



# Where does microfinance flourish? Microfinance institution performance in macroeconomic context

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## ABSTRACT

We study whether and how the success of microfinance institutions (“MFI”) depends on the country-level context, in particular macroeconomic and macro-institutional features. Understanding these linkages can make MFI evaluation more accurate and, further, can help to locate microfinance in the broader picture of economic development. We collect data on 373 MFIs and merge it with country-level economic and institutional data. Evidence arises for complementarity between MFI performance and the broader economy. For example, MFIs are more likely to cover costs when growth is stronger; and MFIs in financially deeper economies have lower default and operating costs, and charge lower interest rates. There is also evidence suggestive of substitutability or rivalry. For example, more manufacturing and higher workforce participation are associated with slower growth in MFI outreach. Overall, the country context appears to be an important determinant of MFI performance; MFI performance should be handicapped for the environment in which it was achieved.

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## 1. Introduction

The microfinance movement is large and growing. It is reported that more than 100 million customers worldwide are borrowing small loans from around 10,000 microfinance institutions (“MFI”) <sup>2</sup>. A great deal of attention and funding has been directed toward microfinance by the development community over the past few decades.

Levels of success, however, vary across MFIs. Some fail, while others grow to reach millions of borrowers, covering costs in the process. In this context, evaluation of MFIs is a critical exercise. Indeed, a growing literature seeks to discover ingredients of MFI success. The focus of this literature is justifiably on institution-specific practices and techniques – contract design, management techniques, and organizational structure.

Much less studied are whether and how an MFI's success depends on the macroeconomic and institutional structure and outcomes of the country where it is located. Is the relationship between an MFI and its host economy best characterized by interdependence, rivalry, or a

dualistic independence? Is it harder to break even in a poor or low-growth economy, so that a longer period of start-up subsidization is reasonable? Does the broader institutional environment matter for MFI performance, above and beyond any impact it has on growth? Here is where this paper's focus lies.

These questions are important for several reasons. For one, MFIs are often assessed and compared for purposes of evaluation, funding, and replication. But any comparison that does not take into account the macroeconomic and macro-institutional environment, if these are found to non-negligibly predict MFI performance, is incomplete. Accounting for context allows a clearer picture of institutional success and failure to emerge.

For example, consider two much-studied and widely imitated MFIs: Bank Rakyat Indonesia (BRI) and the Grameen Bank of Bangladesh. Often omitted in discussions of these institutions is that the macroeconomic context over much of their histories was very different: Indonesia averaged 5.0% growth in real GDP per capita over 1980–1997, while Bangladesh averaged 1.7%. How much of BRI's success and financial sustainability during this period was due to institution-specific practices and how much came simply because the economy was booming? <sup>3</sup> Conversely, might the Grameen Bank have

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<sup>2</sup> See Bellman (2006).

<sup>3</sup> Henley (2009) argues that BRI and other Indonesian micro-banks owe most of their recent success to the Indonesian macroeconomic boom. In essence, the argument goes that regarding specific policies, contracts, or institutional arrangements, the picture is much more one of continuity than of change, especially compared to the rapid macroeconomic acceleration.

achieved greater financial sustainability<sup>4</sup> had it operated in a more vibrant macroeconomic context?

Consider also the example of a significant worldwide economic slowdown. Would we expect it to bring boom times and/or rapid growth for MFIs (as it might for bankruptcy law firms)? Or, should donors be more willing to subsidize MFIs given the prevailing economic headwinds? Or, perhaps MFIs will tend to sail through largely unaffected.

Understanding the macroeconomic impact on MFIs may also help a growing number of investment funds that target their dollars toward MFIs, sometimes with the dual goal of earning returns for investors and achieving social impact.<sup>5</sup> Since they value financial returns, these funds cannot afford to ignore major determinants of MFI financial success – though for dual-purpose investors the return implications would have to be weighed against social impact considerations.

Beyond sharpening MFI evaluation, answers to the question of where MFIs flourish can provide indirect evidence on how micro-credit works and how it fits into the process of development.<sup>6</sup> For example, is it rivalrous or complementary with a development path based on industrialization, manufacturing, and foreign trade and investment? Does it work best in the context of well-developed institutions, or do good institutions tend to squeeze it out, perhaps prematurely?

These are broad questions that do not find unequivocal answers in economic theory. Take income growth, for example. High growth can increase demand and create new niches for micro-enterprises to fill as well as profitable expansion opportunities for existing ventures. A growing economy might also raise households' current or expected future incomes to the degree that they are willing to take on more risk by investing capital in a business venture. Ingredients of growth – increasing physical and human capital, better institutions, technological advancement – may also make micro-entrepreneurship more profitable.

