The Effect of Air Pollution on Investor Behavior: Evidence from the S&P 500

Abstract

We provide detailed empirical evidence of a direct effect of air pollution on the efficient operation of the New York Stock Exchange, linking short-term variations in fine particulate matter (PM2.5) in Manhattan to movements in the S&P 500. The effects are substantial – a one standard deviation increase in ambient PM2.5 reduces same-day returns by 11.9% in our preferred specification – and remarkably robust to a variety of specifications and a battery of robustness and falsification checks. Furthermore, the intra-day effects that we observe are difficult to reconcile with competing hypotheses. Despite investors being dispersed geographically we find strong evidence that the effect is strictly local in nature, consistent with the high concentration of market influencers in New York. While we are agnostic as to the underlying mechanism, we provide evidence suggestive of the role of decreased risk tolerance operating through pollution-induced changes in mood or cognitive function.