



FACULTY OF AGRONOMY AND FORESTRY ENGINEERING

**Effect of access to Finance on technical efficiency
of manufacturing firms in Benin**

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ABSTRACT

This study conducts an empirical investigation of the effects of access to finance on the performance of manufacturing firms in Benin using technical efficiency (TE) as a performance metric. In order to achieve this, we made use of the 2016-year rich enterprise-level data set from the World Bank's Enterprise Surveys and employ objective measures of access to finance which is measured by the firms access to line of credit or loan from a formal financial institution. From a sample of 70 manufacturing firms, we estimated firms' technical efficiency employing two stage approach. In the first stage, we employed Stochastic Frontier Analysis (SFA) to estimate technical efficiencies score while in the second stage we examined the effect of access to finance on firm technical efficiency using OLS regression technique. The study highlights three main findings. Firstly, the results from stochastic estimation show that the average TE of the firms is 0.32 (± 0.21) with a maximum of 0.74 and a minimum of 0.008, suggesting a significant disparity and gap in efficiency level among Benin manufacturing firms. Secondly, it identifies a positive correlation between access to finance and firm technical efficiency, indicating that credit availability enhances firms' efficiency and growth. This implies that expanding firms need to address credit constraints and secure external financing. Thirdly, older firms tend to have higher technical efficiency compared to mature ones, while smaller firms outperform larger ones. Female ownership is linked to lower efficiency, but firms led by female managers are more efficient. Implementing employee training programs boosts efficiency. Surprisingly, access to finance benefits older firms more than mature ones. However, factors like sector, region, foreign ownership, manager experience, capacity utilization, and regulations don't significantly affect efficiency. To boost the efficiency of manufacturing firms in Benin, policies should prioritize facilitating firm growth through improved capital and credit access, addressing inefficiencies in larger firms, and fostering an inclusive environment that promotes diverse leadership and innovation.

Keywords: Access to finance, Technical Efficiency, manufacturing firms, Stochastic Frontier Analysis, Benin