On the other hand, microfinance may depend on a poor economy to survive. Perhaps it thrives where there is a vibrant informal economy, a situation that tends to grow rarer as an economy and its institutions develop. Related, it seems plausible that the growing abundance of wage-earning opportunities that often accompanies growth may siphon away current and potential clients from MFIs. Default may also be higher, since growth of economic opportunities can weaken borrowers' incentives to maintain their MFI relationships. A deceleration of growth may also raise demand for products produced by micro-enterprises as consumers substitute away from imports or higher quality goods.<sup>7</sup>

As an intermediate option, it may be that most micro-credit clients operate in small, segmented local markets that are not very sensitive to macroeconomic conditions.<sup>8</sup> In short, the relationship between growth and MFI performance does not at all seem pinned down by a priori considerations, raising the need for empirical evidence.

Consider also an institutional outcome such as corruption. It may be that high corruption taxes micro-enterprise operations and creates barriers to their expansion, reducing demand for and quality of micro-loans. On the other hand, corruption may make it easier for micro-enterprises to avoid regulations, or may push would-be entrepreneurs out of the formal economy and the formal credit market and into informal micro-enterprise with demand for micro-loans.

This paper addresses empirically the question of MFI dependence on the broader context. While we cannot answer definitively all the questions raised above (we do not fully solve potential omitted variable issues), the goal is a set of stylized facts on the nature and magnitude of MFI dependence on the country context.

We construct a panel of MFIs (from the Mix Market) that includes 2278 observations on 373 MFIs from 74 countries (in the largest

regression). We analyze two types of MFI performance variables: operational self-sufficiency (the ratio of revenues to costs) and loan portfolio growth. Operational self-sufficiency is decomposed into three components: financial revenues and costs, losses due to default, and operating costs. These decompositions allow us in some cases to identify the channel through which a given macroeconomic variable affects MFI financial sustainability. MFI portfolio growth is decomposed into two components: extensive growth (in number of borrowers) and intensive growth (in average loan size).

Country-level data come from the World Development Indicators. The four focal indicators of economic performance and structure are per capita GDP growth, labor force participation rate, manufacturing's share in GDP, and private credit as a fraction of GDP. A number of auxiliary variables, such as inflation and income inequality, are also taken from the WDI. Institutional measures and outcomes, some of which are focused on credit markets, are also included, from the Kaufmann et al. (2009) governance indicators and the Doing Business indicators of the World Bank.

MFI performance indicators are predicted in linear regressions by the four key macroeconomic variables, a quadratic in previous-year income level, and MFI-level control variables. Given the lack of time variation in some of the macroeconomic variables, we focus on a pooled specification, but also run a specification that isolates within-MFI and between-MFI variation in the key variables. Given the nature of the data, we focus on estimation approaches that are robust to outliers and within-MFI error term correlation.

We find some strong macroeconomic predictors of MFI performance, often pointing to complementarity. First, MFIs cover costs better when macroeconomic growth is higher, due in large part to lower default rates and operating costs. The magnitudes are non-negligible: for example, the interquartile difference in growth rates (4.1 percentage points) is associated with about 1/6 of the interquartile difference in MFI operational self-sufficiency. Second, financial depth is also strongly associated with lower default and operating costs; however, this translates into lower interest rates rather than greater MFI self-sufficiency, suggesting that (potential) financial market competition is good for micro-borrowers, if not MFIs.<sup>9</sup> Specifically, the interquartile difference in the private credit to GDP ratio predicts a 5.3 percentage point lower MFI average interest rate and a 4.3 percentage point lower MFI interest markup, the latter mostly accounted for by the lower default and operating costs. Third, loans appear to grow faster when there is a higher manufacturing share, more foreign direct investment, and greater workforce participation, as if a vibrant labor market creates demand and better growth opportunities for micro-funded micro-enterprises.

Some evidence, however, suggests a more rivalrous relationship between microfinance and other modes of development. In particular, workforce participation, manufacturing share, and industry share all show up as negative predictors of extensive MFI growth, i.e. growth in number of borrowers. Evidently, microfinance tends to act as a substitute for wage labor opportunities. Also potentially reflecting this mix of complementarity and rivalry is the result that breaking even seems easier to do in richer countries, but only up to a point. The relationship turns negative beyond about \$6000 (PPP), for approximately one quarter of the observations.

We also find the structure of the economy matters: a larger service sector predicts faster MFI growth, while a larger rural population and/or agricultural sector predicts dramatically lower default, operating costs, and interest rates. Higher inequality is associated with much higher default and operating costs, higher interest rates, and lower MFI sustainability.

The institutional variables yield some unsurprising results; for example, MFIs grow their clientele more slowly where there is more corruption. However, other results suggest that microfinance is a substitute for, or even benefits from, weak institutions.

<sup>9</sup> These results hold controlling for direct measures of credit market institutions.

<sup>4</sup> Morduch (1999) provides an analysis of Grameen financial results.

<sup>5</sup> See Silverman (2006), and Krauss and Walter (2008).

<sup>6</sup> Ahlin and Jiang (2008) explore the latter question theoretically.

<sup>7</sup> Patten et al. (2001) make a similar point.

<sup>8</sup> For example, work of Patel and Srivastava (1996) suggests that the official and unofficial economy in India move relatively independently of each other.

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