

Too Much Microcredit? A Survey of the Evidence on Over-Indebtedness

Important Notes about the Scope of This Paper

This paper is written primarily for microlenders, along with the institutions that fund and support them. CGAP is exploring development of a separate paper addressing regulatory aspects of over-indebtedness.

We use the terms “microcredit,” “microloan,” and “microborrower” in a narrow sense, to refer to loans to low-income people—mainly unsalaried people—using new techniques developed over the past 30 years (see Christen, Lauer, Lyman, and Rosenberg [2011] for a list) and made by lenders who usually describe themselves as providing “microcredit” or “microfinance”. We don’t imply that such lenders provide all, or even most, of the formal-sector loans to poor or low-income households. In many countries, microfinance institutions offering microcredit compete with other forms of low-income retail credit, such as consumer lending and merchandise finance, all of which can have a bearing on the indebtedness levels of microcredit clients.

This is an exploratory paper. We examine conceptual issues and the limited empirical evidence about over-indebtedness in microcredit markets. That evidence does yet not permit a general conclusion about the extent of microcredit over-indebtedness worldwide. We also offer a rudimentary checklist—certainly not a how-to manual—of possible approaches to dealing with over-indebtedness risk. Most of these are presented only as options, not recommendations, because their feasibility and usefulness can depend heavily on local circumstances.

Executive Summary

Microcredit has long had an enviable repayment record—levels of delinquency and default have been very low. But more recently, collection problems have appeared in some major markets. In a review of four countries, Chen, Rasmussen, and Reille (2010) reported that delinquent loans, which averaged 2 percent of portfolio in 2004, skyrocketed to 2009 levels of 7 percent in Bosnia–Herzegovina, 10 percent in Morocco, 12 percent in Nicaragua, and 13 percent in Pakistan. In some of these countries, subsequent levels have risen quite a bit higher. More recently, collection has collapsed in the Indian state of Andhra Pradesh.¹

Delinquency and default threaten the viability of microlending institutions. But this paper looks at repayment problems mainly from the perspective of the clients, not the lenders. We examine definitions of “over-indebtedness” in some detail,

but as a rough, provisional definition to begin the discussion, let us say that borrowers are over-indebted if they have serious problems repaying their loans.² This definition implies a view that borrowers can be over-indebted even if they are repaying their loans.

Over-indebtedness often implies heightened vulnerability and further impoverishment of borrowers. Material effects include reduced consumption levels, late fees, asset seizures, downward spirals of ever-increasing debt, and eventually, a loss of creditworthiness. There are sociological effects related to peer pressure and a loss of social position, as well as psychological effects on mental and physical health. In extreme cases, borrowers’ desperation can even lead to suicide.

The objective should be to reduce the prevalence of over-indebtedness to reasonable levels. Complete

¹ In Nicaragua, Pakistan, and Andhra Pradesh, at least some of the repayment problem was due to “strategic” default: borrowers who were able to repay choosing not to do so.

² We’ll address what “serious” means later in the discussion.

elimination of over-indebtedness is not a practical goal: the only way to accomplish this would be to drastically restrict access to microloans. Many measures to reduce over-indebtedness can have some degree of negative impact on borrower access and cost. For instance, tightening credit standards will lower over-indebtedness, but it will also prevent some loans to borrowers who would have had no difficulty repaying. Careful balancing is needed.

Warning Light or Crisis

For most of its history, the main concern of the microfinance movement has been to rapidly increase delivery of financial services—especially credit—to low-income clients. However, the recent crises in a few markets have fueled growing concern that microcredit may be getting borrowers into trouble. Rather than assuming that the problems in these markets are isolated occurrences, there may be reason to be more alert to this risk worldwide.

Present evidence doesn't permit a conclusion about the actual prevalence of over-indebtedness in most markets. But several factors suggest that managers, regulators, and funders ought to devote much more attention and resources than they currently do to investigating and perhaps reducing the number of clients who are getting into trouble with microloans. To reiterate for the sake of clarity, we are making an assertion about the appropriate level of vigilance, not about the proportion of borrowers who are in fact over-indebted.

There are two main reasons for increased vigilance about microcredit over-indebtedness: it might be more prevalent than suspected in the past, and its consequences may be more serious than we used to think.

Prevalence

- A rapidly increasing number of microcredit markets, especially regional markets within a country, are becoming competitive and

even approaching saturation, at least for the typical current credit products.³ (Demand estimates about the number of people who want a typical microloan and don't yet have access tend to be inflated.) In retail credit markets, competition and saturation tend to increase over-indebtedness. In their quest for expansion and market share, lenders turn to higher risk borrowers, and may get sloppy with their internal risk management systems. In the absence of a credit reporting service, lenders find it harder to assess client repayment capacity, because they have no way of knowing about clients' repayment obligations to competing lenders.

