relationships with the companies they cover (e.g., Dugar and Nathan 1995; Michaely and Womack 1999; Hong, Kubik, and Soloman 2000; Lim 2001; Hong and Kubik 2003; Jackson 2005; Kadan et al. 2012). Specifically, sell-side equity analysts work for investment banking or brokerage services that have business relationships with the companies they are covering. These relationships can create pressure on these analysts to provide favorable coverage to avoid jeopardizing their firms' business interests. They may fear that negative recommendations or forecasts could lead to a direct "retaliation" from the companies they cover, such as the termination of investment banking business relations. The other potential negative impacts on their daily jobs or even careers include reduced access to management, limited participation in conference calls, or exclusion from corporate events, which can hinder their ability to gather information.

Moreover, it could be the case that providing positive coverage will enhance their career prospects by gaining future favor with the companies they cover. For example, Horton, Serafeim, and Wu (2017) find that banking analysts are more likely to exhibit optimistic bias when forecasting for their employer banks or banks with higher reputations. Baginski et al.

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[22] Erin Hale, "Hong Kong Refuses to Clarify Law as Uncertainty Dims Business Hub," Al Jazeera, June 9, 2023, accessed November 24, 2024, https://www.aljazeera.com/economy/2023/6/9/hong-kong-touted-rule-of-law-now-it-wont-say-what-the-law-is.

[23] "Hong Kong: 'We Don't Know Where the Red Line Is'," BBC News, June 27, 2022, accessed November 24, 2024, https://www.bbc.com/news/av/world-asia-china-61957394.

(2018) show that career concerns can incentivize analysts, especially those with lower severance pay, to delay the disclosure of negative information to protect their reputation and future job prospects. Harford et al. (2019) document that analysts prioritize high-profile, valuable firms within their covered firms due to career concerns. Analysts also have more favorable career outcomes when they strategically allocate more efforts to these major firms. Kong et al (2024) show that brokerages affiliated with the government in China give more optimistic recommendations on firms that are affiliated with the government. In sum, the behavior of sell-side equity analysts refraining from expressing their true opinions, especially the negative ones, is epitomized by a quote in Stolowy, Paugam, and Gendron (2022): "The analysts often engage in *self-censorship* in order not to develop a bad relationship with the companies they follow." The NSL could have a similar impact on analysts. Since there could be consequences for the analysts' reports that cover and discuss policy and national economic matters, there may be pressure to provide favorable coverage. Also, the broker firms may not want to cause political issues, and they, not the government, may provide such pressure for the analysts to self-censor their reports.

II.C. Hypothesis development and the tests

The studies mentioned above provide strong evidence that analyst self-censorship exists due to career concerns from various economic ties. In a similar spirit to this line of research, we conjecture that some sell-side equity analysts may also hold back from providing negative opinions in their forecasts or reports for poor-performing firms due to career concerns from their perception of political and legal uncertainty. That is, some Hong Kong sell-side equity analysts may exhibit "self-censorship" and, therefore, provide biased forecasts for major listed firms they cover after the enactment of the Hong Kong National Security Law. Criticizing or merely providing negative opinions on these firms may have a connotation of breaching national security. Accordingly, we propose our hypothesis as follows:

Hypothesis: Hong Kong sell-side equity analysts exhibit self-censorship toward major listed firms on HKEX after the NSL enactment.

Our hypothesis provides several testable implications on how the self-censorship of sell-side equity analysts could be exhibited in their jobs. First, in terms of the analyst forecasts, one of the main tasks of sell-side analysts, self-censorship predicts that some analysts would provide overly optimistic forecasts when their major covered firms experience a poor-performing year. Such forecasts would lead to upward biases of their forecast errors, relative to other analysts without self-censorship. Second, career concerns would also incentivize sell-

side equity analysts to use more ambiguous words to protect themselves when issuing reports after a bad year. Third, career concerns would also incentivize sell-side equity analysts to delay their reports more after a bad firm year.

In addition, among the major listed firms, the Chinese central state-owned enterprises (SOEs) listed on *HKEX* have a closer connotation to NSL than other major listed firms. Intuitively, offering negative opinions toward the central SOEs might be more likely to be interpreted by extreme patriots as criticizing the economy, the communist party, the central government, or the country. Hence, the exhibition of analyst self-censorship should be stronger when commenting on the central SOEs, and this should manifest itself in all three dimensions we mentioned above – forecast accuracy of EPS, vagueness in language, and report delay.

To provide causal inferences of our hypothesis and its testable implications, we adopt a differences-in-differences-in-differences (or triple-difference) model. The first difference is before versus after the NSL enactment, which is in June 2020. The second difference is local (Hong Kong) versus foreign analysts. The local analysts naturally face higher career concerns than their foreign counterparts because they might have fewer career options outside Hong Kong and mainland China. Moreover, their downside risks are also higher as their families and social networks are also in Hong Kong or in the Greater China area. Hence, they serve as the treated group in our triple-difference model, while their foreign counterparts serve as the control group. The third difference is the poor versus non-poor performance of the covered firms. According to Oxford English Dictionary, "self-censorship" is the exercising of control over what one says and does, especially to *avoid criticism*. The exhibition of analyst self-censorship can and should be mostly observed when the covered firms underperform.

While the independent variables and the methodology are roughly similar when testing the implications of the hypothesis of self-censorship, the dependent variables are different. The dependent variable for the first test, our main test, is forecast error. It is defined in the same way as in the literature – forecasted EPS minus actual EPS scaled by price – with some minor changes to suit the way analysts report in Hong Kong. The dependent variable for the second test is the count and ratio of weak modal words. The dependent variable for the third test is delay (the number of days between the last earnings announcement and the first follow-up analyst report). We further perform all the tests on two subsamples: central SOEs and non-central SOEs.

III. DATA

Our study uses data collected from two main data sources: Refinitiv Workspace (formerly Thomson One) After Market Research (AMR) and Datastream. We download all English analyst reports on 40 stocks that are consecutively included in the Hang Seng Index (HSI) from 2018 to 2022 via Refinitiv Workspace AMR. Among these 40 stocks, two stocks were not covered by any analysts in English during our sample period and were thus excluded. Appendix A provides the list of these 40 firms with their ticker symbol, names, dollar market capitalization, dollar volume of trade, and the number of analysts following in 2018 (the beginning of the sample) and 2022 (the end of the sample),

We obtain 9,965 analyst reports from 56 brokers. After screening out small brokers with fewer than 100 reports during our sample period, we end up with 9,188 analyst reports from 19 brokers. Many of these reports are short updates that have no EPS forecast numbers. Some of the reports are written by teams that have no identifiable names. We filter out those reports with no EPS forecasts and have 6,144 unique analyst reports with 298 unique analysts covering 40 unique stocks from 2018 to 2022 as our final sample. We use both programming and manual hand-collecting to collect data on the first (lead) analyst and EPS forecast of these reports. We then merge this data with the stocks' last available price and actual EPS from Datastream.

