

Title: Social and financial efficiency of microfinance institutions: developing markets, macro environment and financial inclusion

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Abstract: The microfinance industry was established with the main purpose to provide financial services to people who generally have no access to traditional banking because of their low, irregular or unpredictable income. The microfinance industry is expanding rapidly with an annual growth of over 9% in the global portfolio of loans and the number of active borrowers, serving around 123 million customers worldwide (Microfinance Barometer, 2017).

Financial environments where microfinance institutions operate differ from country to country, from unregulated to highly regulated, from fully digitized to paper-based. One naturally raised question is what is the social efficiency, financial efficiency and relation between both for microfinance institutions when compared across different economies, and to what extent do market conditions and internal strategic decisions impact on this efficiency.

Using the database of financial, operational and social performance indicators of service providers in 38 countries of the Sub-Saharan African region, the first part of this work describes the results of an empirical study of social and financial efficiency. This is based on the Data Envelopment Analysis modelling approach for the period of 2004-2017. Hyperbolic non-oriented DEA models, super-efficiency DEA models, Ray-Desli Malmquist Index and Circular Malmquist Index were employed. Further relation between internal institutional and external environmental factors and efficiency level has been assessed using non-parametric Kruskal–Wallis tests. The internal factors included in the research are the presence of a deposit scheme, gender focus, customer target group and the prevailing term of the loan. The external environmental factors include the presence of legislation, interest rate limitations, presence of a private credit bureau and public registry and presence of microfinance-focused projects run by international organizations providing support to developing countries in their fight with poverty.

The research indicates important findings. For instance, microfinance institutions focusing on lending to small and medium enterprises demonstrate a higher level of efficiency (both social and financial), which is good news for the development of small business in

the region. Gender focus of the lending institutions also has a significant influence on the efficiency, with female-focused entities being more efficient than the group mean in the social context and less efficient than the group mean from a financial perspective. The presence of the private credit bureau on a market correlated with significantly higher efficiency levels in both social and financial aspects. Public credit registers, however, are not associated with a positive trend. The presence of microfinance legislation shows no significant influence, although the interest rate cap is indeed associated with a change in the performance. Strong differentiation was indicated for all three efficiency specifications: for overall and financial efficiency, the presence of an interest rate cap was associated with reduced mean efficiency. For social efficiency, efficiency was increased. For all time periods, units operating on the market with an interest rate cap have a higher mean social efficiency than the mean efficiency of the sample.

The frequently discussed question of mutual exclusiveness between social and financial objectives was also studied in this research, and no strong evidence of the mutual exclusiveness was indicated. On the contrary, some countries have shown the ability to balance two objectives over time, which sets a positive example and motivation to other economies. In general, the priority focus of the microfinance industry remains on the achievement of financial objectives, although some movement towards the higher social efficiency has been observed over the most recent years of the observation period, which is a positive sign in a context of poverty reduction.

**Keywords:** Microfinance Industry, social efficiency, financial efficiency, Data Envelopment Analysis, Malmquist Index.

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