A Cross-Cultural Multi-Country Analysis of Unfavorable News Announcements in Public Companies

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Value-relevant bad news leads to declining stockholder wealth. Various factors moderate the decline. We explore the moderating effect of culture (country), economic development levels, and insider trading laws. To this effect, we compile rich bad news announcement data from the US, Japan, China, and India. Ours is the first such study to cover comprehensive data from multiple countries.

Stock markets in the US, Japan, and India experience a significant stock decline following the public announcement of bad news. In contrast, companies traded in the Chinese stock market experienced a positive stock impact. Companies in countries with high long-term orientation (Japan and China) perform better than those with low long-term orientation (the US and India). Economic development levels also play a significant mediating role. Countries with stronger trading laws do not experience stock decline before the public announcement of disruptions. Our study enriches the current state of the art by performing a multi-country analysis of stock impact from bad news announcements. The results are of interest to investors and policymakers.

Keywords: value-relevant news, stock market, culture, developing economies, insider trading

INTRODUCTION

Classical finance theory argues that financial markets efficiently incorporate value-relevant news in their stock valuation. Value-relevant bad news is expected to impact stock prices negatively, while positive news should favor investors. The magnitude of the effect may depend on the severity of the information. Following this theory, many researchers have studied the impact of various news announcements on a company's stock valuation. Multiple fields, including operations, finance, marketing, and accounting, have used the stock market impact to assess the financial value of organizational decisions.

Often factors such as the company size, debt-to-equity ratio, industrial sector, and other financial ratios are considered mediators between the severity of news and its stock impact. For example, companies in the high-tech industry are expected to experience a more significant stock impact than household goods companies. Similarly, larger companies and companies with strong financial structures may have a stronger ability to absorb the impact of any bad-news announcements. Unlike the past literature, this study takes a macro approach to understand the differences in stock impact at the country level. To gauge the effect, we explore factors such as national culture, economic development levels, and investor laws and regulations.

National culture is the collective mental understanding of people in a country (Hofstede, 2023). Collective mental wisdom affects how organizations and individuals work and make decisions. It also

affects societal and individual goals and objectives (Mello and Stank, 2005). In this research, we intend to understand the differences between countries that may arise because of cultural differences. As Pagell et al. (2005) noted, "national culture is a … relevant lens to understand … country-specific systematic differences…to advance the field of … management."

Cultural and societal values affect decision-making related to the perception of risk, the extent of planning, and the type of impact. For example, western individualistic cultures plan and respond to bad news differently when compared to the collective cultures of the East. Japanese companies are often perceived to have better planning and response to unexpected disruptive events because of collective culture (Kumar et al. 2016). Eastern culture inculcates collaborative spirit, trust, and capability sharing (Sheffi, 2007). Similarly, long-term supplier relationships and Keiretsu lead to trust and extensive sharing of resources and expertise to overcome the impacts of bad news (Whitney et al., 2012).

Countries vary on other dimensions as well. For example, economic development levels and regulations may affect stock market performance and variability. Laws also affect the voluntary disclosure of information and the timing of disclosure. Therefore, we choose a diverse set of countries representing a spectrum of accounting regulations, economic development levels, and cultural orientations.

Despite the substantial research focus, the state-of-the-art is almost exclusively focused on studying US companies. However, companies and organizations in various parts of the world differ. They differ in the cultural underpinning, economic development, and the state of industrial development. Attributing to these, Zhao et al. (2006) call for a stronger focus on research on different countries. They argue that learning from US-focused research may not lead to a good understanding of businesses worldwide. Moreover, the theories developed may not be applicable everywhere.

We collect extensive disruptions data from the US, China, India, and Japan to study the impact of bad news on the stock market. Our selection of countries allows a contrast between cultures, including individualistic vs. collective, short-term vs. long-term focus, various levels of economic development, and insider trading laws. The length of the period covered is from 2003-2015. The standard Event Study methodology is used to test the significance of cumulative abnormal returns. Specifically, methods from Patell (1976) are used to test the significance. Additionally, we provide Sign statistics to assess the percentage of companies experiencing stock declines. A sign significance test is also provided.