- Borrowers don't always make smart choices. The emerging field of behavioral economics is challenging the classical assumption that borrowers can be counted on to behave rationally and make decisions that serve their own best interests.
- Strong repayment statistics don't assure us that all is well.
- Of the few—we have located six—empirical studies of microcredit over-indebtedness so far in particular countries, most have found significant levels of over-indebtedness. (At the same time, these results cannot be generalized. Not only is the number of studies very small, but the sample is not representative. Most of the studies were done because there were pre-existing concerns about over-indebtedness in the particular country or local markets.)

Consequences and Implications

- The most important consequences of over-indebtedness are the impact on borrowers, as discussed above.
- Over-indebtedness can lead to political backlash and damaging over-reaction by policy makers. Such over-reaction can destabilize the industry and deny access to many potential borrowers. There is also a risk of backlash from donors and public and social

³ The final qualifying clause is important: this statement and much of this paper have reference to the simple and relatively rigid microcredit products that have made up most of the supply until now. Many microlenders are now looking to supplement their offerings with more flexible and client-responsive products, including not just loans but also voluntary and commitment savings, insurance, and money transfer services.

investors, who may turn away from funding not only microcredit, but microfinance more broadly.

- Today there is less confidence in assertions that microcredit can raise millions of people out of poverty. The actual benefits may be considerably more modest. If the quantum of benefit we expect is lower, then the potential downsides for clients that we are willing to tolerate should be lower.

Causes of Over-Indebtedness

Multiple factors contribute to over-indebtedness: lender behavior can put borrowers at undue risk, clients themselves make bad borrowing decisions, and external factors beyond either party's control (e.g., illness or natural disaster) can push borrowers into situations where it's very difficult or impossible to repay.

It seems plausible that very rapid growth of an *individual* lender could strain its systems and lead to loan portfolio problems. But it is hard to find support for this proposition in the statistical data. Rather, it appears more likely that repayment deterioration is associated with characteristics of the *aggregate* market (which is not necessarily a nationwide market), including the growth rate in aggregate number or amount of active loans, as well as the penetration rate—i.e., the percentage of the population in the market who have loans.

As noted, microcredit providers may relax their lending standards or stray from proven loan management methods under conditions of competition in markets approaching saturation. Over-aggressive marketing—e.g., pressuring borrowers to take out a new loan after they have paid off an old one—adds to risk. Lenders sometimes fail to give borrowers clear and accurate information about loan costs and terms, communicated in a format that supports good decision making. The common system of gradually increasing loan sizes sometimes becomes practically automatic, which eventually puts clients at risk if there has not been sufficient investigation of their ability to repay. Loan products that are too inflexible and repayment schedules that are

too far out of step with borrowers' cash flows can create serious repayment distress even when the debt amount is reasonable, especially if there is rigid enforcement of a "zero tolerance" policy toward delinquency. Once borrowers get into trouble, over-aggressive collection practices can worsen their problem. Finally, there is a complex debate about whether it is unduly risky to lend to borrowers who wind up using their loans for consumption rather than for investment in an income-generating activity.

Some of the impetus behind over-indebtedness comes from borrowers. The emerging field of behavioral economics has mounted a strong challenge to the proposition that borrowers actually behave like the fully rational *homo economicus* of classical economic theory. Behavioral experiments confirm and extend commonsense perceptions about borrower biases. Many borrowers put too much weight on present gratification, because it is "salient," and pay too little attention to future consequences because they seem less real. People's predictions of the future tend to be over-optimistic, and "habit persistence" causes them to reduce consumption too slowly when net income declines.

External shocks can turn a perfectly manageable repayment situation into an impossible one. Poor people often experience sudden reductions in income (e.g., a job loss or illness in the household) or large unexpected expenses (e.g., accidents, medical expenses, or funeral obligations). Other shocks—e.g., natural disasters or manmade conflicts that destroy livelihoods—can affect many borrowers at the same time.

Defining and Measuring Over-Indebtedness

Coming up with a precise definition of over-indebtedness—e.g., for research or regulatory purposes—is a surprisingly complex challenge. We look at six different approaches that are used to define, or proxy for, over-indebtedness. All have limitations.

Negative impact. Calling people over-indebted would seem to assert that they have too much

debt, which would ordinarily mean more debt than is good for them. In this view, the question would come down to whether loans are making borrowers worse off. This might be a good definition from a theoretical perspective, but as a practical matter, reliably determining whether loans are helping or hurting individual borrowers is too difficult, expensive, and time-consuming to be used for monitoring purposes. Also, most people wouldn't describe a borrower as over-indebted if the loan had a minor negative impact but was easy to repay.

Default and arrears (late payments). These are the most commonly used indicators of over-indebtedness because they are the easiest to measure. The main problem with these indicators is that they fail to embrace a situation that most people would think represented "too much debt." For instance, to avoid being socially humiliated by default, some borrowers might repay their loans by making drastic sacrifices, such as going without food, taking children out of school, or selling off productive assets. In addition, repayment failure isn't a leading indicator; rather, it's a trailing indicator that flags a problem that may have reached a point of no return months or even years earlier.