We define our main dependent variable, analyst forecast error, as (EPS forecast – actual EPS) / closing price of the stock as of the previous day. The forecast is for the year-end EPS only. Analysts (analyst teams) are identified as *local* analysts if the analyst (the lead analyst) has a Chinese family name and as *foreign* analysts if the analyst (the lead analyst) has a non-Chinese name. We broadly include Chinese last names. So, these analysts could be from Hong Kong (Cantonese), mainland China (Mandarin Pinyin), or other places with Mandarin-speaking populations (such as Malaysia, Singapore, or Taiwan). This definition works against us in finding the result as the NSL effect should be smaller for analysts from these regions.

A stock is identified as a *Central SOE* if it is covered in the Hang Seng China Central SOEs Index. These are stocks listed in Hong Kong with the Chinese central state-owned enterprise (central SOE) as the largest shareholder. To identify a bad year for a firm at a given point in time, we use the revenue (sales) growth as a running variable. We define a firm-year observation to be a *Bad* year if the firm's sales growth is in the lowest tercile of our sample stocks in that year. We provide a robustness check where we define a firm's bad year as a firm year whose sales growth is the worst in its previous 5 years. The variable, *After*, equals one if

the analyst report came out on or after June 30, 2020, when the National Security Law was enacted; and equals zero if the analyst report came out before June 30, 2020.

Finally, we measure the tone of analyst reports following Loughran and McDonald (2011). After downloading all PDF reports for the companies consistently listed in the Hang Seng Index, we parse the main text of the first page of these reports, defined as the actual sentences and paragraphs where analysts discuss the firm, excluding boilerplate language such as analyst certifications and disclosures. We focus on the first page because that is where most of the important content exists, and also to mitigate the concern that our results are affected by the length of the reports. We count the occurrences of weak modal words (Loughran and McDonald, 2011) on the first page of each report and define it as *Weak Modal Count*. The *Weak Modal Ratio* is *Weak Modal Count* scaled by the number of words on the first page. Weak modal words, such as "could," "might," and "perhaps," are pivotal in expressing levels of possibility and uncertainty, indicating that outcomes are contingent rather than guaranteed. In financial texts, the presence of these weak modal words reflects a degree of ambiguity, hesitation, or conditionality. We provide the full list of weak modal words in Appendix C.

The summary statistics for the variables are provided in Table I. Analyst reports in our sample are predominantly written by local analysts. 89.3% of unique analysts are identified as local analysts, and 88.1% of the reports are published by these local analysts. There are 12 stocks identified as central SOEs (31.6% of unique stocks in the sample), including Bank of China, CITIC, China Construction Bank, China Life Insurance, China Mengniu Dairy, China Mobile, China Overseas Land & Investment, China Petroleum & Chemical, China Resources Land, China Unicom Hong Kong, Industrial and Commercial Bank of China, and PetroChina.

The forecast errors by the analysts in our sample are quite small on average. This is not surprising as these firms tend to be the most important firms in the analyst portfolio to which they pay the most attention and effort because of their career concern motives (Harford et al. 2019). Analysts do not commonly use weak modal words in the report. The sample mean of the weak modal count is only 1.57, meaning that there is only one or two weak modal words on the first page of an analyst report, which limits the statistical power of our test. The average analyst response time to an earnings report is about 10 days, with a high variation. The longer response time than in the U.S. is maybe due to the bi-annual financial reporting requirement of the Hong Kong Stock Exchange.

[Table I Here]

IV. SELF-CENSORSHIP OF FINANCIAL SPEECH

IV.A. Analyst Bias in Earnings Forecasts

To test how local analysts self-censor their reports for a covered firm in a bad year after NSL, we perform a triple-difference regression analysis as follows:

$$
\begin{aligned}
Forecast\ Error_{a,s,y} \\
&= \alpha + \beta\ After_q \times Local_a \times Bad\ Year_{s,y} + \gamma_0\ After_q + \gamma_1\ Local_a \\
&+ \gamma_2\ Bad\ Year_{s,y} + \gamma_3\ After_q \times Local_a + \gamma_4\ After_q \times Bad\ Year_{s,y} \\
&+ \gamma_5\ Local_a \times Bad\ Year_{s,y} + \eta_s + \theta_a + \tau_q + \epsilon_{a,s,q}
\end{aligned}
$$

where a, s, y, and q index the analyst, stock, fiscal year, and quarter, respectively. The dependent variable, $Forecast\ Error_{a,s,y}$, is the difference between the analyst forecast on EPS and the actual ex-post EPS normalized using the closing price of the stock on the previous day to the report.

Our triple-difference regression uses three dimensions: before versus after the NSL, local versus foreign analysts, and bad versus good performing years of a firm. For the first dimension, we use the variable, $After_t$, which equals one if the analyst report came out on or after June 30, 2020, when the National Security Law was enacted; and equals zero if the analyst report came out before June 30, 2020. The second dimension, which is whether the analyst is local or foreign, is determined by the analyst's last name. An analyst (the lead analyst) is identified as a local analyst ($Local_a$ = 1) if the analyst has a Chinese family name and as a foreign analyst ($Local_a$ = 0) if the analyst has a non-Chinese name. The last dimension is whether a firm-year observation is a bad year ($Bad\ Year_{s,y} = 1$) or not ($Bad\ Year_{s,y} = 0$). This is determined by whether a firm-year observation belongs to the lowest tercile sorting on the sales growth.[24]

We include all seven combinations of interactions among these three variables in the regression model. The key variable of interest is $After_q \times Local_a \times Bad\ Year_{s,y}$, whose coefficient ($\beta$) would reveal whether local analysts' forecast errors tend to be different from

[24] Note that we have used forward-looking sales growth to define our bad years. This is because we aim to investigate the analysts' forecast errors and behaviors when they are anticipating a bad year ahead.

those of foreign analysts when they are covering a stock in a bad year after NSL. We expect a positive β if local analysts provide overly optimistic forecasts as a form of self-censorship.

We also include three different fixed effects: stock fixed effects, analyst (team) fixed effects, and quarter fixed effects. These three fixed effects control for time-invariant stock characteristics, time-invariant analyst characteristics, and quarter-invariant macro-characteristics. The standard errors are clustered at the analyst level.

[Table II Here]

The results are shown in Table II. Columns 1 to 5 present the results with or without the fixed effects. In all five columns, the coefficients of $After_q \times Local_a \times Bad\ Year_{s,y}$ are positive and statistically significantly different from zero. Given the standard deviation (SD) of the dependent variable is 0.025, the implied economic significance is non-negligible. The local analysts tend to issue their EPS forecasts around 0.44 to 0.64 SD higher than the foreign counterparts for a poor-performing firm after the NSL.

