Chapter

NATIONAL ELECTIONS’ IMPACT ON CRASH RISK

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ABSTRACT

This research examined national elections’ impact on crash risks of individual stocks listed in the Indonesia Stock Exchange. The study used national elections as a proxy for political uncertainty and negative skewness of stock returns as a proxy for crash risk. The study sample included all non-financial firms listed in the Indonesia Stock Exchange from 2002 to 2016. Findings showed that both national elections and post-national election periods tended to increase individual stock’s risk of crashing. On the industry level, researchers found nuances in which national elections’ impact varies according to industry, with some industries tending to greater risk of crash than others during national elections and post-national election periods.

Keywords: crash risk, national election, stock market

INTRODUCTION

National elections are known to impact stock markets significantly. Previous studies (Santa-Clara and Valkanov, 2003; Bialkowski, Gottschalk, and Wisniewski, 2008; Goodell and Vahamaa, 2013) have examined national elections’ effects on stock markets, with most studies focusing on the overall market, but not looking into national elections’ impact on

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individual stocks. A recent study by Li, Li, and Xu (2018) explored how national elections worldwide affect individual companies, specifically their effect on companies’ downside tail or crash risk—defined as large, negative, market-adjusted returns on individual stocks. Such risk is especially dire because within a short time crashes impose huge losses on investors.

**ANALYTICAL FRAMEWORK**

**Literature Review**

Hong and Stein (2003) define “crash” as an unusually large, contagious, market-wide, negative movement in stock prices that occurs without a correspondingly large public news event. Previous literature has documented that market returns exhibit negative skewness and asymmetric volatility, which is a tendency for volatility to rise with negative return (Chen, Hong and Stein, 2001). However, this study follows Li et al.’s (2018) definition in which “crash” is defined as large, negative, market-adjusted returns on individual stock, not as a market-wide phenomenon. When calculating national elections’ impact on crashes, following Chen et al., (2001), this research adopts a narrow, euphemistic definition of the word “crash,” associating it solely with conditional skewness of return distribution, in which conditional skewness is interpreted as a measure of crash.

*Information Withholding Hypothesis*

Introduced by Li et al., (2018), the information withholding hypothesis posits that managers’ incentives to withhold bad news intensify during elections’ political uncertainty, but disappear when political uncertainty decreases during the post-election period. Incentives to withhold bad news appear because managers might gamble that subsequent policy changes will favor their firms’ needs, thus allowing them to bury negative information. Perhaps under desirable policy changes, they might not need to disclose it. Even when election outcomes are unfavorable, managers can then release bad news and blame it partially on unfavorable policy changes so that it seems like an uncontrollable external factor. In the post-election period, when political uncertainty is lower, managers gradually lose the ability to hide negative information. Since it is unlikely to remain buried, the negative stockpile eventually emerges and is reflected in stock prices that decline sharply or crash.

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1 Read literature by John Smith, Article 5, June 30, 1976.
METHOD

Sample Construction

Researchers began by examining all stocks listed in the Indonesia Stock Exchange\textsuperscript{3} from 2000 to 2016, and, next, imposed several criteria, following Li (2018). First, researchers removed all financial firms. Second, firm-years with negative sales were excluded. Third, researchers removed all firm-year observations with less than 26 weeks of trading data. Following these criteria, this study’s final sample resulted in unbalanced panel data that included 316 companies with 3195 firm-year observations, the earliest in 2002 and the latest in 2016.

Stock Crash Risk Measurements

To calculate crash risk, this research followed prior work by Li et al., (2018), using negative skewness of firm-specific weekly return. We calculated negative skewness of firm-specific weekly return as follows:

\[
NCSKEW_{i,s} = \frac{-[n \times (n-1)^{3/2} \sum W_{i,t}^3]}{[(n-1) \times (n-2) \times (n-3) \times (\sum W_{i,t}^2)^{3/2}]} \tag{1}
\]

where firm-specific weekly returns \((W_{i,t})\) are calculated as:

\[
W_{i,t} = \ln (1 + \varepsilon_{i,t}) \tag{2}
\]

with \(\varepsilon_{i,t}\) being residual firm-specific weekly return estimated from an expanded market model following Kim, Li, and Zhang (2011a) and Hutton, Marcus, and Tehranian (2009) as follows:

\[
r_{i,t} = \alpha_i + \beta_{1,i} r_{m,t} + \beta_{2,i} r_{m,t-1} + \beta_{3,i} r_{m,t-2} + \beta_{4,i} r_{m,t+1} + \beta_{5,i} r_{m,t+2} + \varepsilon_{i,t} \tag{3}
\]

where \(r_{i,t}\) is the Wednesday to Wednesday return on stock \(i\) in week \(t\) and \(r_{m,t}\) being market index return for the country in week \(t\).