Debt ratios. Over-indebtedness is often measured by ratios that compare borrowers' total debt, or periodic debt service payments, to their income or assets. Such ratios are clearly meaningful and useful—they are at the core of many lenders' systems for appraising borrowers' creditworthiness. One limitation, though, is that it can be hard to determine an appropriate threshold ratio beyond which the borrower is regarded as over-indebted. Because there are wide differences in borrower circumstances, there are also wide differences in the level of debt they can comfortably manage. Furthermore, most microcredit markets don't yet have credit reporting systems that allow determination of borrowers' total debt from formal lenders (not to mention informal loan sources), and even where

such systems exist, they don't contain income information for microborrowers.

Multiple borrowing. Most (but not all) of the available empirical studies find that multiple concurrent borrowing is associated with some degree with higher risk of default. But multiple debt is a very common cashflow management technique for poor households, many of whom manage such borrowing with minimal difficulty. Multiple borrowing by itself is not a reliable indicator of over-indebtedness.

Borrower struggle and sacrifice. The advantage of this kind of definition is that it captures situations where loans are repaid, but only at the cost of severe distress—a situation that most people would regard as "too much debt." One such definition posits that the threshold of over-indebtedness is reached when a microborrower is continuously struggling to meet repayment deadlines and structurally has to make unduly high sacrifices related to his or her loan obligations. The authors think that this is a strong and useful definition for purposes of survey research. But when are sacrifices "unduly high"? There is a good argument for letting borrowers themselves make that judgment. The more subjective approach entails risks in terms of borrower idiosyncrasy, honesty, and bias, and would not be sharp-edged enough for regulatory use. But these risks can be managed in a research setting.

A crucial clarification is in order: the fact that a borrower can't repay without severe sacrifice does not automatically mean that the loan has hurt the borrower. For instance, if a woman can repay only by going without food for two days, it's tempting to conclude that she would have been better off without the loan. But perhaps she borrowed the money in the first place to avoid going without food for two weeks, in which case the loan has been a great help, and we would not want to prevent it from being made.⁴

Loan repayment is only one of the cash demands that poor households face, and many of those

4 In this clear cut hypothetical example, the borrower would probably not declare her skipped meals as an unduly high sacrifice related to the loan repayment. But real situations are often less clear cut.

demands can be met only with struggle and sacrifice, with or without microloans. This consideration might temper our judgment as to what level of struggle-and-sacrifice over-indebtedness is reasonable in microlending.

Composite indicators. Given that all definitions or proxies for over-indebtedness have their limitations, some analysts construct indicators that quantify and weight several different elements, yielding a composite score.

Broader measures. More generally, it's important to recognize that debt is only one of the financial vulnerabilities facing poor households, who also have other obligatory payments. And there is a strong argument for combining debt vulnerability with other forms of financial vulnerability—e.g., low and un dependable incomes, exposure to unexpected expenses that are large in relation to income, etc.—into a composite financial vulnerability index. We do not explore this broader approach because this paper focuses only on microcredit clients, lenders, and funders.

The Empirics of Microcredit Over-Indebtedness: What Do We Know to Date?

As noted, we've been able to locate only six studies that quantified microcredit over-indebtedness in specific markets, using various definitions and methods. Most of these studies found levels of debt problems, usually in a subnational market, that seem worrisome. However, the evidence so far doesn't justify any broad generalization about the situation worldwide. The number of studies is small. More importantly, they represent a very skewed sample. Most of the studies were conducted in a given market precisely because there were pre-existing danger signs of over-indebtedness in that market. Table 1 offers a concise (and therefore oversimplified) view of study results.

What Can Be Done?

The list of practical steps by lenders and funders that might prevent or remedy over-indebtedness

Table 1. Summary of empirical studies

Setting (Author)	Methodology	Definition of Over-indebtedness	Findings
Bolivia 1997–2001 (Gonzalez 2008)	Household (HH) survey	Costly unanticipated actions to repay	85% of HH had at least one occurrence during the four years
Ghana 2009 (Grammling 2009)	Rapid market assessment, borrower surveys, info exchange between MFIs	Microbusiness decapitalizing (as assessed by researchers)	12% over-indebted, another 16% at risk
Country X 2009 (restricted report)	Debt service and expense data from credit bureau and loan files of lenders	Debt service greater than 100% of HH income net of other expenses	17% over-indebted and another 11% at risk (debt service 75–100% of net income)
Karnataka, India 2010 (Krishnaswamy 2011)	Loan records and HH survey	Subjective report of stress; sacrifices to repay	Over-indebtedness reportedly high in mass default towns, but low in nondefault towns
Tamil Nadu, India 2005–2009 (Guérin, Roesch, Subramanian, and Kumar 2011)	Qualitative interviews, observation, and HH survey (N=344)	Impoverishment through debt	More (possibly much more) than 20% over-indebted
Multi-country study (Kappel, Krauss, and Lontzek 2010)	Preliminary composition of an early warning index, largely based on signaling analysis with an MFI survey + MIX market data	Chronic and involuntary inability to meet all payment obligations by means of the household's excess cash. Proxies: arrears, write-offs, loan losses, debt-service ratio	14 potential early warning indicators for over-indebtedness. Highest risk countries in sample: Bosnia–Herzegovina, Cambodia, Peru

