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# Does Regulatory Supervision Curtail Microfinance Profitability and Outreach?

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**Summary.** — Regulation allows microfinance institutions to take deposits and expand their banking functions, but complying with regulation can be costly. We examine implications for institutions' profitability and their outreach to small-scale borrowers and women, using a newly-constructed dataset on 245 leading institutions. Controlling for the non-random assignment of supervision via treatment effects and instrumental variables regressions, we find evidence consistent with the hypothesis that profit-oriented microfinance institutions respond to supervision by maintaining profit rates but curtailing outreach to women and customers that are costly to reach. Institutions with a weaker commercial focus instead tend to reduce profitability but maintain outreach.

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## 1. INTRODUCTION

Microfinance institutions now reach well over 100 million clients and achieve impressive repayment rates on loans (Cull *et al.*, 2009). The rapid growth of microfinance has brought increasing calls for regulation, but complying with prudential regulations and the associated supervision can be especially costly for microfinance institutions. The best empirical estimates of the costs of such regulation come not from microfinance or other financial institutions operating in developing countries, but from banks in industrialized countries. For example, by one estimate, the costs of complying with regulation in the US are sizable, equal to 12–13% of banks' non-interest expenses (Elliehausen, 1998; Thornton, 1993). We expect that such costs would be higher for MFIs, and Christen, Lyman, and Rosenberg (CLR) (2003) speculate that compliance with prudential regulations could cost a microfinance institution (MFI) 5% of *assets* in the first year and 1% or more thereafter.

In discussing tradeoffs in regulation of microfinance, Christen *et al.* (2003, p. 3) draw an important distinction between prudential and non-prudential regulation. According to their definition, regulation is prudential when “it is aimed specifically at protecting the financial system as a whole as well as protecting the safety of small deposits in individual institutions.” The assets of microfinance institutions remain substantially less than those of formal providers of financial services, most notably banks, and thus they do not yet pose a risk to the stability of the overall financial system in most countries. However, an increasing share of microfinance institutions take deposits from the public, and many of the depositors are relatively poor. Protecting the safety of those deposits provides a rationale for improved regulation and supervision of microfinance institutions, and thus CLR argue that prudential regulations should generally be triggered when an MFI accepts retail deposits from the general public.

There are multiple reasons why costs associated with this kind of regulation are likely to be higher for microfinance institutions. First, regulatory costs exhibit economies of scale and thus smaller banks face higher average costs than larger banks in complying with regulations (Murphy, 1980; Schroeder, 1985; Elliehausen & Kurtz, 1988). Moreover, the start-up costs of regulation display more pronounced scale economies than ongoing costs, because they have a large indivisible component which requires the same amount of time and expense regardless of the scale of bank lending activities. Again, these estimates of scale economies are for US banks. For microfinance institutions in developing countries that have never faced regulation, the costs are likely to be even higher. Moreover, frequent reporting to a supervisory authority about its financial position is substantially more difficult for an MFI that specializes in very small transactions than for other financial intermediaries such as banks (Christen *et al.*, 2003).

A second reason why the costs of compliance with prudential regulation might be especially onerous for microfinance institutions stems from the high share of skilled labor costs involved. Studies indicate that most of the costs of complying with new banking regulations in industrialized countries are for labor (Elliehausen & Kurtz, 1988; Elliehausen & Lowery, 1995; Schroeder, 1985), and a substantial component of those labor costs are managerial and legal expenses—to monitor

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employee compliance, coordinate compliance reviews with regulators, and keep abreast of regulatory changes, regulator interpretations, and court decisions (Elliehausen, 1998). Such skilled labor is likely to be in short supply in many MFIs and costly to acquire. Even the less skilled administrative work associated with preparing regular reports for supervisors is likely to be done in headquarters, which could mean less staff in the field working directly with clients.

Third, microlending inherently involves making small loans to large numbers of borrowers. Because the administrative costs per dollar lent are much higher for small loans than for large ones, the interest rates necessary to cover all costs (including costs of funds and loan losses) are much higher for MFI loans than for conventional bank loans. Fortunately, the returns to capital can also be high for small, capital-starved businesses, and so high interest rates can be paid (see, e.g., De Mel, McKenzie, & Woodruff, 2006; McKenzie and Woodruff, 2007). At the same time, any factor that causes costs to go up, including the costs associated with complying with prudential regulation, is likely to force MFIs to raise either interest rates or loan sizes to maintain the same level of profitability. Increases on either dimension could result in the exclusion of some potential borrowers.

