

**Firm commitments on climate change - effects on organizational resilience during the
COVID-19 Crisis**

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Abstract

The COVID-19 health crisis and subsequent government lockdowns resulted in an unexpected stock market crash in the United States with prices declining by almost 37% in the space of one month¹. Resilience improves firm capacity to survive in the face of external adverse events and adapt to environmental changes (DesJardine et al., 2019). Despite the importance of organizational resilience, especially given the likelihood of even more disruptions in future linked with extreme weather events (Linnenluecke et al., 2012), empirical research on antecedents of firm resilience is scarce (Van der Vegt et al., 2015).

Social and environmental practices can positively contribute to organizational resilience (Ortiz-de-Mandojana and Bansal, 2016; DesJardine et al. 2019). We argue that not all social and environmental practices will have the same effect. Focussing on target setting, studies find that firm sustainability targets are often designed to make incremental improvements, but can lack ambition (Rietbergen et al. 2015) and achieve little performance improvement (Dahlmann et al., 2019; Maas, 2018). Rather, it has been argued that firm commitments should be more closely linked with the ecological context and should be based on ecological resilience to “maintain corporate impacts within global thresholds” (Haffar & Searcy, 2018, p. 1080) and planetary boundaries (Whiteman et al., 2013). Such targets can help firms to better mitigate and adapt to risks such as climate change (Haffar & Searcy, 2018). We argue that commitments, based on ecological resilience rather than more firm-centric targets will contribute to organizational resilience in times of crisis.

Given the parallels between the COVID-19 crisis and climate change (Botzen et al., 2021), we focus on the role of resilience based carbon emission reduction targets in the context of the COVID-19 crisis. Following Bae et al. (2021) we consider a crisis period from February 19, 2020 until March 20, 2020 and test our hypotheses using a sample of 336 US based companies that reported in line with the CDP in 2020. We rely on the approach developed by DesJardine et al. (2019) to assess a firm’s resilience through two variables: (1) the severity of loss and (2) the time of recovery. We identify resilience-based commitments on carbon emission reduction as those in line with the Science Based Targets Initiative (SBTi)² (Haffar & Searcy, 2018), which means that firm carbon targets are connected to the global goals on climate

¹<https://www.forbes.com/sites/lizfrazierpeck/2021/02/11/the-coronavirus-crash-of-2020-and-the-investing-lesson-it-taught-us/?sh=614b39f146cf>

² <https://sciencebasedtargets.org/>

change (Bjørn, et al., 2021). We define a science based target as one which has been approved by SBTi (and not only self-declared).

We find that emission reduction target-setting (science-based or not) does not matter to investors in all circumstances. Our findings show that science-based targets are positively (negatively) related to crisis-period returns (severity of loss). The results also confirm that only firms that have set science-based targets approved by SBTi are more resilient in the crisis period (compared to those that self-declare their targets are science-based). However, science-based targets are not related to post-crisis returns and time to recovery.

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