These results are well in line with our self-censorship hypothesis, which predicts that local analysts would refrain from providing negative opinions when their covered firms experienced a bad year. Given the uncertainty of potential legal and political consequences, local analysts tend to avoid criticism and provide relatively optimistic views on poor-performing stocks after NSL, leading to higher forecast errors.

Our self-censorship hypothesis also implies a strong NSL effect on Chinese central state-owned enterprises (central SOEs) listed on *HKEX* because offering negative opinions toward the central SOEs might be more likely to be interpreted by extreme patriots as criticizing China. This closer connotation to NSL would lead to a stronger impact on self-censorship when local analysts are writing reports for poorly performing central SOEs.

To test this implication, we run the same regression model on two subsamples: reports on central SOEs and reports on non-central SOEs. The results are shown in Table III.

[Table III Here]

Columns 1, 2, and 3 present the results using the full sample, central SOE subsample, and non-central SOE subsample, respectively. The impact of NSL on analyst self-censorship is indeed stronger for the central SOE subsample, where the economic magnitude is around two standard deviations (0.036/0.018). The economic magnitude of self-censorship for the non-central SOE subsample is only 0.21 standard deviation (0.005/0.024). This result further corroborates our interpretation of analyst self-censorship.

IV. B. Analyst Bias in Language

Understanding textual information in financial reports is crucial, particularly regarding language that indicates bias. Sell-side analysts produce reports as part of their livelihood. The existing evidence suggests that to maintain good relationships with firms, they often adopt an overly optimistic stance (Lin and McNichols 1998; Michaely and Womack 1999). A particularly intriguing scenario arises when an analyst covers a firm that has performed badly. Negative commentary, even when warranted, can be perceived as hostile criticism. This situation creates tension for the analyst: on the one hand, the analyst must present accurate and objective data; on the other hand, the analyst may be inclined to avoid making the firm appear unfavorable, especially when discussing central state-owned enterprises (SOEs) after the National Security Law was passed in Hong Kong.

In such cases, our hypothesis implies that while local analysts are compelled to provide objective numbers, their interpretation of these figures may shift to mitigate negative impressions among readers. We thus examine the usage of weak modal words in their reports because these linguistic elements can significantly influence how texts are interpreted and inform decision-making processes (Ertugrul et al. 2017). In financial texts, the presence of these weak modals reflects a degree of ambiguity, hesitation, or conditionality, which captures an important characteristic of self-censorship when analysts must address sensitive issues during challenging periods.[25] We anticipate that local analysts will increase their use of weak modal words when discussing unfavorable news about central SOEs after the enactment of the NSL.

We apply the same empirical model used for forecast errors to these textual response variables, with the dependent variable being replaced with the weak modal word count. The results are presented in Table IV.

[Table IV Here]

[25] For example, an excerpt from a section talking about Fintech and business services of Tencent Holdings issued by Auerbach Grayson & Co., Inc. in November 2022: "We **believe** the implementation of fintech regulations is noteworthy, and the earnings growth and valuation of the fintech business **might** be reconsidered. Meanwhile, the cloud business declined slightly. In the short term, the cloud business revenue growth **might** remain at a low level, but we expect its gross margin to improve significantly..." The analyst has to disclose the current decline in the cloud business of Tencent, but he writes a paragraph using several uncertainty/weak modal words to distance himself from potential career consequences.

Table IV shows no significant analyst self-censorship in the full sample or the non-central SOEs subsample. In contrast, for the subsample of central SOEs, local analysts tend to use 1.11 more weak modal words on their first page of the reports compared to foreign analysts after NSL for poor-performing firms. The economic magnitude is large because the use of weak modal words on the first page of analyst reports has a mean of 1.57 words, which means that the analyst has almost doubled the use of weak modal words.

This result aligns well with our hypothesis. Although analyst reports are supposed to provide an honest opinion on firms, analysts might be willing to obscure their opinions if they are concerned about potential repercussions. Our result indicates that local analysts engage in self-censorship by moderating their language to mitigate the potential backlash from patriotic stakeholders.[26]

IV.C. Analyst Bias in Reporting Delay

The last dimension for testing our hypothesis is whether analyst self-censorship is manifested in the time it takes to react to the covered firms' earnings announcements. Specifically, after a firm announces a poor performance, do local analysts wait for others to reveal their opinions first? We investigate this issue by analyzing the response time (delay) to firms' earnings announcements. The response time is measured as the number of days between a firm's last earnings announcement and the first follow-up report by the analyst.

We adjust the benchmark model, using the lagged term $Bad\ Year_{s,y-1}$ instead of $Bad\ Year_{s,y}$, as we aim to investigate the analysts' reaction to actual past bad performance (not analysts' predictions of future bad performance). The regression model becomes as follows:

$$\begin{aligned} Response\ Time_{a,s,y} \\ &= \alpha + \beta\ After_q \times Local_a \times Bad\ Year_{s,y-1} + \gamma_0\ After_q + \gamma_1\ Local_a \\ &+ \gamma_2\ Bad\ Year_{s,y-1} + \gamma_3\ After_q \times Local_a + \gamma_4\ After_q \times Bad\ Year_{s,y-1} \\ &+ \gamma_5\ Local_a \times Bad\ Year_{s,y-1} + \eta_s + \theta_a + \tau_q + \epsilon_{a,s,q}, \end{aligned}$$

[26] We have also investigated sentiment using the bag-of-words methodology. Although local analysts use more positive words and fewer negative words in bad years for central SOEs after NSL, the difference is small and statistically insignificant.

[Table V Here]

We do observe a longer duration between earnings announcements and issuance of local analyst reports for a poor-performing firm after NSL compared to the duration of foreign analysts. The difference is about eight days, and it is statistically significant. When we look at the sub-samples of central vs non-central Chinese state-owned enterprises, the duration is longer for the former, but it is not statistically significant.

IV.D. Robustness Checks

We provide three sets of robustness checks in this section. First, our prior results utilize an imbalanced panel dataset that keeps any analysts who issue reports either before or post the NSL enactment. Such an imbalanced panel provides a larger sample size, which is about 25% more than the number of observations in a balanced panel that requires analysts to issue reports both before and after the NSL enactment. To make sure that analysts' entries and exits do not drive our results, we redo our analyses using a balanced panel. Columns 1 to 3 of Appendix D show that the results remain qualitatively the same as our prior findings. Moreover, in a nontabulated test, we do not observe any systematic changes in the composition between local and foreign analysts before and after the NSL.