We investigate the impact of prudential regulation on the profitability and financial self-sustainability of microfinance institutions, with an eye on the channels through which impacts work. For example, if profit-oriented MFIs find ways to absorb the costs of prudential regulation that leave their profits unchanged, it would be of interest to see whether these costs are absorbed by changing the business orientation and curtailing outreach to smaller borrowers and women because reaching those market segments can be costlier per dollar lent. We also examine whether prudential regulation reduces the share of employees who work in the field. Finally, if prudential regulation imposes costs, we also need to investigate what those costs buy. In particular, we look at whether regulation is associated with improved loan quality.

These issues have been under-studied largely due to lack of data. We build on a subset of the MixMarket dataset, which provides unusually high-quality financial information for a broad range of institutions world-wide. The data we use cover 346 institutions in 67 countries, most from 2003 or 2004 (the 2008 round, collected in volume 17 of the *Microbanking Bulletin*, includes 1406 institutions). The MFIs included in the MixMarket are among the largest in the world, and their willingness to submit their financial information to the Microfinance Information eXchange, Inc. (MIX) indicates a commitment to achieving financial self-sufficiency. We expect that these would be the MFIs best positioned to absorb the costs of prudential regulation. If we find evidence of trade-offs associated with such regulation in this group of MFIs, we expect that the effects would be even more pronounced for smaller institutions not included in our database.

Most MFIs face some form of non-prudential regulation. These regulations can include rules governing MFI formation and operations, consumer protection, fraud prevention, establishing credit information services, secured transactions, interest rate limits, foreign ownership limitations, and tax and accounting issues (Christen *et al.*, 2003). Prudential regulations are less common and are imposed when system-wide concerns are justified or protecting small depositors is an issue.

Previous research on microfinance regulation and prudential supervision focuses on the relationship between financial performance and regulation, treating outreach as a secondary concern. Hartarska (2005) finds that regulated MFIs in Central and Eastern Europe and the Newly Independent States

have lower return on assets relative to others, and weak evidence that the breadth of outreach may be related to regulation. After controlling for the endogeneity of regulation, Hartarska and Nadolnyak (2007) find that regulation has no impact on financial performance and weak evidence that regulated MFIs serve less poor borrowers. Mersland and Strøm (2009) use an endogenous equations approach to find that regulation does not have a significant impact on financial or social performance, where regulation is measured by a regulation dummy variable.

These previous efforts to study the effect of regulation are based on a binary regulation indicator variable. Based on information from the MIX database collected for the *Microbanking Bulletin* publication, which we cross-referenced with information from other sites, we construct a measure of whether an MFI faces prudential regulation of the sort described in Christen *et al.* (2003). We construct two variables that are the focus of the analysis, a dummy variable equal to one if an MFI faces onsite supervision, and another equal to one if that supervision occurs at regular intervals. Within the same country, we find that some MFIs face onsite supervision while others do not, depending on their ownership structure, funding sources, activities, and organizational charter. To our knowledge, this is the first dataset that allows for within-country variation regarding MFI regulation and supervision. The results highlight the role of the enforcement of regulation, and not just whether laws are on the books or not.

Our results suggest that microfinance institutions subjected to more regular—and presumably more rigorous—supervision are not less profitable compared to others despite the higher costs of supervision. We also observe that this type of supervision is associated with larger average loan sizes and less lending to women, hence indicating a reduced outreach to segments of the population that are costlier to serve. We also find that controlling for the non-random assignment of supervision is important in obtaining these results.

Lacking time series data on MFIs' performance before and after supervision, our empirical strategy is to start with a rough classification of the extent to which MFIs in our sample are profit-oriented based on their sources of funding. We hypothesize that greater reliance on commercial sources (like deposits) than on non-commercial sources (like donations) would lead an MFI to be more profit-oriented. While it is true that commercially funded (profit oriented) MFIs tend to be supervised more often than non-commercially funded ones, there is still variation in supervision within each group. This is the variation we exploit in the paper: we compare the supervised with the unsupervised MFIs in each sub-group (commercially oriented and non-commercially oriented). We argue that this is a fair test because MFIs in the commercially funded group are facing similar incentives to make profits. Similarly, the MFIs that are not commercially funded face weaker incentives to be profitable, so comparing the supervised and unsupervised within that group is also a fair test.

The rest of the paper is organized as follows. In Section 2 we describe our data and present the relationships between MFI characteristics (e.g., size and lending methodology), MFI performance (profitability and outreach), and our regulatory variables. Those relationships help to form the profiles for regulated *versus* un-regulated MFIs. Because the profiles in Section 2 indicate strongly that the assignment of regulation and supervision to MFIs is non-random, we discuss estimation techniques that can account for selection effects in Section 3. We present regression results in Section 4, robustness checks based on split-sample tests in Section 5, and offer concluding remarks in Section 6.

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