is a long one. This paper can provide only a brief, broad-brush survey of them—not a how-to manual, but rather a checklist of actions to consider along with a few factors to bear in mind. *For most of these topics, we imply no recommendation, not only because the evidence base is thin, but also because their feasibility and usefulness depend on local circumstances.*

Lender actions

Product design

- Flexible product offerings, including savings
- Reduction or tailoring of loan increments in graduated lending ladders

Sales

- Marketing practices and follow-on loans
- Fair and intelligible disclosure of loan terms
- Measures to improve clients' financial literacy/capability
- Expansion into new areas rather than already served ones

Loan underwriting

- Evaluation of affordability in light of borrower cash flows
- Specific limits on debt-service ratios
- Verification of borrowers' repayment history and other debts

Collection

- Restraining of abusive collection practices
- Appropriate rules for renegotiation of loans
- Avoidance of inappropriate use of penalty interest
- Redress mechanisms for customer complaints

Other microlender practices

- Staff incentives that don't encourage over-lending
- Staff training on avoiding over-indebtedness
- Written policies, enforced through internal audit
- Specialized portfolio audits
- Early warning systems for over-indebtedness

Marketwide tools

- Industry codes
- Credit reporting systems

Funders' actions

Some observers think that an over-supply of funding, along with funders' pressure on microlenders for growth and profitability, has contributed to over-indebtedness crises. Donors or socially oriented investors should factor over-indebtedness risk into their evaluation of microlenders as potential grantees or investees. This includes looking at the saturation level of the particular market, and whether the microlenders are dealing appropriately with the range of options presented above.

At a minimum, donors as well as public and socially motivated investors ought to assure themselves that any microlender they fund is

- not using deceptive or high-pressure marketing tactics
- not structuring staff incentives in ways that encourage over-lending
- taking reasonable measures to check on borrowers' repayment capacity, past repayment history, and outstanding obligations with other lenders
- maintaining and communicating clear written policies to guide employees in addressing over-indebtedness risk
- not using collection techniques that are abusive, given the local setting.

Donors that have grant funding for supporting public goods can also finance some of the above measures directly—e.g., development of credit reporting services, early warning systems, or financial capability campaigns—or support regulators' efforts to control over-indebtedness risk.

Introduction

Microcredit has long had an enviable repayment record—levels of delinquency and default in competent institutions have been very low for

decades.⁵ But more recently, collection problems have appeared in some major national or subnational markets. In a review of four countries, Chen, Rasmussen, and Reille (2010) reported that delinquent loans, which averaged 2 percent of portfolio in 2004, skyrocketed to 2009 levels of 7 percent in Bosnia–Herzegovina, 10 percent in Morocco, 12 percent in Nicaragua, and 13 percent in Pakistan. In some of these countries, subsequent levels have risen even higher. More recently, collection has collapsed in the Indian state of Andhra Pradesh.⁶ These and other developments have focused a lot of attention on over-indebtedness among microborrowers.

The topic of microcredit over-indebtedness raises a lot of questions, the first of which is what we mean when we use the term. This definitional issue is a complex and difficult one that we explore at length later in this paper. For present purposes, we can make do with the imprecise notion that borrowers are “over-indebted” if they have serious problems paying off their loans. This provisional definition reflects an important underlying choice. We do not restrict the concept of over-indebtedness to situations where the borrower is completely unable to repay. If our main concern were the sustainability of the lenders, we might view over-indebtedness simply as debt that can’t be repaid, because that is what hurts a microlender most. Rather, our primary focus is on the well-being of clients, so our definition incorporates client distress, even in cases where the loan gets paid.

Over-indebtedness can seriously damage clients. They struggle to make repayments, cutting back on basic consumption as well as other important household expenditures, such as education or healthcare. Then, of course, over-indebtedness has material costs, such as late fees and, in default cases, asset seizures. The resulting loss of creditworthiness can deprive the household of crucial cash management tools. On another

level, over-indebtedness can have sociological implications, including peer pressure in groups, loss of one’s dignity and social position, and violence in the household. Finally, over-indebtedness can have other long-lasting mental and physical health effects, including suicide in extreme cases.⁷

Over-indebtedness clearly hurts people. But elimination of over-indebtedness is not a practical goal. Everyone knows that borrowing does not always work out well for the borrower. Sometimes people get in over their heads because they make an imprudent borrowing choice, or the microcredit provider makes an imprudent lending choice. But even when the borrowing and lending decisions have been perfectly sensible, unpredictable circumstances, such as emergencies or failed investments, can make repayment difficult or impossible. The only way to eliminate over-indebtedness altogether would be to eliminate lending.