Our results show that stock impact from disruptions varies across countries. Companies in the US, Japan, and India experience significant negative stock declines following the announcement of disruptions. In contrast, companies traded in the Chinese stock market experience positive stock impact from disruptions. This could be attributed to the strict control of public media and the ownership structure of companies in China. A higher percentage of companies have state ownership in China.

When comparing the US to Japan, we find that companies are more resilient in countries with a culture that emphasizes long-term orientation. Overall, India experiences the steepest stock decline. This indicates that the stock market's economic development levels influence the decline's magnitude. Finally, strict investor trading laws and their enforcement hinders insider trading and limits the stock impact before the announcement date.

We contribute to research by compiling and studying bad news data from multiple countries. Our study is the first to compare the stock declines from bad news using the mediators of culture, economic development, and investor laws. The results are helpful for institutions engaged in investment in markets worldwide. It may also guide policymakers regarding laws and regulations.

The rest of the paper is organized as follows. The next section outlines the relevant literature. Following that, our conceptual model and hypothesis are developed. Then we explain the data collection and empirical methodology used. The paper concludes with an analysis of the findings and conclusions.

LITERATURE REVIEW

Our research covers the domains of stock impact from value-relevant news, national and organizational culture, and economic development. We present relevant literature in these domains.

Various studies have explored the stock market impact of value-relevant news announcements. Both analytical and empirical studies have focused on planning, preventing, and mitigating supply chain disruptions. The literature permeates several academic research areas. See Ellis, Shockley, and Henry (2011) and Craighead, Blackhurst, Rungtusanatham, and Handfield (2007) for comprehensive literature reviews. Our research estimates the value of effective disruptions management by assessing the financial consequences when value-relevant bad events occur. We focus on exploring country, culture, market cycle, and competitive differences within this domain.

Establishing quantitative measures that accurately assess the value of management strategies and decisions is difficult. Two techniques are used in such scenarios. The first is the case study approach. Other stream measures the impact using the impact on stockholder wealth (Filbeck, Gorman, Greenlee, and Speh, 2005; Fullerton, McWatters, & Fawson, 2003)

An additional stream indirectly assesses the value of decisions by measuring the impact on the stock market when management does not make sound decisions or the environmental (business) factors do not work as predicted. Our research is closer to this stream. A significant amount of research links value-relevant news to the impact on the stock market. A section of this research is primarily based on applications within the accounting and finance domains. In these domains, research has explored the impact of significant new orders, dividend announcements, bankruptcy announcements, litigation, acquisitions, leveraged buyouts, new product introductions, stock repurchases, and international cross-listings.

In the operations management area, prior research has linked supply chain disruptions with the stock market impact around the announcement date. Using an event study methodology similar to the one applied in this paper, Hendricks and Singhal (2003) analyze the effect of supply chain glitches on shareholder wealth. Their results show a marked decrease in shareholder value following the announcement of supply chain glitches. They also reveal that larger firms experience a less negative impact, and firms with higher growth prospects experience a more negative stock price impact.

Following Hofstede's (2023) measure, research has established a strong relationship between the applicability of business practices and national culture. Other measurement methods also exist (Schwartz, 1994). Studies have explored differences in length of employment, business expansion, compensation, and organizational structure through the lens of national culture. Other studies have examined more specific operational decisions regarding forecasts, outsourcing, and supplier relationship (Pagell et al., 2005). Productivity and performance gaps across countries have also been explained using national culture (Naor et al., 2008). Investment in quality management practices, logistics strategy, and innovativeness is also related to national culture (Wiengarten et al., 2011; McGinnis and Spillan, 2012).

The papers closer to us deals with risk perception and management. Dowty and Wallace (2010) point to a country's cultural biases identified using hierarchies, individualist, fatalist, and egalitarian to be influential in assessing the level of interactions between organizations in managing humanitarian disasters. Jia and Rutherford (2010) compare China to Western countries to address relational risk. They suggest that companies must understand and make decisions based on local culture to be successful in the international market.