Second, many analyst reports do not report or forecast the actual EPS but only report and predict their model EPS. These model EPS are adjusted by analysts' own parameters on the shares and/or earnings. We provide an example of such a case in Appendix C. Moreover, some reports do not explicitly mention that their EPS is from their own model, so the numbers are different from the stocks' actual EPS. For these cases, we try to back out their adjustment factor by taking the ratio between their own model EPS and the actual EPS as of the most recent period. Columns 4 to 6 of Appendix D report consistent results when we use adjusted forecast errors as the dependent variable.

Finally, Columns 7 to 9 in Appendix D present the results when we define a firm's bad year as a firm-year observation whose sales growth is the worst in the previous five years. Our main conclusion does not change when using these alternative samples and variable constructions. That is, local analysts shade up their forecasts when firm-specific bad news hits, especially for central state-owned enterprises.

V. EFFECTS OF DISTORTED FINANCIAL SPEECH

The previous section shows that local analysts tend to paint a rosier picture on poor-performing stocks after the NSL, plausibly due to career concerns. This is particularly true for Chinese central SOEs. If the market is aware of the local analysts' self-censorship behavior, the SOEs' stock prices may not be as reactive to Buy signals from local analysts. To test our conjecture, we investigate whether the market reacts less positively to the Buy signals from local analysts using the following empirical specification:

$$CAR_{s,[t,t+1]} = \alpha + \beta_1 After_q \times Local_a \times Buy_{a,s,t} + \beta_2 Buy_{a,s,t} + \beta_3 After_q \times Local_a + \beta_4 After_q \times Buy_{a,s,t} + \beta_5 Local_a \times Buy_{a,s,t} + \eta_s + \theta_a + \tau_q + \epsilon_{a,s,q},$$

where $CAR_{s,[t,t+1]}$ is the two-day cumulative abnormal return with a window from the day of the report issuance to one business day later. We use the Hang Seng Index return as the benchmark. $Buy_{a,s,t}$ is equal to one if the reports' recommendations are Buy/Outperform/Overweight and 0 otherwise. The other variables are defined in the same way as before.[27] The presumption of our test is that analysts have additional information about the firm beyond the information set of stock investors. Hence, investors react to the recommendations made by analysts.

[Table VI Here]

The results are shown in Table VI. Although we do not find the market reaction to the Buy recommendations of local analysts, compared to the market reaction to the Buy recommendations of foreign analysts, differ significantly after the NSL, they do so for central SOEs. We find that for central SOEs, after the NSL, stock prices respond *significantly negatively* to the Buy recommendations of local analysts. Our result suggests that the market discounts the information content in these positive reports, suggesting that the self-censorship of local analysts is, by and large, anticipated for central SOEs. In other words, the information

[27] We do not use the variable of *Bad Year*$_{s,y}$ in this regression since it is a forward-looking variable.

content of those reports is severely discounted by the market; the self-censorship of local analysts is expected by the market participants.[28]

VI. CONCLUSION

Our paper examines how Hong Kong's 2020 National Security Law (NSL) impacted financial analysts' reporting. We argue that the impairment of some forms of political speech due to NSL spilled over into financial speech. Our results show that local analysts, particularly those covering Chinese central state-owned enterprises, self-censored their reports after the NSL's enactment. This self-censorship manifested in overly optimistic earnings forecasts, vaguer language, and delayed responses to earnings announcements after a bad performance year for the firm. We derive these results by using a triple-difference framework comparing local and foreign analysts' reports before and after the NSL, focusing on firms (especially Chinese central state-owned enterprises) experiencing poor performance. We further show that the market's reaction to local analyst reports was negative after their Buy signals on central SOEs, suggesting a decline in the credibility of their assessments.

Our study provides novel and compelling evidence that political censorship can have far-reaching consequences, impacting even seemingly unrelated domains like financial analysis. Our findings raise concerns about the reliability and objectivity of financial information emanating from environments with constrained political speech. The observed market discounting of biased information may lead to distortions in capital allocation decisions.

To conclude, the evidence of self-censorship among local analysts in Hong Kong following the implementation of the NSL highlights the importance of protecting freedom of expression, not only for human rights but also for the integrity and efficacy of financial markets. Although we have used the example of the NSL in Hong Kong due to its clean identification, our findings on the spillover of constraints on political speech into financial speech can be easily generalized, even in democracies.

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[28] While our findings indicate that the market does exhibit signs of adjustment and adaptation in response to the self-censorship among local analysts, the consequences of this muted financial speech may potentially lead to a deterioration in corporate governance. Nevertheless, a clean identification strategy to demonstrate this remains elusive, as NSL has the potential to exert a profound influence on numerous facets of society and the economy, including corporate governance. Nonetheless, it is anticipated that the self-censorship of local analysts will result in a deterioration of their function as an external governance mechanism. This conjecture is supported by the findings of Chen, Harford, and Lin (2015), who demonstrate that analysts play a pivotal role in mitigating the expropriation of outside shareholders by managerial entities. Furthermore, the seminal works of Dyck, Morse, and Zingales (2008) and Dyck, Volchkova, and Zingales (2010) have elucidated the pivotal role of media in the context of corporate governance.

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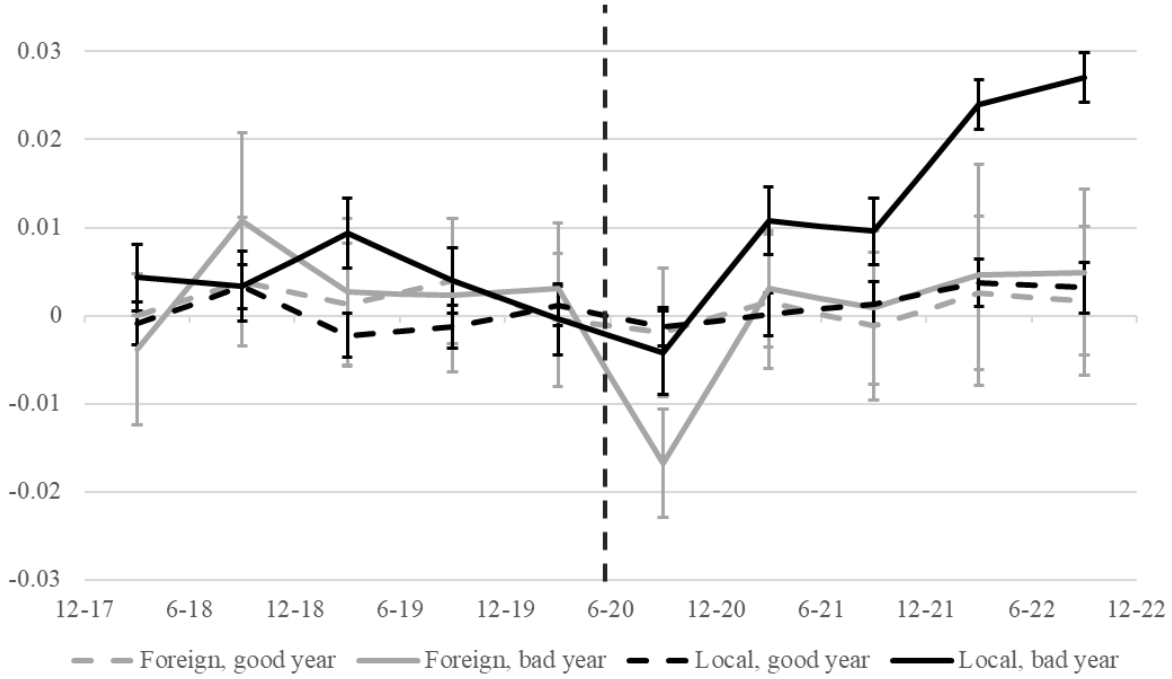

