Investors’ Perceptions of Information Security Incidents and Short-term Profitable Investment Opportunities

Information Security Incidents
Media announcements from 1997 to 2007 in the Wall Street Journal, USA Today, the Washington Post, the New York Times, CNET, ZDNet by searching 12 keywords

Trading Volume Behavior
- Trading volume reactions to information security incidents in the two-day period around announcements after controlling for confounding effects
- Different interpretations between noise and sophisticated investors of the impact of security incidents on a firm's future performance and uncertainty

Subsequent Quarterly Performance and Uncertainty
- Earnings per Share (EPS)
- Implied Volatility

Subsequent Quarterly Performance
- None of the analysts’ forecast revisions can be associated to incidents.
- All the firms' performance is greater than the analysts' forecasts (0.02, \( p < 0.05 \))
- Institutional investors don't change their holdings.
- Sophisticated investors don't interpret security breaches as harming future performance

Subsequent Quarterly Uncertainty
- Implied volatility decreases about 1.26% (\( p < 0.05 \))

Profitable Investment Opportunities
- Buy on the breach announcement date and sell after three trading days \( \rightarrow 300\% \) annual return

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.89***</td>
</tr>
<tr>
<td>Size</td>
<td>0.01</td>
</tr>
<tr>
<td>Age</td>
<td>0.00</td>
</tr>
<tr>
<td>Price_Reaction</td>
<td>2.60**</td>
</tr>
<tr>
<td>Confidentiality</td>
<td>-0.09</td>
</tr>
<tr>
<td>Integrity</td>
<td>-0.03</td>
</tr>
<tr>
<td>InstOwn</td>
<td>-0.12*</td>
</tr>
</tbody>
</table>

Ta-Wei “David” Wang
wang131@purdue.edu
Karthik Kannan
kkarthik@purdue.edu
Jackie Rees
jrees@purdue.edu
Krannert Graduate School of Management
Purdue University