Is TFP Clean or Dirty? A Firm-Level Analysis

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We investigate if and to what extent Total Factor Productivity (TFP) improvements reflect into higher environmental productivity, as measured as output per unit of emissions. We use data on a panel of more than 3000 firms over the period 2005 to 2019. We find that increasing TFP by 1% leads environmental productivity to increase by about 0.6%, with disproportionately larger effects in older firms operating in internationally open product-sectors. At the same time, high-TFP firms are associated with worse emission intensity per unit of input, particularly if they are at the top of the environmental productivity distribution. Taken together, our results point to TFP-enhancing policies as possibly leading to improved environmental productivity, but with a remarkable asymmetry across different firms. One-size-fits-all growth policies alone are unlikely to be most effective to drive industrial process changes towards cleaner productions.