Indonesia, home to more than 3.5 million micro, small enterprises (MSEs) in the manufacturing sector, is struggling to provide reliable electricity supply in some regions. Similar to other developing countries, MSEs are essential mainly because they generate large employment and are among priorities of the Indonesian government, yet the productivity of the MSEs is relatively low. Little is known about how blackouts affect the performance of MSEs. This paper estimates the impact of power blackouts on the productivity of Indonesia’s manufacturing MSEs, and provides a discussion on the role of the government in addressing blackouts problem.

We employ a pseudo-panel data set covering six cohorts and 21 PLN-electricity company working areas for the period of 2010–2015. PLN is the major provider of all public electricity and electricity infrastructure in Indonesia. The pseudo-panel data are constructed from repeated cross-sectional surveys on MSEs by grouping enterprises into cohorts based on factor intensity (labor, capital, resource) and size (micro, small), then tracking them over time. Our identification strategies involve examining blackouts determinants and controlling for factors that potentially affect productivity and are potentially correlated with blackouts. We find that under-investment in the power sector and PLN lousy governance are among reasons why Indonesia has blackouts. We then use these factors as instruments for blackouts and conduct IV dynamic-panel fixed effects estimations while controlling for cohort characteristics, infrastructure, and weather factors.

We find that power blackouts reduce the average labor productivity by 5.5 percent. This number is equivalent to a loss of IDR 9 trillion per year. Our results robust to a battery of robustness check. Furthermore, adopting a captive generator as one way to cope with unreliable power supply, is positively associated with productivity. MSEs that have a captive generator are benefited more when the power supply is poor. With this in mind, it is crucial to improving PLN electricity supply reliability. Our findings will be able to assist policy makers to prioritize relative to other economic disadvantages that MSEs face.