As pointed out earlier, most research that studies the stock market impact from value-relevant news exclusively focuses on the US market data. We expand that domain to include analysis of data from four different countries. Our research is closely related to Liu (2021), Kumar et al. (2016), and Kumar et al. (2015). Kumar et al. (2015) is among the limited papers that use stock market data from a country other than the US. The article explores data from India and contrasts it with the US. Kumar et al. (2016) is a regression study that uses data on disruptions response and recovery and contrasts the recovery time between multiple counties. They do not use stock market impact as their measure. Liu (2021) includes preliminary results from Japan and contrasts them with the US. Our study is more comprehensive than the above studies as it covers multiple countries. Ours is the first study that includes data and analysis from China. Moreover, our rich dataset allows for comparison across various dimensions of culture, economic development, and the extent of regulations.

CONCEPTUAL MODEL AND HYPOTHESIS

Value-relevant news implies that the future earning potential of investors may be affected. As per the efficient market hypothesis, the extent of the impact on the stock market is a sound measure of the value of the news. Financial markets, however, are complex. They are affected by multiple factors incurring the risk perception of the investors, the extent of regulations, and the maturity of the markets. We propose a conceptual model presented in Figure 1 to cover these factors. The model indicates that culture, economic development level, and regulations moderate the impact of value-relevant news on a company's stock valuation. Using the conceptual model, we develop and present our hypothesis.

H1: Companies will experience a stock decline after announcing value-relevant bad news.

H1 is expected to hold for all countries considered in our sample, as many authors have shown it for US-based publicly traded companies. However, the direction and magnitude of the decline for other countries is unclear.

Culture influences risk perception and response. Investors in different parts of the world have different goals while investing in the stock market. For example, individuals and institutions in the Western Hemisphere invest based on the expected returns in the short term. In contrast, Asian investors are much more motivated by long-term returns. This may indicate that Asian companies may not be as influenced by bad-news announcements as the investors are inclined towards long-term gains. Figure 2 reports Hofstede's long-term orientation score for the four countries. Note that the four countries this paper includes vary considerably in the long-term orientation scores. Following this, we propose the hypothesis:

H2: Companies in countries with high long-term orientation will experience lesser stock impact from value-relevant bad news announcements.

Economically developed markets have well-established investment practices. These markets have a higher number of institutional investors. The volume of investment activity is also higher in developed countries. Developed countries generally experience less stock volatility. Attributing to these factors, we propose H3.

H3: Companies in economically developed countries will experience smaller stock declines following value-relevant bad news announcements.
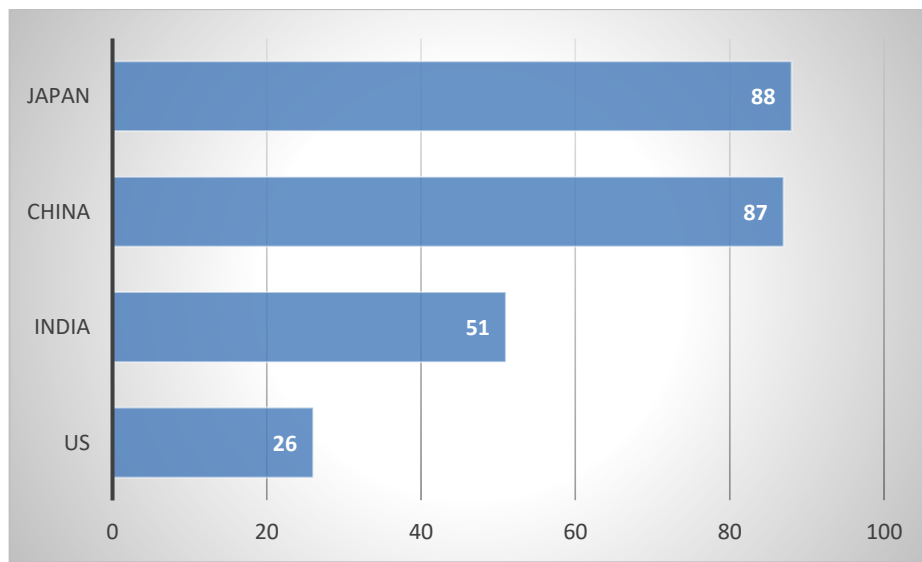
Regulations may influence the behavior of managers in disclosing value-relevant information to investors. Well-established rules may also provide guidance and require managers not to indulge in insider trading. If insider trading is prevalent, the stock decline may happen before the public announcement of disruptions.