Figure I

Forecast Errors on Year-end EPS by Local and Foreign Analysts

This figure presents the analyst forecast errors on year-end EPS by local and foreign analysts covering firms of good and bad years. The Y-axis presents the conditional means of forecast error, and the X-axis depicts time. The forecast error of a report is estimated by (analyst forecast EPS – actual EPS) / previous daily closing price. We use analyst forecasts on the year-end EPS only. The forecast errors are the average forecast errors of all reports in the six-month period marked on the X-axis. An analyst (analyst team) is identified as a local analyst if the analyst (first analyst) has a Chinese family name and as a foreign analyst if the analyst (first analyst) has a non-Chinese family name. A firm-year observation is classified as a bad year if the firm's sales growth is in the lowest tercile of our sample stocks that year. Our sample consists of firms that are continuously covered in the Hang Seng Index from 2018 to 2022. The vertical dotted line depicts the time of the National Security Law's enactment on 30 June 2020. The figure also presents 95% confidence intervals for each estimate.

Table I

Summary Statistics

Variable	Obs.	Mean	SD	P25	P50	P75
Analyst Level						
Local Analyst (Chinese name=1)	298	0.893	0.310	1.000	1.000	1.000
Stock Level						
Central SOE (Central SOE=1)	40	0.316	0.471	0.000	0.000	1.000
Stock-year Level						
Actual EPS	220	3.050	3.414	0.600	1.905	4.090
Sales Growth	220	0.060	0.214	–0.033	0.066	0.141
Performance (Bad Year = 1, Sales growth lowest 33%)	220	0.345	0.477	0.000	0.000	1.000
Performance (Bad Year =1, Sales growth worst in 5 years)	220	0.182	0.387	0.000	0.000	0.000
Report Level						
After (After NSL=1)	6,144	0.503	0.500	0.000	1.000	1.000
Forecast Error (EPS forecast – actual EPS) / last closing price	6,144	0.004	0.025	–0.002	0.001	0.007
Adjusted Forecast Error (EPS forecast * adjustment – actual EPS) / last closing price)	6,144	0.005	0.026	–0.001	0.001	0.007
Weak Modal Count on the first page	6,144	1.573	1.991	0.000	1.000	2.000
Weak Modal Ratio on the first page	6,144	0.004	0.005	0.000	0.003	0.006
Response Time (Days of the first report from the last earnings announcement date)	698	10.42	9.571	1.000	8.000	17.00
CAR(0,1) of the report announcement	6,144	0.001	0.039	–0.018	0.001	0.021

This table provides summary statistics for all the variables used in the paper. Our sample consists of stocks that are continuously covered in the Hang Seng Index from 2017 to 2022. We ended up with 6,145 unique analyst reports, with 298 unique analysts covering 40 unique stocks from 2018 to 2022. Analysts (analyst teams) are identified as local analysts if the analyst (first analyst) has a Chinese family name and as foreign analysts if the analyst (first analyst) has a non-Chinese name. A stock is identified as a central SOE if it is covered in the Hang Seng China Central SOEs Index. Performance = Bad Year = 1 if sales growth is in the lowest tercile of our sample stocks that year. Forecast errors are estimated by (analyst forecast EPS – actual EPS) / previous daily closing price. The forecast is for the year-end EPS. We also provide the summary statistics for the adjusted EPS forecast errors. We adjust analyst EPS forecasts if analysts report only their own model EPS, but no actual EPS. The adjustment factor used is the ratio between their model EPS and the actual EPS of the previous fiscal year. The variable, After, equals 1 if the analyst report came out on or after June 30, 2020, when the National Security Law was passed, and equals 0 if the analyst report came out before June 30, 2020. We counted the occurrences of weak modal words (Loughran & McDonald, 2011) on the first page of each report and defined it as Weak Modal Count. The Weak Modal Ratio is the Weak Modal Count scaled by the number of words on the first page. CAR (0,1) is the two-day cumulative abnormal returns measured in the window of t to t+1, where t is the day of the report.

Table II

Forecast Errors of Local Analysts and the National Security Law

	(1)	(2)	(3)	(4)	(5)
Variable			Forecast Error		
After × Local × Bad Year	0.016***	0.014***	0.016***	0.013***	0.011**
	(0.000)	(0.001)	(0.001)	(0.004)	(0.018)
After	–0.002	–0.004	–0.003		
	(0.149)	(0.192)	(0.405)		
Local	–0.002	–0.006*		–0.001	
	(0.262)	(0.073)		(0.302)	
Bad Year	0.001	–0.001	–0.001	0.001	0.001
	(0.841)	(0.877)	(0.903)	(0.717)	(0.826)
After × Local	0.003	0.006*	0.004	0.003	0.005
	(0.103)	(0.080)	(0.333)	(0.143)	(0.267)
After × Bad Year	–0.004	–0.001	–0.004	–0.002	–0.003
	(0.260)	(0.691)	(0.301)	(0.481)	(0.480)
Local × Bad Year	0.003	0.006	0.004	0.003	0.004
	(0.330)	(0.219)	(0.379)	(0.415)	(0.464)
Constant	0.002	0.005	0.001	0.001*	–0.001
	(0.140)	(0.102)	(0.408)	(0.060)	(0.508)
Stock F.E.	No	Yes	No	No	Yes
Analyst (Team) F.E.	No	No	Yes	No	Yes
Quarter F.E.	No	No	No	Yes	Yes
Observations	6,144	6,143	6,107	6,144	6,105
R-squared	0.060	0.211	0.191	0.086	0.331

This table presents how forecast errors by local and foreign analysts changed after the National Security Law. The dependent variable is forecast errors are estimated by (analyst forecast EPS – actual EPS) / previous daily closing price. The forecast is for the year-end EPS. The variable, After, equals 1 if the analyst report came out on or after June 30, 2020, when the National Security Law was passed, and equals 0 if the analyst report came out before June 30, 2020. Analysts (analyst teams) are identified as local analysts if the analyst (first analyst) has a Chinese family name and as foreign analysts if the analyst (first analyst) has a non-Chinese name. A firm-year is identified as a bad year if its sales growth is in the lowest tercile of our sample stocks that year. Our sample consists of firms that are continuously covered in the Hang Seng Index from 2017 to 2022. We control for analyst fixed effect, stock fixed effects, and quarter fixed effects in Columns 2 to 5. Standard errors are clustered by the first analyst, and p-values are shown in parentheses underneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided), respectively.

