



# Total factor productivity change of MENA microfinance institutions: A Malmquist productivity index approach



Ben Soltane Bassem

Higher Institute of Business Administration of Gafsa, Tunisia

## ARTICLE INFO

### Article history:

Accepted 20 February 2014

Available online 27 March 2014

### JEL classification:

D24

G21

### Keywords:

Productivity change

Malmquist productivity index

Microfinance institutions

MENA

## ABSTRACT

The main purpose of this paper is to investigate productivity changes of 33 Middle East and North Africa microfinance institutions over the period of 2006–2011 by using the Malmquist productivity index (MPI) method and a balanced panel dataset of 198 observations. The empirical findings indicate that the microfinance industry has reported overall productivity regress in the study period even though all the MENA MFIs have positive TFP growth with the exception of the year 2010–2011. In addition, our study indicates that over the period the Malmquist productivity change experienced by the MENA microfinance industry as a whole has averaged 4.9% annually which was mainly attributed to technical efficiency change. The study reveals also that the industry as a whole has exhibited a decline in technological change (2.9% decrease over the period) and suggested that there has been a deterioration in the performance of the best practicing MFIs. By decomposing the Malmquist index, the result showed that during the study period the MENA MFIs have experienced mainly an increment of pure technical efficiency (improvement in management practices) rather than an improvement in optimum size. Overall, an essential strategic implication for the MENA microfinance industry is that they need to pursue a technological progress in order to meet the dual objectives of reaching many poor people and financial sustainability.

© 2014 Elsevier B.V. All rights reserved.

## 1. Introduction

Microfinance institutions (MFIs) are vital ingredients in the development processes of a country. They provide a variety of financial services to the world's lowest-income households especially in developing countries. Since their inception in the early 1980s, MFIs have been driven fundamentally by a social mission of enhancing outreach to alleviate poverty. Recently, however, there seems to be a major shift in emphasis from the social objective of poverty alleviation towards the economic objective of sustainable and market based financial services.

Various MFIs focus on providing small-scale financial services mostly credit to poor and under-served on a sustainable basis, that is, to lend very small loans, or micro-loans, to very poor people. The sustainability of MFIs seems then to be a primary issue for successful microfinance services. Closely looking, MFIs are challenged to meet a “double bottom line” of outreach (providing financial services to the poor) and sustainability (covering their costs). In the same vein, Otero (1998) argues that MFIs need to generate profit, but at the same time, they are required to balance the social objectives of reaching low-income entrepreneurs with generating a return for their investors.

For many years the MFI industry was operating with subsidy from donors and governments but more recently there has been increasing internal and external pressure for the MFIs to find a way to reduce their dependence on subsidies or grant funding to become financially sustainable. Nevertheless, serving the poor and being financially self sufficient seem contradictory. An extensive examination of the challenges that MFIs are facing currently, there seems to be a need in dynamism that improves costs effectiveness and productivity performances. Therefore, efficient operations of the microfinance industry are essential for the well functioning of MFIs in the long run in achieving the dual objectives (outreach to the poor and financial sustainability). In this framework, studies aiming at investigating efficiency and productivity of these institutions have become appealing in an effort to improve their outreach performances, remain competitive and become sustainable.

Over the last decade, there has been a considerable amount of research performed to study the performance and efficiency of MFIs such as Abdul Qayyum and Ahmad (2006), Gutiérrez-Nieto et al. (2007), Ben Soltane (2008), Hermes et al. (2008), Haq et al. (2010), and Islam et al. (2011). However, to the best of our knowledge, few researches have been performed so far to investigate the productivity change of MFIs (Gebremichael and Rani, 2012; Krishnasamy et al., 2004; Sufian, 2007). Therefore, in this study, an attempt is being made

E-mail address: [bensoltane.bassem@laposte.net](mailto:bensoltane.bassem@laposte.net).