H4: Companies in countries with more robust regulations may limit insider trading leading to stock impact post disruptions. In contrast, weaker regulation countries may experience stock impact pre-announcement.

FIGURE 1
CONCEPTUAL MODEL

H2: Culture

Bad News

H3: Economic Development Level

H1: Impact

H4: Regulations
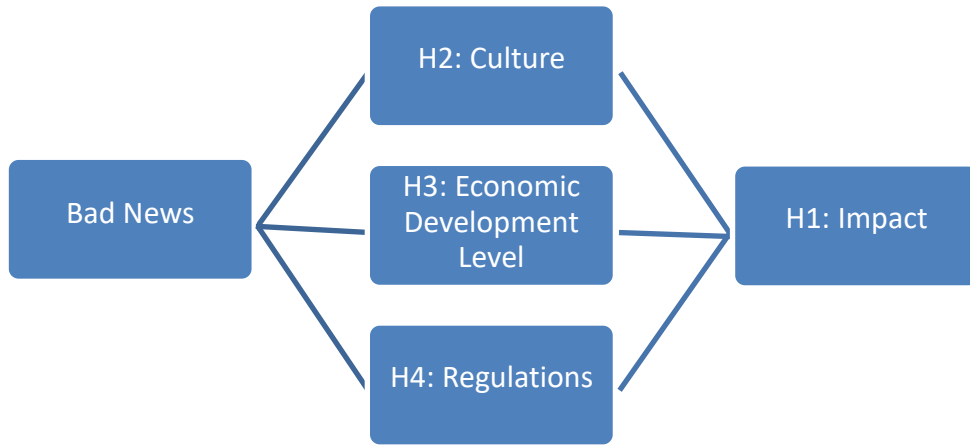
FIGURE 2
LONG-TERM ORIENTATION SCORE

JAPAN — 88
CHINA — 87
INDIA — 51
US — 26

(axis: 0, 20, 40, 60, 80, 100)

Based on the hypothesis presented in this section, Table 1 lists the expected results for various countries based on each premise.

TABLE 1
EXPECTED STOCK IMPACT FROM VALUE-RELEVANT BAD NEWS

Hypothesis	The US	Japan	China	India
H1	Negative	Negative	Negative	Negative
H2	Big Impact	Small Impact	Small Impact	Medium Impact
H3	Small Impact	Small Impact	Medium Impact	Big Impact
H4	Small Impact	Medium Impact	Small Impact	Big Impact

DATA

Most developed and developing countries have well-established trading markets. The four countries considered in this study, the US, Japan, India, and China, have stock markets with large trading volumes. Two countries, the US and Japan, are economically developed, while India and China are developing economies. Culturally, Japan and China have a Confucian culture emphasizing long-term goals. These countries have a very high score on long-term orientation. See Figure 2. In contrast, the US scores very low on long-term orientation. India falls in the middle of the US and Japan in terms of long-term orientation.

The US has strong regulations governing trading activity. In contrast, India has an evolving market where laws have not caught up with the developed economies. The countries in our study also have a formal mechanism to report on relevant industrial performance and operations news. The value-relevant bad-news data used in the paper is derived from China Daily (China), Dow Jones News Service and Wall Street Journal (US), The Economic Times (India), and The Japan Times and Nikkei (Japan).