Table III

Forecast Errors of Local Analysts and the National Security Law:

Central SOEs vs Non-central SOEs

	(1)	(2)	(3)
Variable		Forecast Error	
After × Local × Bad Year	0.011**	0.036**	0.005*
	(0.018)	(0.014)	(0.053)
Bad Year	0.001	–0.002	0.004
	(0.826)	(0.825)	(0.136)
After × Local	0.005	0.001	0.006**
	(0.267)	(0.867)	(0.029)
After × Bad Year	–0.003	–0.023	0.000
	(0.480)	(0.102)	(0.949)
Local × Bad Year	0.004	0.000	0.003
	(0.464)	(0.978)	(0.293)
Constant	–0.001	–0.003	–0.000
	(0.508)	(0.493)	(0.802)
Sample	All	Central SOEs	Non-central SOEs
Stock F.E.	Yes	Yes	Yes
Analyst (Team) F.E.	Yes	Yes	Yes
Quarter F.E.	Yes	Yes	Yes
Observations	6,105	1,788	4,303
R-squared	0.331	0.441	0.369

This table presents how forecast errors by local and foreign analysts changed before and after the National Security Law across central SOEs and non-central SOEs. Column 1 shows the results of Column 5 in Table II. The subsample results of Central SOEs are shown in Column 2, and the subsample results of Non-central SOEs are shown in Column 3. The dependent variable is forecast errors are estimated by (analyst forecast EPS – actual EPS) / previous daily closing price. The forecast is for the year-end EPS. The variable, After, equals 1 if the analyst report came out on or after June 30, 2020, when the National Security Law was passed; and equals 0 if the analyst report came out before June 30, 2020. Analysts (analyst teams) are identified as local analysts if the (first) analyst has a Chinese family name and as foreign analysts if the (first) analyst has a non-Chinese name. A firm-year is identified as a bad year if its sales growth is in the lowest tercile of our sample stocks that year. Our sample consists of firms that are continuously covered in the Hang Seng Index from 2017 to 2022. We control for analyst fixed effects, stock fixed effects, and quarter fixed effects in all columns. Standard errors are clustered by the first analyst and p-values are shown in parentheses underneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided), respectively.

Table IV

Language used by Local Analysts and the National Security Law:

Central SOEs vs Non-central SOEs

	(1)	(2)	(3)	(4)	(5)	(6)
Variable		Weak Modal Count			Weak Modal Ratio	
After × Local × Bad Year	0.310	1.107***	0.158	0.001	0.003**	0.000
	(0.268)	(0.007)	(0.567)	(0.228)	(0.012)	(0.677)
Bad Year	0.246	1.162***	0.043	0.001	0.003***	–0.000
	(0.308)	(0.000)	(0.823)	(0.444)	(0.001)	(0.804)
After × Local	–0.162	–0.574**	–0.054	–0.001*	–0.001*	–0.001
	(0.378)	(0.021)	(0.799)	(0.064)	(0.094)	(0.270)
After × Bad Year	–0.406	–1.538***	–0.187	–0.001*	–0.004***	–0.000
	(0.105)	(0.000)	(0.389)	(0.064)	(0.001)	(0.328)
Local × Bad Year	–0.283	–1.153***	–0.120	–0.001	–0.003***	–0.000
	(0.269)	(0.001)	(0.599)	(0.353)	(0.002)	(0.813)
Constant	1.667***	1.620***	1.723***	0.004***	0.004***	0.005***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Sample	All	Central SOE	Non-central SOEs	All	Central SOE	Non-central SOEs
Stock F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Analyst (Team) F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Quarter F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,105	1,788	4,303	6,105	1,788	4,303
R-squared	0.286	0.325	0.293	0.262	0.328	0.261

This table presents how the text in the reports by local and foreign analysts changed before and after the National Security Law. The dependent variables are the number of weak modal words and the ratio of weak modal words on the first page. We utilize the word lists developed by Loughran and McDonald (2011) to assess ambiguity in financial texts. The complete word list is provided in Appendix C. We report results for all stocks, Central SOEs, and Non-central SOEs for each variable. The variable, After, equals 1 if the analyst report came out on or after June 30, 2020, when the National Security Law was passed, and 0 if the analyst report came out before June 30, 2020. Analysts (analyst teams) are identified as local analysts if the (first) analyst has a Chinese family name and as foreign analysts if the (first) analyst has a non-Chinese name. A firm-year is identified as a bad year if its sales growth is in the lowest tercile of our sample stocks that year. Our sample consists of firms that are continuously covered in the Hang Seng Index from 2017 to 2022. We control for analyst fixed effects, stock fixed effects, and quarter fixed effects in all columns. Standard errors are clustered by the first analyst, and p-values are shown in parentheses underneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided), respectively.

Table V

Response Time of Local Analysts and the National Security Law:

Central SOEs vs Non-central SOEs

	(1)	(2)	(3)
Variable	Days between the last earnings announcement and first follow-up report		
After × Local × Bad Year	7.913*	13.682	0.751
	(0.085)	(0.114)	(0.883)
Bad Year	0.002	–1.425	–3.747
	(0.999)	(0.503)	(0.214)
After × Local	–0.794	–10.927	4.036
	(0.816)	(0.198)	(0.264)
After × Bad Year	–6.124	–11.991	0.205
	(0.178)	(0.143)	(0.965)
Local × Bad Year	–0.717	3.313	2.272
	(0.764)	(0.278)	(0.514)
Constant	10.571***	11.501***	11.075***
	(0.000)	(0.002)	(0.000)
Sample	All	Central SOEs	Non-central SOEs
Stock F.E.	Yes	Yes	Yes
Analyst (Team) F.E.	Yes	Yes	Yes
Quarter F.E.	Yes	Yes	Yes
Observations	629	281	330
R-squared	0.556	0.630	0.597