This basic point is worth emphasizing. If there is microlending, some borrowers will inevitably wind up with repayment problems. Thus, there is some degree of trade-off: we cannot maximize borrowers’ access and minimize debt stress at the same time. For instance, the most obvious way to lower over-indebtedness is to tighten lending standards. This will prevent loans to some people who would wind up having serious repayment problems. But it will also prevent loans to some other people who could have repaid without difficulty, even though they fell short of the new loan requirements. As anyone who makes credit decisions can tell us, it’s not always easy to predict who’s going to fall in which group.

The useful question is not whether microcredit is over-indebting borrowers, but whether it is over-indebting *too many* borrowers. How many is too many? This belongs on the long list of questions we can’t settle in this paper. We don’t try to develop an *a priori* norm for acceptable levels of over-indebtedness. The approach that seems

5 For historical collection data, see MIX Market (www.mixmarket.org).

6 E.g., CGAP (2010). It is unclear how much of the Andhra Pradesh problem stems from borrower inability to repay, as opposed to “strategic” default.

7 See Schicks (2011) for a detailed discussion of the consequences over-indebtedness can have on borrowers and on other stakeholders.

more useful is to develop a working definition, or definitions, of over-indebtedness; conduct more research to determine actual levels in various markets; and then attempt judgments (necessarily fuzzy ones) about whether the level found in a given market is reasonable or not.

Most people would have an instinctive sense that over-indebting, say, a third of the borrowers of a microfinance institution (MFI) would be unacceptable in any circumstance.⁸ Likewise most would agree that if only one out of every hundred borrowers has serious difficulty in repaying, that would be unfortunate but acceptable because the only way to eliminate this problem would probably be to deny credit to the 99 who can repay without difficulty. Between 1 percent and 33 percent, where does the tipping point of acceptability lie? One's answer may depend more on instinct than analysis. In any event, we think there is a better chance of getting some consensus about whether a given level is too high or not when the discussion is focused on the actual circumstances of a specific market.

This paper offers a broad-brush survey of a wide range of issues associated with over-indebtedness. It is neither exhaustive nor conclusive, but we hope it advances the discussion of this crucial issue. *In particular we caution the reader not to expect clear, concrete answers to the question, "What should I do about over-indebtedness right now?"* We wish we could offer such answers, but the state of the evidence does not permit it, especially because so much depends on widely differing local circumstances. The best we can do is offer a menu of options to consider.

One further caveat: we discuss over-indebtedness in the context of microcredit, but it is important to recognize that many of the same dynamics and issues apply to other forms of retail lending, including consumer credit. In some countries, there may be considerable overlap between the markets for microcredit and other retail lending, so the behavior of one set of lenders can over-indebt people who also borrow from other lenders.

Section 1 asks whether lenders and funders really need to be all that **concerned** with over-indebtedness at this stage of microfinance development. (Our answer is yes—we do not know the extent of over-indebtedness worldwide, but there are strong reasons to be alert for the occurrence of such problems.)

Section 2 looks at **causes** of over-indebtedness. We discuss some of the probable causes, though we don't have the evidence to say much about how widespread each of those causes is.

Section 3 addresses the harder-than-it-looks question of how to **define and measure** over-indebtedness.

In Section 4, we look at the results of six **empirical studies** that have tried to quantify over-indebtedness and over-indebtedness risk.

Section 5 is a brief survey of potential **responses** to over-indebtedness by lenders and funders. When we find a problem, or anticipate one, what if anything can be done about it?

Finally, a brief conclusion distills the core messages of the paper.

1. Why Worry about Over-Indebtedness?

For a long time, the main concern of microfinance was expanding access—delivering formal financial services, mainly credit, to as many people as possible. Few people were thinking about over-indebtedness. As late as April 2008, Deutsche Bank, the Boulder Institute, and CGAP convened a group of microfinance practitioners and experts to reflect together about the state of the industry, its risks, and its future. As an early exercise, participants each listed a few things that worried them most about the industry. Over-indebtedness was mentioned by only three of the 35 participants.⁹ In *Microfinance Banana Skins* 2008, hundreds of practitioners, investors, analysts, and regulators

⁸ In this paper, the terms "microlender," "microcredit provider," and "MFI" are used indiscriminately, referring to any formal institution that makes microloans, whether or not it also provides other financial services or serves other target clients.

⁹ After discussion, the conferees did go on to list over-indebtedness as a major threat (http://www.db.com/csr/en/docs/Pocantico_Declaration.pdf).

rated credit risk as a less serious danger than nine other threats to the industry (Laschelles 2008).