Extensive data covering 12 years from January 1, 2003, to December 31, 2015, was compiled. Full-length articles were read in the news release of the above five news outlets. The keywords used to search the articles relate to operations and performance. The keywords cover production, transportation, warehousing, planning, forecasting, human resources, demand-related issues, and natural calamities like fire, earthquake, etc.

A large sample of initial data from the four countries was compiled. Data were cleaned to remove companies that are private or government-owned, have missing stock, or other relevant information. The final usable data included 345 points from the US, 321 from India, 221 from Japan, and 176 for China.

EVENT STUDY METHODOLOGY

We apply a standard event study methodology often used in finance, accounting, and operations management studies to extract the impact of a value-relevant event. Our methodology is similar to and is adapted from Liu (2021) and Kumar et al. (2015).

The value-relevant event, in our case, is a public news release about a bad-news from one of the publicly traded companies. Financial theories suggest that the stock markets efficiently incorporate all value-relevant information in determining the stock price at any instant. This is commonly called efficient market theory. Therefore, as per the efficient market theory, bad news should impact stock returns. Moreover, the severity of the impact is reflected in the magnitude of the stock impact.

Finance and accounting literature uses event studies to assess the impact of earnings announcements, dividends, acquisitions, and mergers. The event study methodology assumes that in the absence of the value-relevant event under consideration, the stock price could be estimated based on historical trends as well as the general movement of the stock market itself. The difference between observed and estimated returns is called 'abnormal' returns.

A single event may not provide statistically relevant information about abnormal returns; however, many data points spread across time may provide statistically reliable information to judge the impact of the value-relevant information in consideration. Analysis using a large number of data points would help eliminate (cancel) the effect of a multitude of factors that affect the stock returns. Finally, the abnormal returns are tested using various statistical methods. "Conceptually, event study helps differentiate between the stock returns that would have been expected if the supply chain disruption would not have happened (normal returns) and the returns that were observed" (Kumar, Liu, Scutella, 2015). See Dodd and Warner (1983) and Cowan (1992) for further details about event studies.

To account for various factors under consideration, we cover a period of 10 days prior to 10 days post-announcement of bad news. The long window allows for capturing the possibility of insider trading playing a role in stock returns. For example, markets that are evolving or have lax investor laws may experience insider trading. In such markets, select investors (insiders) may have advanced information about upcoming bad news. Thus, the stock market may experience decline days before the public release of the bad news.

We also cover shorter windows of five days pre and post and the day of the announcement to enrich our analysis and results.

We now outline the model and estimation details relevant to the analysis in this paper. The bad news is announced on the event day, i.e., (t=0). An analysis window of 11 days, i.e., five days prior, the day of release, and five days post-event, is analyzed. Various studies consider different windows of analysis. We aim to understand the impact of bad news around the announcement date. So, an 11-day window is appropriate. Longer windows covering months or years are also prevalent in research. However, such windows make it difficult to extract the impact of a specific event as the effect dissipates as time progresses. We follow Brown and Warner (1985) and analyze using mean and market models.

We also apply Dodd and Warner's (1983) methods for estimation and use the estimation window as used in Liu (2021). The estimation window is 300 days before to 46 days before the public announcement of the bad news. This implies the estimation window is 255 days. The window is longer than other research studies such as Hendricks and Singhal (2003). They use a shorter window of 200 days.

The return on stock j in period (day) t is R_{jt}. This return is estimated using market proxy return R_{mt}. The return uses an intercept α_j and a random error term u_{jt}. Using these, the return could be presented as $R_{jt} = \alpha_j + \beta_j R_{mt} + u_{jt}$, $j = 1,...,N;\ t = -300,...,-46,$ The random error is normally distributed with $E[u_{jt}] = 0$. The market model is estimated using the equally weighted market returns from SP500 for the US, SENSEX for India, NIKKEI for Japan, and S&P 500 for China.

