Abstract

This research work attempts to measure economic growth by utilizing financial development of ECOWAS member nations. The financial sector drives the economy of any nation and they play significant role towards development of any economy because both private sectors and the government assess capital for various projects from them. Several factors influence the performance of this sector especially information security, government monetary policies and intermediate market trends. Some of these factors or determinant assumes values represented in linguistic form, ratio and missing values. Applying Genetic Algorithm (GA) as optimum search methodology will help identify best subset of determinants that can be used to measure economic growth, fuzzy logic address the uncertainty and imprecision owing to the occurrence of missing values, ratios and linguistic value and non-parametric methodology, i.e. Data Envelopment Analysis (DEA) will compute the efficiency of each member nation between 1990 to 2015. The resulting model GAFDEA is a dynamic hybrid (Input- oriented) efficiency model that shows the efficiency of a country. Among the ECOWAS countries, before 2005 only Liberia
and after 2009, Liberia, Nigeria and Sierra Leone seems to be efficient in both models which seem to be good or efficient benchmark countries in the area of financial development respectively. On the other hand, Gambia and Togo dominate the inefficient range. The empirical results also suggest that, in general, ECOWAS nations are very perfectly efficient and partially efficient in financial development which in turn influence the economic growth of these countries.

References


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**Index Terms**

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**Keywords**