

## Efficiency, Effectiveness, and Technological Change in Armed Forces: Indonesian Case

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**Abstract :** Government of Indonesia had committed to increasing its national defense the budget up to 1,5 percent of GDP. However, the budget increase does not necessarily allocate efficiently and effectively. Using Data Envelopment Analysis (DEA), the operational units of Indonesian Armed Forces are considered as a proxy to measure those two aspects. The bootstrap technique is being used as well to reduce uncertainty in the estimation. Additionally, technological change is being measured as a nonstationary component. Nearly half of the units are being estimated as fully efficient, with less than a third is considered as effective. Longer and larger sets of data might increase the robustness of the estimation in the future.

**Keywords :** bootstrap, effectiveness, efficiency, DEA, military, Malmquist, technological change

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