
Technical efficiency and environmental factors of the micro, small, and medium enterprises in Bandung city: a slack-based approach

Maman Setiawan*, Rina Indriastuti,
Dini Indrawati and Nury Effendi

Department of Economics,
University of Padjadjaran,
Jl. Dipati Ukur No. 35, Bandung, Jawa Barat 40132, Indonesia
Email: maman.setiawan@fe.unpad.ac.id
Email: rina.indriastuti@fe.unpad.ac.id
Email: dini.indrawati@fe.unpad.ac.id
Email: nury.effendi@fe.unpad.ac.id

*Corresponding author

Abstract: This research investigates the technical efficiency of the micro, small, and medium enterprises (SMEs) in Bandung city as well as investigating the effect of environmental factors on the technical efficiency. The competition and the size of the SMEs are used to measure the environmental factors. This research uses field survey data collected from SMEs operating in Bandung city. Three-stage approach is used in this research. At the first stage, this research applies the data envelopment analysis (DEA) to estimate technical efficiency. At the second stage, this research employs the slack-based approach to estimate the effect of environmental factors on the technical efficiency. At the last stage, the technical efficiency is estimated using the DEA with the adjusted inputs derived from the second stage. This research finds that a significant improvement of the technical efficiency occurs after taking into account the competition and the size of the SMEs. This research also reveals that competition only affects significantly the capital slack. Further, the size of the SMEs affects significantly the slacks of all input variables.

Keywords: environmental factors; micro, small, and medium enterprises; slack-based approach; technical efficiency.

Reference to this paper should be made as follows: Setiawan, M., Indriastuti, R., Indrawati, D. and Effendi, N. (2016) 'Technical efficiency and environmental factors of the micro, small, and medium enterprises in Bandung city: a slack-based approach', *Int. J. Globalisation and Small Business*, Vol. 8, No. 1, pp.1–17.

Biographical notes: Maman Setiawan is a Lecturer and Researcher at the Economics Department, Faculty of Economics and Business, University of Padjadjaran, Indonesia. He received his PhD from Wageningen University, Netherlands. His research interests focus on industrial organisation, efficiency and productivity, industrial manufacturing, banking, and SMEs performances.

Rina Indriastuti is a Professor of Economics at the Economics Department, Faculty of Economics and Business, University of Padjadjaran, Indonesia. She received her PhD from Osaka Prefecture University, Japan. Her research interests focus on industrial organisation and banking and SMEs' performances.