

# DISASTERS, CAPITAL, AND PRODUCTIVITY <sup>\*</sup>

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## Abstract

Climate change magnifies natural disaster risk, yet little is known about the implications for physical capital and productivity. Using confidential US Census microdata and an event study design, I examine how manufacturing plants react to large, exogenous flood shocks that triggered federal disaster declaration and rebuilding assistance. I find a substantial and persistent increase in capital retirement (i.e., scrapping and sales) among flooded plants, reflecting the degradation of their capital from water damage. These flooded plants invest in new capital and ultimately overshoot their pre-disaster labor productivity baseline because they adopt extensive, simultaneous upgrades to their production technology. Beyond inducing capital replacement by survivors, flooding also increases plant exits, particularly among the least productive plants. This expands the local supply of used machinery, which is primarily reallocated toward local entrants and young plants. In aggregate, post-disaster capital reallocation improves county-level productivity, highlighting a crucial channel through which federal disaster spending smooths regional disaster recovery. My findings provide novel causal evidence on climate hazards as drivers of capital depreciation and reallocation, and demonstrate the critical role of technology for firm productivity. More broadly, this paper offers key insights for climate damage assessment and industrial policy in our warming world.

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