Three years later, the picture is very different. Driven in large part by repayment crises in Bosnia-Herzegovina, Morocco, Nicaragua, Pakistan, and India, microcredit over-indebtedness and its causes are the subject of intense discussion and a growing—if still small—body of research. In *Microfinance Banana Skins 2011*, credit risk had climbed to the top of the list of microfinance threats (Laschelles and Solomon 2011).

At one level, the answer to the question of whether to be concerned about over-indebtedness is obvious. Over-indebtedness hurts poor clients,¹⁰ whose welfare is the declared objective of most microlenders, funders, and governments. And over-indebtedness sooner or later tends to produce delinquency and default, which threaten the lending institutions' own viability.¹¹ So over-indebtedness should always be a concern, in principle.

The more meaningful question is whether we have reason to be concerned that over-indebtedness may be at, or be approaching, problematic levels. Or, to put the question in practical terms, *should we be devoting much more attention and resources than we currently are to identifying over-indebtedness problems and correcting or preventing them?*

Before we address this question, we need to make an important clarification, starting with an automotive analogy. When the check-engine warning indicator on an auto's dashboard lights up, it may mean that there has been a major malfunction that will destroy the engine if it is not repaired promptly. But it might just as well mean that there is nothing more than a minor glitch in the engine's computer. Either way, a smart driver will want to have the engine checked by a competent mechanic.

It is one thing to assert that there are reasons for particular concern about over-indebting microborrowers right now. We do assert this—the check-engine light is on—and offer our reasons below. It is quite another thing to assert that there is a worldwide problem with over-indebtedness that affects more than a few markets. We make no such assertion, because the evidence to confirm or refute it simply isn't available yet. Indeed, a central contention of this paper is that we urgently need much more research so we can find out how much of a problem exists. Readers who forget this clarification may walk away from the paper with a picture containing more gloom and doom than the authors intend or the evidence justifies.

Let us turn then to the reasons for particular concern.

Competition and market saturation create over-indebtedness risk. Since the inception of the "microfinance revolution," its rallying cry has been the need to bring formal financial services (mainly loans, in the early years) to the hundreds of millions of poor people who have had no access to them. Today, there are more and more markets where that goal is being reached, at least in the limited sense of making standard microloan products available to almost all of the people who can be served sustainably. In other words, more and more microcredit markets are starting to reach saturation. (Typically, local markets in a country will become saturated before the national market as a whole does.) As this phenomenon spreads, it marks a momentous shift in the development of the industry, requiring re-examination of earlier conventional wisdom. In particular, over-indebtedness risk rises, and MFIs can expand their market only by developing new financial products.

For many people, talk of market saturation seems odd when most of the low-income population don't

¹⁰ We use "poor" throughout this paper as shorthand for "poor and low-income." New tools have been developed for testing the poverty status of microfinance clients. (See <http://www.povertytools.org>; <http://progressoutofpoverty.org/>.) Application of these tools over the past five years has amply confirmed what experienced practitioners have been saying for a long time: most MFIs serve not only customers below the official poverty line, but also substantial numbers of low-income customers who are, at least at a given point in time, above the poverty line.

¹¹ Microlenders face a tight margin for error when it comes to collecting their loans. Delinquency (delay in payment) tends to spin out of control if more than 10% of a portfolio becomes late by more than one repayment period. The corresponding critical maximum for annual rates of loan losses (default) tends to be about 5% of portfolio. See Rosenberg (1999).

have a microloan. This is because there has been a tendency to overestimate demand for standard microcredit, sometimes drastically. Many poor people have income sources—e.g., farming—that don't match up well with the microfinance loan terms presently on offer. And among microentrepreneurs for whom the standard loan terms are a better fit, large proportions simply do not want to borrow. Even those who want to borrow may not want to borrow all the time. And finally, some who might want to borrow can't be given loans because their income is too small, unreliable, or irregular to safely support repayment. There is growing evidence that the actual number of people who want and qualify for a standard microloan at any given time may be considerably lower than the demand estimates that MFIs and industry analysts have put forward in the past.¹²

Adrian Gonzalez (2010) finds that growth in country-level delinquency and default, which may reflect market saturation, is statistically associated with penetration rates as low as 10 microloans per 100 of population.¹³ At any rate, microlenders in an increasing number of competitive markets are finding that good new customers are getting harder to recruit, and that most of their existing customers have access to one or more other microlenders.

Gabriel Davel, the recently retired chief of South Africa's National Credit Regulator, argues that when competitive retail credit markets approach saturation, over-indebtedness problems will arise almost inevitably, not just when a few bad-apple lenders irresponsibly ruin the market.¹⁴ As competition intensifies, competitors are likely to step up their efforts to capture as large a share as they can of the remaining untapped market. Once lenders have picked most of the "low-hanging fruit"—i.e., low-risk borrowers—they may relax their standards and start lending to a higher risk clientele.¹⁵ Over-aggressive marketing

can also extend to current customers, who may be encouraged, or at least permitted, to increase their loan size beyond safe limits, or discouraged from resting between loans (Guerin 2006; Hulme 2007; Collins, Morduch, Rutherford, and Ruthven 2009; Gonzalez 2008).¹⁶ When this kind of "race to the bottom" occurs, even a careful and responsible lender is at risk—especially if there is no sharing of credit information—because its borrowers' ability to repay may be compromised by reckless behavior of other lenders.

