

An Analysis of the Effects of Seismic Events on The Turkish Stock Market¹

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<p>Keywords: Earthquake Stock Market Linear Var Model</p> <p>Received 4 October 2020 Revised 8 December 2020 Accepted 15 December 2020</p> <p>Article Classification: Research Article</p>	<p>Purpose – This study aims to elaborate on the mechanisms of interaction between seismic events and the Turkish stock markets.</p> <p>Design/methodology/approach – To model this relationship, the properties of earthquakes has been modeled using Mw and ML parameters. Earthquakes’ distance to the surface and the distance to the closest city center are also added as independent variables. Dataset consists of 7333 observations of daily frequency between 01.01.2000 – 28.01.2020 covering longer than a 20-year period. The index of BIST TUM is used to represent the response of the Turkish stock market. Preliminary analysis on the dataset suggested a threshold effect and therefore, the threshold VAR model has been used to model the series.</p> <p>Findings – Findings validate the existence of a significant threshold effect at 4.3 magnitude, which points out to the conclusion that earthquakes below a certain magnitude do not have a significant relationship with the stock markets in Turkey. Additionally, as seismic events occur closer to the surface, their negative effects on the market seem to amplify. This effect is also observed as seismic events get closer to city centers. Additionally, non-damaging seismic events seem to cause substantial market responses.</p> <p>Discussion – The effects of nondestructive earthquakes along with the effects of aftershocks following a destructive earthquake indicate that the financial consequences of earthquakes in Turkey are likely to be more related to the perception of risk, rather than the actual destructiveness of the earthquake. Findings also indicate that the aftershocks following a big earthquake hasten the recovery of the BIST TUM index.</p>

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