This table presents how the response time by local and foreign analysts changed before and after the National Security Law. The dependent variables are the days between the last earnings announcement and the first follow-up report. We only include the first report after the announcement. We report results for all stocks, Central SOEs, and Non-central SOEs subsamples. The variable, After, equals 1 if the analyst report came out on or after June 30, 2020, when the National Security Law was passed, and 0 if the analyst report came out before June 30, 2020. Analysts (analyst teams) are identified as local analysts if the (first) analyst has a Chinese family name and as foreign analysts if the (first) analyst has a non-Chinese name. A firm-year is identified as a bad year if its sales growth is in the lowest tercile of our sample stocks that year. Our sample consists of firms that are continuously covered in the Hang Seng Index from 2017 to 2022. We control for (first) analyst fixed effect, stock fixed effect, and quarter fixed effect (in Columns 2 and afterward). Standard errors are clustered by the first analyst, and p-values are shown in parentheses underneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided),

Table VI

Market Reactions to Local Analyst Reports and the National Security Law: Central SOEs vs Non-central SOEs

	(1)	(2)	(3)
Variable	Two-Day Cumulative Abnormal Return		
After × Local × Buy	–0.006	–0.026**	–0.005
	(0.183)	(0.031)	(0.362)
Buy	0.001	–0.012**	0.003
	(0.787)	(0.033)	(0.387)
After × Local	0.002	0.011	0.003
	(0.635)	(0.366)	(0.587)
After × Buy	0.002	0.025**	–0.002
	(0.534)	(0.024)	(0.716)
Local × Buy	0.005	0.012*	0.006
	(0.121)	(0.075)	(0.107)
Constant	–0.002	0.002	–0.005**
	(0.300)	(0.755)	(0.035)
Sample	All	Central SOEs	Non-central SOEs
Stock F.E.	Yes	Yes	Yes
Analyst (Team) F.E.	Yes	Yes	Yes
Quarter F.E.	Yes	Yes	Yes
Observations	5,820	1,684	4,122
R-squared	0.091	0.215	0.089

This table presents how the market reactions to local and foreign analyst reports changed before and after the National Security Law. The dependent variable is the two-day cumulative abnormal return, CAR (0,1), measured in the window of t to t+1, where t is the day of the report. We report results for all stocks, Central SOEs, and Non-central SOEs subsamples. Buy equals 1 if the report's recommendation is Buy/Outperform/Overweight. The variable, After, equals 1 if the analyst report came out on or after June 30, 2020, when the National Security Law was passed, and 0 if the analyst report came out before June 30, 2020. Analysts (analyst teams) are identified as local analysts if the (first) analyst has a Chinese family name and as foreign analysts if the (first) analyst has a non-Chinese name. Our sample consists of firms that are continuously covered in the Hang Seng Index from 2017 to 2022. We control for (first) analyst fixed effect, stock fixed effect, and quarter fixed effect. Standard errors are clustered by the first analyst, and *p*-values are shown in parentheses underneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided), respectively.

APPENDIX A

The 40 Hang Seng stocks in the Hang Seng Index in our sample

Ticker	Company Name	Market Capitalization (Million USD)		Trading Volume (Million USD)		No. of Analysts	
		2018	2022	31 Jan 2018	30 Dec 2022	31 Jan 2018	30 Dec 2022
0001.HK	CK Hutchison Holdings Ltd	37,028.58	22,976.83	94.89	19.30	15	9
0002.HK	CLP Holdings Ltd	28,550.20	18,423.89	36.16	14.66	14	9
0003.HK	Hong Kong and China Gas Co Ltd	31,827.86	17,729.21	34.23	15.04	13	9
0005.HK	HSBC Holdings PLC	165,344.13	124,571.10	383.89	40.95	22	20
0006.HK	Power Assets Holdings Ltd	14,852.49	11,665.89	61.01	16.93	15	10
0011.HK	Hang Seng Bank Ltd	42,916.68	31,776.32	42.57	7.85	14	12
0012.HK	Henderson Land Development Co Ltd	21,917.79	16,893.24	36.00	7.40	22	18
0016.HK	Sun Hung Kai Properties Ltd	43,716.08	34,236.22	93.49	31.69	22	18
0017.HK	New World Development Co Ltd	12,927.41	8,121.52	38.35	8.24	18	15
0027.HK	Galaxy Entertainment Group Ltd	26,274.33	28,543.35	164.47	33.74	23	19
0066.HK	MTR Corp Ltd	32,298.64	32,838.88	27.00	8.09	11	11
0101.HK	Hang Lung Properties Ltd	8,568.72	8,791.69	34.68	6.27	21	16
0175.HK	Geely Automobile Holdings Ltd	15,812.80	14,667.94	149.71	64.58	36	37
0267.HK	CITIC Ltd	45,614.30	30,693.87	24.54	8.35	4	5
0288.HK	WH Group Ltd	11,299.64	7,458.76	107.48	7.14	18	17
0386.HK	China Petroleum & Chemical Corp	87,944.21	72,089.23	145.03	22.81	24	19
0388.HK	Hong Kong Exchanges and Clearing Ltd	36,186.33	54,742.89	602.63	102.82	19	30
0688.HK	China Overseas Land & Investment Ltd	37,632.87	28,870.56	86.76	45.78	29	28
0700.HK	Tencent Holdings Ltd	351,883.17	388,687.03	1,508.25	1,105.34	40	57
0762.HK	China Unicom Hong Kong Ltd	32,663.00	18,924.25	70.43	17.77	26	17
0823.HK	Link Real Estate Investment Trust	19,434.84	19,114.43	77.78	21.10	18	14
0857.HK	PetroChina Co Ltd	182,825.46	126,323.23	215.96	19.43	24	21
0883.HK	CNOOC Ltd	62,396.55	63,555.36	140.98	59.41	23	23
0939.HK	China Construction Bank Corp	207,758.17	158,860.63	752.82	123.80	27	25
0941.HK	China Mobile Ltd	197,002.83	144,436.75	250.66	119.61	25	20
1038.HK	CK Infrastructure Holdings Ltd	20,070.88	13,131.21	21.00	5.60	15	12
1044.HK	Hengan International Group Company Ltd	8,778.12	6,168.12	52.41	11.77	24	18
1109.HK	China Resources Land Ltd	26,513.03	32,643.71	63.62	53.18	26	26
1113.HK	CK Asset Holdings Ltd	27,023.16	22,181.88	81.80	16.46	19	15
1299.HK	AIA Group Ltd	100,113.30	130,940.44	223.54	197.32	-	30
1398.HK	Industrial and Commercial Bank of China Ltd	269,391.46	215,143.78	486.72	83.86	29	27
1928.HK	Sands China Ltd	35,391.01	26,840.85	154.46	66.99	24	18
1997.HK	Wharf Real Estate Investment Company Ltd	18,163.47	17,689.78	37.43	13.97	10	16

2007.HK	Country Garden Holdings Co Ltd	26,340.49	9,449.14	131.34	51.13	26	16
2318.HK	Ping An Insurance Group Co of China Ltd	154,148.18	123,074.00	833.95	210.34	25	29
2319.HK	China Mengniu Dairy Co Ltd	12,237.26	17,928.66	54.79	40.75	28	31
2382.HK	Sunny Optical Technology Group Co Ltd	9,747.91	13,040.85	114.92	35.47	40	36
2388.HK	BOC Hong Kong Holdings Ltd	39,285.95	36,012.03	87.57	18.26	17	14
2628.HK	China Life Insurance Co Ltd	77,564.97	124,838.04	451.60	87.89	28	30
3988.HK	Bank of China Ltd	146,753.58	127,522.56	390.59	64.76	27	24

This table shows market capitalization, trading volume, and the number of analysts following 40 firms in our sample at the beginning (2018) and the end (2022) of our sample.