Using the above, the abnormal returns are a difference between the actual return and the estimated returns. Therefore, the abnormal returns for stock j at time t is $AR_{jt} = R_{jt} - (\alpha_j + \beta_j R_{mt}), j = 1,...,N\ ;\ t = T_1, T_1 + 1,...T_2$, $AR_{jt} = R_{jt} - \overline{R_j}$, where $\overline{R_j}$ is stock j's mean return for the estimation period.

For market and mean weighted models, $E\lfloor AR_j \rfloor = 0$, i.e., the markets are efficient, and the abnormal return is expected to be zero in the absence of a market shock. For value-relevant news, we expect $E\lfloor AR_j \rfloor \neq 0$. As noted earlier, we also study windows covering multiple periods. For these windows, the cumulative abnormal return is $CAR_j = \sum_{k=T_1}^{i} AR_{jk}.$

Following Patell (1976), we perform the statistical test using standardized abnormal returns for stock j in day t, which is calculated as $SAR_{j,t} = \dfrac{AR_{j,t}}{S_{j,t}}$. These are then standardized using abnormal SAR formula

$$ASAR_t = \frac{1}{N} \sum_{j=1}^{N} SAR_{j,t} .$$

EMPIRICAL RESULTS

We now present the empirical findings and report on the hypothesis presented in this paper. The results presented in this section provide a rich understanding of the impact of bad news on stockholder wealth in multiple countries. Our results build on Hendricks and Singhal (2003), Filbeck, Kumar, Liu, Zhao (2016), Kumar, Liu, and Scutella (2015), Filbeck, Kumar, Zhao (2014), and Liu (2021). The results extend the current state of the art by studying countries other than the US in detail. In contrast to the literature, we seek to understand the impact of economic development, culture, and investor laws in different countries.

Results for the window (-5,+5) covering 11 days (five days pre-, five days post-, and the announcement date) are provided in Table 2. The table reports Cumulative Abnormal Returns (CARs) calculated using the market model. The table also offers corresponding Patell Z-statistics to assess the significance of the

abnormal returns. Additionally, a Sign test allows for testing the significance of the number of companies experiencing positive vs. negative returns in the window.

Table 2 shows that US, Japanese, and Indian companies experience significant stock declines due to bad news announcements. The magnitude of the slide is highest for India and is followed by the US and Japan. The results are significant at 0.001 level for the US and at 0.01 for India and Japan. India is a developing market and experiences high stock market volatility. In contrast, the US and Japan have developed stock markets. This could help explain the high magnitude of decline for India. The Sign statistics for the US and India also support a bigger fraction of companies experiencing a stock decline following the announcement of bad news. We observe the Japanese market as resilient when comparing the US and Japan. This could be because of cultural differences, with Japan having a significantly higher long-term orientation score on Hofstede's measures. We explore this further later in this section.

In contrast to the US, Japan, and India, Chinese companies do not show a decline in stock market returns around the time of disruptions announcement. On the contrary, cumulative abnormal stock returns show a significant positive return for companies announcing disruptions. This unexpected result could be attributed to the differences between China and the other three countries. The US, Japan, and India have relatively higher freedom of the press than China, which ranks second to last in the World Press Freedom Index. China's rank is 179 of 180 countries ranked. The index is created by the independent organization *Reporters Without Borders*. Investors will also likely use means other than China Daily for value-relevant news announcements by public companies. Additionally, the communist party has a strong influence on operational decisions at many companies in China. Additionally, the central government has a vested interest and ownership in many public companies.

TABLE 2
CUMULATIVE ABNORMAL RETURNS USING MARKET MODEL EVENT STUDY RESULTS IN THE WINDOW (-5, +5)

Country	Mean Statistics		Sign Statistics	
	Mean Abnormal Returns (%)	Patell Z Statistics	Positive: Negative Returns	Generalized Sign Z Test
US	-1.18%	-3.023**	144:201	-2.294*
Japan	-0.63%	-3.657***	99:122	-0.912
China	+0.31%	-1.973*	97:79	-0.102$
India	-2.93%	-4.083***	127:194	-2.546**

$, *, **, and *** represent the significance at 0.10, 0.05, 0.01, and 0.001 levels, respectively.