In most credit systems, there is a considerable delay between the point where borrowers are getting into trouble and the point where the problem becomes apparent in the collection statistics of lenders. David Roodman (2011, ch. 8) points out that systems—not just economic ones but also biological ones like reindeer herds—are inherently prone to unsustainable expansion and recurring crises if they combine high growth pressure with a delayed feedback loop.

Borrowers often take advantage of their access to multiple lenders, and accumulate concurrent loans. Especially in settings where there is no credit bureau, even a very careful lender will have trouble evaluating clients' repayment capacity, because it is hard to find out about their other debt service obligations. As all of this happens, more borrowers risk getting in over their heads, eventually resulting in serious delinquency and default (McIntosh and Wydick 2005). (This does not mean that multiple indebtedness is the same as over-indebtedness. See Section 3.)

All these dynamics are exacerbated by the common pattern of MFI expansion observed in many countries. When MFIs open new branches, they prefer, where possible, to do it in "safe" places where a competitor has already developed customer awareness of microcredit

¹² For a fuller discussion of demand estimates, see Anand and Rosenberg (2008).

¹³ Gonzalez focuses on national population and penetration because the MIX data he relies on do not give regional breakdowns. In fact, at the present time microcredit markets in most countries are more likely to be regional rather than national.

¹⁴ Presentations at CGAP and at Deutschebank over-indebtedness roundtable, January 2011. "Retail" credit is aimed at the level of households (including, among other things, their consumption and their informal income-producing activities) rather than at formal firms.

¹⁵ E.g., Robb (2007), Schoell (2010), Lupica (2009), White (2007), and Dick and Lehnert (2010).

¹⁶ "Hellman, Murdock, and Stiglitz (2000) link increasing competition to opportunistic behavior by lenders. Their argument is that competition reduces profits, lower profits imply lower franchise or charter values (namely, the capitalized value of expected future profits), and lower franchise values reduce the incentives for making good loans, as bank owners would have a lower stake in the outcome." (Gonzalez 2008).

and demonstrated a strong market, rather than expanding into previously unserved localities.¹⁷

Lenders may get sloppy with their internal systems for tracking and managing delinquency. Borrowers who have amassed more debt than they're able to pay can paper over the situation, for a while at least, by using new loans from one source to pay off old loans from another. This kind of concealed over-indebtedness is especially likely when large amounts of new lending capital are flowing into the market. And even when borrowers in trouble have no other formal lender to go to, or have exhausted their other borrowing options, their MFIs loan officers may try to conceal the situation by rescheduling bad loans so they don't show up as delinquent.

This pattern is not restricted to for-profit commercial MFIs. Not-for-profit MFIs have experienced the same problems, for instance in Morocco and Pakistan.¹⁸ As the list of microcredit markets with heavy competition grows, and as they get closer to saturating the demand that can be met with present methods and products, we should expect to see widening problems with over-indebtedness. Lenders will have to improve their marketing, underwriting, and loan management. Financial authorities will need to craft better consumer protection regulations. And many clients will have to learn how to deal better with their new credit access. If these things happen, over-indebtedness won't disappear, but it will probably drop back toward more acceptable levels.

In the meantime, the natural dynamics of a maturing retail credit market give us good reason to "worry" about over-indebtedness—i.e., to devote much more energy and resources to finding ways to identify it as early as possible and prevent it as much as possible.¹⁹

Borrowers don't always make smart choices. Some observers are troubled because they sense a tinge of neocolonial paternalism in all the hand-

wringing about over-indebtedness. They argue that the concern subtly implies that poor people in developing countries aren't smart enough to know what's good for them, and won't make sensible borrowing decisions for their households unless the state or some other wise and benevolent nanny limits their options.

The proposition that people, including poor people, generally know what's best for them and act accordingly is a good default assumption. But in the case of credit behavior, recent developments in economics and psychology suggest there may be substantial evidence to the contrary.

The default assumption is that borrowers act in their own best interest—in other words, that they behave like the rational *homo economicus* of classical economic theory. A new school of "behavioral economics" is using the insights and tools of psychology to argue that the classical model of rational motivation fails to account for important dimensions of real behavior, including behavior of borrowers whether they're rich or poor. Rather, the thesis is that real people are subject to systematic biases pushing them in the direction of judgments and behaviors that damage, rather than promote, their long-term welfare. Borrowers "consistently make choices that, they themselves agree, diminish their own well-being in significant ways" (Barr, Mullinaithan, and Shafir 2008).