**Table 1**  
Descriptive statistics of variables (inputs and outputs).

			2006	2007	2008	2009	2010	2011	
Input	Operating expenses	Average	338,073.07	456,196.20	661,512.40	839,407.10	1,116,844.00	1,485,978.04	
		Std dev	483,416.053	677,295.702	890,280.763	1,188,215.847	1,799,420.306	2,725,021.25	
		Max	1,865,700	2,687,450	3,216,371	4,336,629	7,394,112	12,607,233	
		Min	25,894	34,499	51,585	63,465	72,290	82,342	
	Number of employees	Average	217	269	294	311	325	339	
		Std dev	342	436	416	427	430	433	
		Max	1843	2373	2073	2133	2124	2115	
		Min	16	17	20	21	24	27	
	Output	Gross loan portfolio	Average	15,484,694.3	22,777,269.27	26,343,972.94	28,629,276.73	30,620,002	32,749,151
			Std dev	38,493,776.57	55,394,023.32	59,942,193.81	61,466,545.3	55,914,822.99	50,864,538
			Max	219,106,022	304,829,793	333,623,362	347,610,216	295,347,932	250,943,145
			Min	222,866	171,994	274,371	294,079	583,685	1,158,492
Number of loans		Average	1,088,873.05	68,101.30	81,526.45	98,452.95	108,202.85	118,918.293	
		Std dev	3,560,694.682	130,002.942	145,643.921	170,817.514	189,609.428	210,468.671	
		Max	15,622,650	434,814	536,804	597,723	108,202.85	19,587.4289	
		Min	1153	1365	1917	1924	2984	4627	
Interest & fee income		Average	766,112.75	1,176,197.55	1,784,483.84	1,784,483.84	3,168,793.15	5,626,977.28	
		Std dev	1,531,603.59	2,394,933.57	3,333,634.44	4,602,177.50	6,408,038.59	8,922,506.48	
		Max	5,458,600	8,022,074	11,671,356	16,947,735	25,368,310	37,972,693	
		Min	18,806	32,860	38,236	74,535	101,127	137,206	

Source: Author's computation

to investigate the productivity change of Middle East and North Africa (MENA) MFIs during the period 2006–2011 using Malmquist index. The importance to investigate the efficiency and productivity of MENA MFIs could be best justified by the fact that in MENA, the MFIs played an important role in complementing the services offered by the commercial banks. The existence of MFIs supported by efficient money and capital markets keeps the financial sector complete and enhances the overall economic efficiency and growth. Moreover, it is expected from this study to show managers, practitioners and policy makers the performance of MENA MFIs and thereby contribute to the lack of literature in areas of microfinance.

The remainder of this paper is scheduled as follows. Section 2 briefly presents MENA's microfinance industry. Section 3 puts brief review of empirical studies on efficiency and performance of MFIs in the world. Section 4 sets out data and methodology including input and output specifications we have used. The results are presented and discussed in Section 5. Finally, section 6 surveys the paper and gives suggestions for future research and managerial implications.

## 2. Overview of MENA's microfinance industry

Over the last few decades, microfinance has proven itself to be a useful tool to foster financial and economic development in low income countries. Microfinance, the provision of financial services to the poor, allows micro and small entrepreneurs to develop their businesses, build household income and economic security, reduce vulnerability, and improve overall standard of living.

In the Middle East North Africa region, the microfinance sector is relatively young and is gradually developing through a variety of MFIs, dominated by NGO<sup>1</sup> and government programs. The extent to which microfinance operates in MENA varies considerably across the region: Morocco, Egypt and Jordan are described as being the most developed markets, with Egypt and Morocco receiving almost 77% of microfinance funding for the whole region. Emerging markets are Yemen, Syria and Tunisia, whereas other countries, such as Algeria and Libya, have barely any activity, very low market penetration and little MFI activity.

Looking at microfinance in the MENA region, one gets a rather ambiguous picture. On the one side, the sector is characterized by high returns, good portfolio quality, and continuous growth. On the other side, leverage is amongst the lowest of the world. This emphasizes the issue that currently only two countries of the region (Yemen, Syria) have MFIs that are allowed to offer savings. Also, other products, like payments or microinsurance schemes are in a nascent stage with innovation taking up only slowly in this region. Furthermore, despite recent developments, the microfinance landscape is still largely dominated by NGOs. While having experienced an impressive development in the past, by their pure nature, they face limitations when it comes to further growth as well as product diversification.

As per Microfinance International Exchange (MIX) data, the emerging industry has expanded tremendously since its commencement as there are today approximately 85 active MFIs across the MENA region. Based on a sample of 10 countries (Egypt, Iraq, Jordan, Lebanon, Morocco, Palestine, Sudan, Syria, Tunisia, Yemen), the MENA region has barely 2.2 million active borrowers (with outstanding loans) for a global loan portfolio of 1.2 billion USD. As of 2011 the industry has pulled a total asset of 1.4 billion USD and mobilized a total deposit of 49.1 million USD.

However, despite these achievements remains a great challenge to microfinance industry in the MENA region. For microfinance to have a greater impact on reducing poverty in the region, it needs to better target the poor and focus more on reducing portfolio-at-risk (especially Morocco) (Ben Soltane, 2012). In addition, MFIs in this region are appealed to revise their interest rate since they seem to be very high. Last and not the least, this industry needs to attract several substantial new equity investors.

## 3. Related literature

According to the International Labour Organization (2007) efficiency in microfinance MFIs refers to efficient use of resources such as the subsidies, human capital and assets owned by MFIs to produce output measured in terms of loan portfolio and number of active borrowers. Efficiency in MFIs can be divided into two components in order to capture the double bottom line mission of MFIs, the financial efficiency and social efficiency. Financial efficiency in MFIs is based on technical efficiency, which is based on the assumption that the larger the productivity of MFIs is, the more the efficiency (Sanchez, 1997). MFI financial

<sup>1</sup> Non Governmental Organization

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات