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Microfinance expansion and its effects on cost efficiency

Jules Yimga

School of Business, Embry-Riddle Aeronautical University, 3700 Willow Creek Road, Prescott, AZ 86301, United States

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ABSTRACT

Although the scalability of microfinance has gained much attention in recent times, questions about its effects remain largely unanswered. Within the rationale for scalability, resides the inherent notion that a microfinance institution could make up for its loan-size disadvantage by disbursing enough small loans that would potentially translate in scale economies and thus cost efficiency gains. We test this assertion in the presence of “uncontrolled growth”—the surge in microfinance lending during the boom years of 2004–2008. In a nutshell, are cost efficiencies evident during rapid microfinance expansion? We find that aggressive microfinance growth consistently results in cost inefficiencies.

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1. Introduction

Between 2004 and 2008, the global microfinance market set a record growth since its inception in the 1980s. The growth rate in the sheer volume of borrowers averaged 21 percent per year while the growth rate in loan portfolio averaged a staggering 34 percent per year (Gonzalez, 2009). Data from the Microcredit Summit Campaign show that in 2006, microcredit borrowers across the world increased by 17 percent, with enduring double-digit annual growth of approximately 29 percent annually between 2001 and 2006.¹

Such unprecedented growth has heightened microfinance's appeal as a tool to alleviate poverty in some regions around the world and to serve as a bridge to the financial inclusion gap. However, this rapid growth has been matched by an equally strong backlash. Loans which were deemed safe during the boom years (2004–2008) had become risky propositions during the recession, hence the emergence of over-indebtedness problems in South Asia and elsewhere,² the Andhra Pradesh suicides,³ the “No Pago”

movement in Latin America and the shift toward “prudential” (e.g. savings-based) microfinance.

The greatest concern appears to be the funneling of external funding into microfinance, fueling a rate of growth that becomes untenable because of the inability of the microfinance industry to expand in a sustainable way (Lascelles & Mendelson, 2008). Microfinance institutions (MFIs) face a well-documented trade-off, the one between providing financial services to the poor—outreach—and covering their costs—efficiency (Hermes, Lensink, & Meesters, 2011).

Examining this trade-off in the presence of uncontrolled growth is of importance, since fast microfinance expansion could pose substantial strain on MFIs' mission and undermine their efficiency. Future prospects for the microfinance industry depend partly on how the sector deals with the fresh set of challenges stemming from fast growth. In 2008, the Centre for the Study of Financial Innovation conducted a survey of microfinance practitioners, investors, and analysts on risks associated with microfinance industrial boom. The survey identified 20 risk factors in a booming industry that could disrupt the momentum of microfinance (Lascelles & Mendelson, 2008). Among the risk factors, cost control (efficiency) turns out to be the fourth of the top ten. This suggests that running operations efficiently, is paramount to the success of MFIs in reaching their dual objectives of outreach to the poor and financial sustainability, in the long run.

This paper investigates the cost efficiency effects of fast microfinance growth. Does shifting the focus toward increased microfinance expansion have implications on the cost efficiency of

E-mail address: jules.yimga@erau.edu

URL: <http://www.yimga.net>.

¹ Worldwatch Institute calculations based on data in Daley-Harris and Laegreid (2006).

² Stephens (2009) and Chen, Rasmussen, and Reille (2010) provide discussion on some emerging countries qualified as “high-growth” markets which experienced an increase in loan delinquency in 2008.

³ Mader (2013) presents an excellent review of microfinance in India with emphasis on the Andhra Pradesh Crisis.

MFIs? The 2004–2008 surge in microfinance and the sample period provide a unique setting to answer this question. It is not clear a priori whether rapid growth will improve or worsen microfinance efficiency.

1.1. Mechanisms at play

Some of the mechanism(s) through which microfinance expansion may affect efficiency are as follows. On the one hand, modern microfinance has expanded by relying on the standardization of products and services. This standardization, eventually may exert a downward pressure on the cost per borrower. Pal and Mitra (2017a), for instance, show that there is no trade-off between the number of borrowers per loan officer and microfinance institution portfolio at risk, suggesting that MFIs are able to reap the benefit of economies of scale without compromising asset quality. Also the commercialization of microfinance has made it easier to increase funds that go into promoting the outreach goal of MFIs (Hermes et al., 2011). Moreover, new technology and delivery channels may positively influence microfinance efficiency. The development of technology systems such as mobile banking for consumers, customer biometric identification, the Internet coupled with the discounted pricing of cloud-based Management Information Systems for even small MFIs, provide avenues to reduce cost during microfinance expansion. These, in turn, may help provide for further loan disbursements to other borrowers, leading to more consumer outreach. Under these circumstances, microfinance expansion and efficiency seem to be compatible objectives.

On the other hand, rapid expansion and efficiency may be conflicting as lending money to the poor can be very costly (Conning, 1999). The provision of microcredit to the poor can be a costly endeavor ranging from loan issuance to post-disbursal monitoring of clients. The biggest obstacles for MFIs to reach financially-disenfranchised members of society, particularly members in remote areas, still remain cost and access (Lascalles & Mendelson, 2008). This suggests that expansion may increase cost, thus hurting efficiency.