To further explore the impact of bad news on stock market returns, we study a shorter window of 3 days covering the day before, the day after, and the date of the announcement. The results for windows (-1,+1) are presented in Table 3. The results remain similar to that in Table 1. However, the abnormal stock return for China is insignificant. This further supports the premise that investors may not rely on formal news outlets for company information.

In summary, Hypothesis H1 is supported by US, Japanese, and Indian companies. Data from bad news announcements in China do not back H1 for the shorter window (-1,+1) and contradicts the hypothesis for a wider window of (-5,+5).

TABLE 3
CUMULATIVE ABNORMAL RETURNS USING MARKET MODEL EVENT STUDY RESULTS IN THE WINDOW (-1, +1)

| Country | Mean Statistics | | Sign Statistics | |
	Mean Abnormal Returns (%)	Patell Z Statistics	Positive: Negative Returns	Generalized Sign Z Test
US	-1.53	-1.88**	134:210	-2.964*
Japan	-0.52%	-2.03**	101:119	-0.862$
China	-0.11%	-0.462	89:87	-0.031
India	-1.23%	-2.741**	137:184	-2.427**

$, *, **, and *** represent the significance at 0.10, 0.05, 0.01, and 0.001 levels, respectively.

To test hypothesis 2, we refer to Figure 2. The figure shows that the order of long-term orientation of the four countries from most to least is Japan, China, India, and the US. As per H2, we expect companies in countries with high long-term orientation scores to experience smaller stock impacts from bad news announcements. Note that in Tables 2 and 3, of the countries with significant stock decline following the announcement, companies in Japan are the most resilient, with the lowest stock decline. The US and India have a higher stock decline than Japan. Based on long-term orientation scores, we expect the US to have a higher stock decline than India. However, the tables show the drop to be higher for India. This could be attributed to India's developing economy with a volatile stock market. Moreover, H1 was not supported by China.

Considering the press freedom and economic development levels, H2 could be better assessed by comparing the US and Japan. Through that comparison, we can state that H2 is supported, and companies in countries with long-term orientation experience lower stock declines. The results are supported by literature as Japanese companies are often considered to have better disruption planning and mitigation practices (Kumar et al., 2016). This would likely affect the impact of bad news on the stock performance of companies. Kumar, Liu, and Caliskan-Demirag (2015) argue that disruption preparedness and recovery depend on the country where the company is located.

From Tables 2 and 3, Hypothesis 3 is supported as the US and Japan experience smaller stock declines than India. The stock market in countries like India is still developing. Therefore, stock markets have high volatility. Investors are fickle and may overreact to bad news announcements.

Stock markets worldwide must adhere to the laws and regulations governing investments and companies. The laws are not uniform, and penalties for insider trading vary. Insider trading is a criminal offense in all four countries covered in this paper. However, the penalties vary. In the US, insider trading can lead to 20 years imprisonment and a fine of $5 million. Japan limits imprisonment to 5 years and a monetary penalty of JPY 5 million. In India, the penalties are ten years in prison and fines of up to three times the profit. China does not specify the length of a prison sentence; however, in a few recent cases, the sentence has been of the order of 5 years (WSJ, 2017).

The prison sentence across countries varies drastically from 5 to 20 years. The monetary punishment also varies. The differences in laws are expected to influence the motivations of individuals to engage in insider trading. Moreover, insider trading laws are not equally enforced in different countries (Bhattacharya, 2023). The US has had insider trading laws since 1934. In contrast, India and China enacted such laws only in 1992 and 1993, respectively. Following these arguments, we expect countries like India to have a higher magnitude of insider trading, while it should be the least for the US. Insider trading may lead to stock declines before the public announcement of bad news.

Table 4 reports the cumulative abnormal stock returns before the public announcement of value-relevant news. The window covers five days, from five days pre-announcement to the day before the announcement. The intention of studying this window is to explore the impact that may happen before the

news is publicly announced. In a similar vein, Table 5 reports on the stock impact for six days, starting on the date of announcement until five days post-announcement.