\textsuperscript{3} Indonesia Stock Exchange newsletter.
RESULTS AND DISCUSSION

Descriptive Statistics

Table 1 presents descriptive statistics for the dependent variable NCSKEW for the whole sample and by industry. Positive mean values for the total sample suggest that individual stocks were, on average, negatively skewed. Researchers also examined the mean and median NCSKEW for the whole sample period—during the election and post-election periods—to reveal statistically movements of skewness. Mean and median from the total sample show that sample stocks tended toward increased crash risk in both periods. Industry level descriptive statistics, however, show differences in national elections’ effect on individual stock crash risk. For consumer goods; basic industry; and trade, services, and investment industries, election and post-election periods tended to increase stock’s crash risk. For mining; property, real estate, and construction; transportation, utilities, and infrastructure; and miscellaneous industries, the election period tended to reduce crash risk, but the post-election period tended to increase it.

Table 1. Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Sample</td>
<td>Election</td>
</tr>
<tr>
<td>Agriculture</td>
<td>−0.056</td>
<td>−0.040</td>
</tr>
<tr>
<td>Property</td>
<td>0.004</td>
<td>−0.245</td>
</tr>
<tr>
<td>Others</td>
<td>0.390</td>
<td>0.309</td>
</tr>
</tbody>
</table>

The following figure (Figure 1), introduces the ideological distribution of those parties in the political spectrum.

Figure 1. Position of the main Spanish political parties in the political spectrum.

Regression Results

To test national elections’ effect on crash risk, researchers regressed firm-specific negative return skewness on indicator variables that captured national elections along with control variables, with the model that follows:

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4 NCSKEW, article 10, Vol 2.
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\[ \text{NCSKEW}_{it} = \beta_0 + \beta_1 \times \text{ELECTION}_t + \beta_2 \times \text{POST}_t + \beta_3 \times X_{i,t-1} + \varepsilon_{it} \] (4)

where subscripts \( i \) and \( t \) refer to firm and year, \( X_{i,t-1} \) refers to control variables, which are all in lagged values.

Regression results are reported in Table 2.

**Table 2. Control variables into regression results**

<table>
<thead>
<tr>
<th>R²</th>
<th>Main Variable</th>
<th>Mining</th>
<th>Basic Industry</th>
<th>Trade</th>
<th>Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0027</td>
<td>0.148</td>
<td>0.187</td>
<td>0.063</td>
<td>0.0324</td>
<td></td>
</tr>
<tr>
<td># of Observation</td>
<td>3195</td>
<td>263</td>
<td>638</td>
<td>841</td>
<td>98</td>
</tr>
<tr>
<td># of Cross-section observation</td>
<td>316</td>
<td>33</td>
<td>54</td>
<td>85</td>
<td>11</td>
</tr>
</tbody>
</table>

Significant variables at levels of significance 1%, 5%, and 10% (two-sided) are respectively expressed by ***, **, and *. Numbers in brackets are standard errors.

First, researchers included only dependent and independent variables in the regression using all sample firms. Then, researchers incorporated control variables into the regression, still using all sample firms. Next, researchers ran the regression for each industry classification using all variables.

**CONCLUSION**

This research examined national (presidential) elections’ impact on individual stock’s crash risk in Indonesia. Researchers found no indication of information withholding, as significant data shows that individual stock crash risk increases both in election and post-election periods. Increased likelihood of experiencing a sharp decline during the election period might be caused by volatility feedback because political uncertainty induces increased market volatility, in turn generating stock prices’ negative skewness. At the industry level, researchers also found nuances in national elections’ impact on individual stock crash risk. Sample data indicated that stocks in the consumer goods industry were the most prone to national elections’ effect, while stocks in the trade, services, and investment industry were the most resistant. Overall, our findings suggest that political uncertainty is an important determinant of stocks’ crash or downside tail risk.
REFERENCES