Thus, we argue that these opposing growth effects on efficiency are simultaneously occurring and our analysis will capture the dominant effect of the two. While not attempting to study the incentives for an MFI to rapidly expand, the main goal of this paper is to evaluate the net impact of fast growth on microfinance efficiency. While arguments can be made to support both views, there is currently no empirical evidence that supports either.

Although research work on the efficiency of MFIs is still at its infancy, studies from Gutiérrez-Nieto and Serrano-Cinca (2007), Hermes et al. (2011), Haq, Skully, and Pathan (2010) and Islam, Bäckman, and Sumelius (2011) amongst others contribute immensely to the literature. However, to the best of our knowledge, there is a paucity of research investigating the cost efficiency effects of rapid microfinance expansion.

In this study, we analyze how MFIs' cost efficiency responds to the surge in microfinance that occurred between 2004 and 2008. We extract our MFI sample from the MixMarket database.

Owing to the fact that the efficiency effects of growth may not be detectable during the boom years, we extend our dataset from 2003 to 2013 to include post-boom years. For proper identification of these growth effects on cost efficiency, we control for both features of microfinance and beyond-microfinance design.

Ceteris paribus, we find that fast microfinance growth positively affects the cost per borrower. In other words, the faster an MFI grows, the higher its cost per borrower. This relationship is robust irrespective of whether microfinance growth is measured expansively (by adding more borrowers) or narrowly (by increasing the loan size per borrower). We also find that some key factors affecting cost efficiency aside from growth in number of borrowers, are the

operating cost ratio, the proportion of personnel assigned to credit monitoring, the quality of prudential regulation, the ability to be sustainable and the proportion of female borrowers. We also find that macroeconomic variables partly explain variations in cost efficiency, suggesting that some part of cost efficiency is uncontrollable at the microfinance institutional level.

The remainder of the paper is organized as follows. The following section reviews of the literature. Section 3 reviews the determinants of efficiency. Section 4 presents the empirical model and describes the data. We discuss the results in Section 5, while concluding remarks are gathered in Section 6.

2. Literature review

2.1. Measuring microfinance efficiency

There is a large body of work, dating back as early as the 1960s, examining scale efficiencies in commercial financial institutions. Benston (1965) for instance examines the economies of scale in branch banking while in the microfinance industry, the area of efficiency is a small but growing research area.

In general, the term efficiency associates with inputs and outputs. In particular, an MFI is deemed efficient if it maximizes the quantity of an output given a certain quantity of inputs. In other words, the MFI is able to function at the lowest cost of inputs for a given quantity of output (Quayes, Shakil, & Baqui Khalily, 2013). The World Bank-sponsored Consultative Group to Assist the Poor (CGAP) publishes the Microfinance Consensus Guidelines that provide microfinance stakeholders with a common structure for performance evaluation. Within these guidelines, are nine ratios used to measure efficiency and productivity. Studies like Baumann (2004), Lafourcade, Isern, Mwangi, and Brown (2005) and Farrington (2000) amongst others, have employed ratios as proxies for the efficiency of MFIs. This study uses the cost per borrower to measure microfinance efficiency.

Beyond the ratio measurement of efficiency, many empirical studies have used non-parametric techniques such as the Malmquist Index, Data Envelopment Analysis, and Stochastic Frontier to measure efficiency.⁴ Using a mixture modeling approach to estimate cost functions of 137 MFIs in 21 Eastern European and Central Asian countries, Caudill, Gropper, and Hartarska (2009) show that time horizon matters when studying microfinance efficiency. The mixture modeling approach allows them to capture heterogeneity across MFIs. Their findings reveal that MFIs become more efficient over time (learning by doing), but this is predicated on firm size, access to subsidies and whether they are a depository institution. Pal and Mitra (2017b) suggest the inclusion of at-risk portfolios as undesirable outputs via a directional distance function (DDF) in the efficiency analysis to get a more accurate picture of performance across MFIs.

Berger and Humphrey (1997) conduct a review of 116 technical efficiency analyses. In their survey, efficiency indexes are computed from either cost functions or production functions such that an efficiency index equals to one suggests that the MFI is on the efficient frontier. The efficiency index of one is purely an indication of the most efficient MFIs within a given sample.

A disadvantage in using efficiency indexes stems from the assumption that an MFI efficiency index is computed in comparison to other MFIs in the sample. This feature makes it difficult

⁴ Recent studies that have used these methodologies include Servin, Lensink, and Van den Berg (2012), Hermes et al. (2011), Oteng-Abayie, Amanor, and Frimpong (2011), Islam et al. (2011), Masood et al. (2010), Pal et al. (2010), Haq et al. (2010), Hassan and Sanchez (2009), Gutiérrez-Nieto and Serrano-Cinca (2007), Sufian (2007), Nghiem, Coelli, and Rao (2006) and Desrochers and Lamberte (2003).

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