Table 4 reports stock impact before the announcement date, i.e., period (-5,-1). It is clear that US markets do not see any significant stock impact. India experiences a highly significant stock decline of 1.72% before the announcement date. Although lower, Japan also experiences a stock decline. These indicate stronger insider trading laws and strict enforcement help limit insider trading. Similar to Tables 2 and 3, China experiences a stock bump in the period before the announcement.

Table 5 reports results for the five-day window after the announcement of disruptions. As expected, the US companies experienced stock decline only in the post-disruption window. Japan also experiences a stock decline, although to a lesser degree. Companies in India have a slight decline, while companies trading in China stock markets do not experience any abnormal stock impact. These results support H4, i.e., insider trading laws and enforcement of insider trading laws affect stock impact from bad news announcements.

TABLE 4
PRE-ANNOUNCEMENT CUMULATIVE ABNORMAL RETURNS USING MARKET MODEL EVENT STUDY RESULTS IN THE WINDOW (-5, -1)

	Mean Statistics		Sign Statistics	
Country	Mean Abnormal Returns (%)	Patell Z Statistics	Positive: Negative Returns	Generalized Sign Z Test
US	-0.22	-1.11	164:181	-1.208
Japan	-0.31%	-2.993***	99:122	-2.216**
China	0.76%	-2.294*	112:64	-2.144**
India	-1.72%	-3.803***	101:184	-3.672***

$, *, **, and *** represent the significance at 0.10, 0.05, 0.01, and 0.001 levels, respectively.

TABLE 5
POST-ANNOUNCEMENT CUMULATIVE ABNORMAL RETURNS USING MARKET MODEL EVENT STUDY RESULTS IN THE WINDOW (0, +5)

	Mean Statistics		Sign Statistics	
Country	Mean Abnormal Returns (%)	Patell Z Statistics	Positive: Negative Returns	Generalized Sign Z Test
US	-1.12	-2.48**	144:201	-2.7643*
Japan	-0.25%	-2.404*	95:126	-1.397*
China	-0.71%	-0.158	93:83	-0.611
India	-1.11%	-1.230$	88:133	-1.209

$, *, **, and *** represent the significance at 0.10, 0.05, 0.01, and 0.001 levels, respectively.

CONCLUSIONS

According to Efficient Market Hypothesis, value-relevant events are effectively incorporated into stockholder wealth. Extant research in various disciplines has used this hypothesis to test the impact of market shocks on stock prices. This paper presents rich data on bad news announcements in the US, Japan, China, and India. Our coverage and data are significantly richer than that in the literature. The countries were selected with the objective of studying the mediating effect of culture, economic development levels, and investor laws. Four hypotheses were proposed to address the mediating effect of these variables.

Our results show that stock markets in the US, Japan, and India experience a significant stock decline following the public announcement of bad news. In contrast, companies traded in the Chinese stock market experienced a positive stock impact from bad news announcements. The anomaly in the case of China can be partly explained by the limits on freedom of the press and the possibility that many investors may not be using public news outlets to learn about the value-relevant events at companies.

Companies in countries with high long-term orientation indices perform better than those with low long-term orientation indices. Specifically, companies in Japan and China experience a smaller stock impact following the bad news announcement. In contrast, the US and India experience steeper stock declines. Economic development levels also play a significant role. For example, attributing to lower levels of economic development, we find that companies in India experience higher stock declines from bad news.

Investor laws also mediate the impact of bad news on stock prices. Countries with stronger laws and severe insider trade penalties do not experience stock decline before the public announcement of disruptions. In contrast, countries like Japan and India, with lax regulations and enforcement, see a stock impact before the public announcement date of bad news.

Our study enriches the current state of the art by performing a multi-country analysis of stock impact from bad news announcements. The results are of interest to investors and policymakers. Further studies could cover additional countries to deepen the understanding. Data from China did not support some of our hypotheses. Further studies could delve deeper into the data and factors affecting the stock market impact in China.

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