

# The impact of shocks on the company's market valuation – An empirical analysis during the Covid-19 pandemic

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As a result of the outbreak of the Covid-19 pandemic in 2020 and 2021 and the global spread of the coronavirus, there were lockdowns with social distancing and isolation of millions of people at home. This led to numerous social, political, and economic consequences worldwide. The global stock markets also reacted to the outbreak. Substantial price falls led to sharply declined company's market valuations and volatility increased due to intensified trading activity caused by panic reactions of investors. Stock markets recovered during 2020 and 2021. However, companies performed differently depending on their operating business model and sector. This is mainly due to the economic consequences of lockdowns and subsequent supply chain topics. But recent analyses like Basuony et al. (2020) often solely concentrated on a stock market-oriented perspective (e.g., volatility).

Our analysis targets a more company-based perspective to examine the impact of the Covid-19 pandemic on the company's market valuation. In contrast to Bose et al. (2020), who focused on the impact on the firm value using a regression model with either the total number of Covid-19 infections and deaths or a global country-level societal health risk, we use quarterly reported company data to consider changes in operating business activities as well as crisis resiliency and stability. This is done to 1) separate from Covid-19 infections and 2) avoid relying on stock market data based on investors' expected future company developments. In this way, we can now determine the impact on the company's market valuation retrospectively through the reported company data.

To do so, we use a panel regression model with quarterly reported data from the companies of the five world's key indices S&P500, NIKKEI225, DAX40, CAC40 and FTSE100 in the period from December 31, 2018 to December 31, 2021. As depended variable price-to-cash-flow-ratio is used. For the independent variables, operating indicators such as gross profit margin, debt-to-equity-ratio and a corporate governance score are combined with indicators derived from the respective company's shares to consider a company's ownership structure and to implement a risk variable (beta factor). The model is completed by considering the country and the sector in which the companies are located.

The proposed results could be used to better assess potential future risks and to take appropriate precautions. With respect to other types of shocks with similar behavioral patterns, the model used for this analysis could be considered as a starting point, enabling the adaptation of the model to the prevailing situation. As a result, this model has a broad range of potential uses and the possibility to be adapted to analyze the impact of other types of shocks on the company's market valuation. The results obtained in this way could then also be included in portfolio selection.

The preliminary results from the analysis of time-specific effects on one hand show that especially gross-profit-margin, ownership structure and the respective country have a significant impact on the company's market valuation represented by the price-to-cash-flow-ratio. On the other hand, entity-specific effects are examined. As preliminary results of this analysis, in addition to gross-profit-margin and ownership structure, debt-to-equity-ratio and the corporate governance score are also significant. In the further analysis, still to be done, the identified effects at the corporate or sectoral level are to be explained by using the AS-AD model (Aggregate Supply-Aggregate Demand model).

**Keywords** — Impact, shock, market valuation, Covid-19, AS-AD-model

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