APPENDIX B

Weak Modal Words (Loughran & McDonald 2011)

almost, apparently, appeared, appearing, appears, conceivable, could, depend, depended, depending, depends, may, maybe, might, nearly, occasionally, perhaps, possible, possibly, seldom, seldomly, sometimes, somewhat, suggest, suggests, uncertain, uncertainly. respectively

APPENDIX C

Analyst Reports with no Actual EPS Forecast

Highlights (HK$m)	12/15	12/16	12/17	12/18E	12/19E	12/20E	12/21E	12/22E
Revenues	160,339	158,717	163,972	188,445	254,530	318,027	386,126	452,857
EBIT (UBS)	41,469	40,205	50,637	61,975	78,876	92,534	104,776	123,563
Net earnings (UBS)	28,900	31,371	34,260	37,909	48,379	56,431	64,899	76,226
EPS (UBS, diluted) (HK$)	3.13	3.08	3.13	3.46	4.42	5.15	5.92	6.96
DPS (HK$)	0.92	0.77	0.80	1.04	1.32	1.55	1.78	2.09
Net (debt) / cash	(78,244)	(16,659)	(74,188)	(94,678)	(108,256)	(120,063)	(116,119)	(116,240)
Profitability/valuation	**12/15**	**12/16**	**12/17**	**12/18E**	**12/19E**	**12/20E**	**12/21E**	**12/22E**
EBIT margin %	25.9	25.3	30.9	32.9	31.0	29.1	27.1	27.3
ROIC (EBIT) %	26.4	21.7	25.9	24.7	26.8	27.2	27.3	28.9
EV/EBITDA (core) x	7.0	5.7	6.4	6.6	5.4	4.7	4.1	3.4
P/E (UBS, diluted) x	8.2	7.8	7.8	8.8	6.9	5.9	5.2	4.4
Equity FCF (UBS) yield %	14.6	23.0	(17.7)	(2.2)	0.3	1.5	7.0	6.8
Net dividend yield %	3.6	3.2	3.3	3.4	4.3	5.1	5.8	6.8

Source: Company accounts, Thomson Reuters, UBS estimates. Metrics marked as (UBS) have had analyst adjustments applied. Valuations: based on an average share price that year, (E): based on a share price of HK$30.55 on 19 Mar 2019 22:36 HKT

This is a snapshot from a UBS report predicting the EPS of China Overseas Land & Investment Ltd in 2018. As in the note, metrics marked as (UBS) have had analyst adjustments applied, and the numbers including earnings per share are forecasted using UBS's own adjustment without revealing the actual EPS of the firms. The stock's diluted EPS in 2017 was 3.72, while the analyst adjusted was 3.13. We apply the ratio 0.841 (3.13/3.72) to adjust the analyst forecast error calculation.

APPENDIX D

Robustness Checks

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variable	Forecast Error (Balanced Panel)			Adjusted Forecast Error			Forecast Error (Bad=Sales growth worst in 5 years)		
After × Local × Bad Year	0.009*	0.034*	0.005*	0.011***	0.034**	0.006*	0.006	0.026**	0.004
	(0.069)	(0.061)	(0.053)	(0.008)	(0.016)	(0.056)	(0.235)	(0.011)	(0.281)
Bad Year	0.001	–0.002	0.004	0.001	–0.002	0.004	0.013***	0.012**	0.012***
	(0.934)	(0.873)	(0.209)	(0.807)	(0.826)	(0.122)	(0.000)	(0.029)	(0.000)
After × Local	0.006	0.002	0.006**	0.004	0.002	0.005**	0.007	0.014	0.007**
	(0.238)	(0.874)	(0.032)	(0.355)	(0.810)	(0.035)	(0.137)	(0.146)	(0.012)
After × Bad Year	–0.002	–0.024	–0.000	–0.004	–0.023*	–0.002	–0.005	–0.013*	–0.005
	(0.684)	(0.171)	(0.766)	(0.198)	(0.083)	(0.224)	(0.278)	(0.051)	(0.156)
Local × Bad Year	0.005	0.002	0.003	0.004	0.001	0.003	–0.003	–0.008	–0.001
	(0.453)	(0.854)	(0.315)	(0.420)	(0.922)	(0.268)	(0.497)	(0.299)	(0.742)
Constant	–0.002	–0.004	–0.001	0.000	–0.000	0.001	–0.002	–0.010**	–0.000
	(0.316)	(0.415)	(0.692)	(0.955)	(0.995)	(0.688)	(0.257)	(0.022)	(0.786)
Sample	All	Central SOE	Non-central SOEs	All	Central SOE	Non-central SOEs	All	Central SOE	Non-central SOEs
Stock F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Analyst (Team) F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,776	1,428	3,348	6,105	1,788	4,303	6,105	1,788	4,303
R-squared	0.298	0.400	0.321	0.344	0.475	0.373	0.332	0.430	0.368

This table presents three sets of robustness tests on the main results. In Columns 1 to 3, we restrict the sample to be a balanced panel where an analyst must have covered the same stock before and after the NSL. In Columns 4 to 6, we use adjusted forecast errors as the dependent variable. We adjust analyst EPS forecasts if analysts report only their own model EPS, but no actual EPS. The adjustment factor used is the ratio between their model EPS and the actual EPS of the previous fiscal year. In Columns 7 to 9, we define a firm's bad year as a firm-year whose sales growth is the worst in its previous 5 years. All other specifications are the same as in Table II. Our sample consists of firms that are continuously covered in the Hang Seng Index from 2017 to 2022. We control for (first) analyst fixed effects, stock fixed effects, and quarter fixed effects. Standard errors are clustered by the first analyst, and p-values are shown in parentheses underneath the coefficient estimates. We use ***, **, and * to denote significance at the 1%, 5%, and 10% level (two-sided), respectively.