We discuss specific biases in Section 2 on the causes of over-indebtedness. The important point for now is that behavioral economics has raised serious doubts about the proposition that we can safely rely on microborrowers' native good sense to keep their borrowing at healthy levels. There are plausible theoretical models, and a growing body of empirical results, suggesting that over-indebtedness may be a permanent structural concern for any kind of retail credit.

Strong repayment statistics don't assure us that all is well. Many people—including one of the

¹⁷ E.g., Krishnaswamy (2007) and references cited therein (p. 4)

¹⁸ This does not necessarily mean that commercial motives are irrelevant to the problem. Even not-for-profit managers may be tempted into intemperate growth by the prospect of eventually converting their MFIs into for-profit form.

¹⁹ By focusing on the special challenges when competitive retail credit markets approach saturation, we do not mean to imply that over-indebtedness is not a risk at other times as well.

authors of this paper—have argued that when MFIs in a country show very high repayment rates over the years, they probably haven't been over-indebting too many borrowers. Even if this view has any merit, it should be subject to substantial qualifications. We discuss the interpretation of repayment statistics in Section 3. For now, we summarize a few core issues:

- Even a borrower who repays a loan faithfully may encounter very serious problems in making the payments.
- Default and even delinquency rates are trailing indicators. Borrowers may be having problems right now that won't show up in the lender's repayment statistics until later—sometimes much later, especially where borrowers can juggle loans from several sources.
- Some MFIs' published repayment statistics are unreliable.
- Finally, as noted, competition and market saturation change the whole game. Good loan collection before that change occurs is no assurance of continuing good collection afterward.

For all these reasons, reports of strong past and current repayment are not a good reason to discount the possibility of serious over-indebtedness among current borrowers.

Studies so far have found serious over-indebtedness in some markets. In Section 4, we review six empirical studies that quantify microcredit over-indebtedness and/or explore ways to predict it. There are not enough of these studies to permit much generalization. But most of them have found levels of over-indebtedness that many people would regard as worrisome.

Perception of over-indebtedness can lead to political backlash. Over-indebtedness is of concern not only for its possible prevalence but also for the severity of its consequences. In addition to the above-mentioned consequences for borrowers, over-indebtedness can trigger

political backlash with wide-ranging consequences for the industry and for future borrowers.

In many countries, microcredit will always be politically sensitive, even when MFIs are behaving perfectly responsibly. At first blush, it shocks the conscience to learn that poor borrowers are being saddled with interest rates that are a lot higher than what wealthy borrowers are being charged by banks. The rationale for the higher rates (i.e., higher costs per unit lent) takes some explaining, and there will always be many people who don't understand or accept it.²⁰ This interest rate issue makes microcredit a tempting political target, especially when it is combined with occasional (or frequent) examples of over-aggressive loan collection by MFIs. When a political backlash occurs, it is often driven not only by sincere concern for clients but also by other political motives. Taking the political crises in Bolivia, Nicaragua, and Andhra Pradesh as examples, it seems that at least some of the storm was fueled by factors that had little to do with borrower welfare.

When a political backlash occurs, some borrowers who are perfectly able to repay may decide opportunistically that they can avoid repaying, and the MFIs' viability is threatened. More importantly, there is always a danger of regulatory over-reaction: governments may impose policy measures that not only restrict bad lending but also prevent a much larger amount of good lending.

Given the inherent political vulnerability of microcredit, those who want to promote it should be especially vigilant about over-indebtedness, because—among other reasons—it can fuel a public over-reaction that hurts a lot of potential borrowers who need the credit and are fully able to repay it. There is also a risk of backlash from donors and public and social investors, who may turn away from funding not only microcredit, but microfinance more broadly.

We should have an even lower tolerance for over-indebtedness if our expectations of what

²⁰ Lending costs are not the only component of microcredit interest rates. Shareholders' profits also contribute to the price paid by borrowers, and there is controversy about how much profit is appropriate for institutions serving poor people.

microcredit can achieve have become more modest. In a reasonable weighing of costs and benefits, the amount of over-indebtedness we're willing to accept should depend on the size of the benefit that we think is being delivered to all the other borrowers who are not over-indebted.

The prevailing narrative about microcredit used to be that borrowers were investing their loan proceeds in new or expanded microenterprises, and that the extra income produced by these enterprises was raising people out of poverty by the millions. If the benefit is really that great for most of the borrowers, then one ought to be willing to accept some collateral damage to a small minority of the borrowers if it is an unavoidable part of the process.²¹

The point can be illustrated by a stylized example. Suppose that, in a given setting, microcredit is instrumental in allowing 75 percent of its borrowers to double their incomes and escape from poverty. Further suppose that 10 percent of the borrowers get over-indebted: some of them struggle hard to repay their loan, and some default, but all are worse off to some extent because of the loan. The circumstances of the remaining 15 percent are unchanged.

Before settling for this situation, we would look for ways to lower the damage for the unfortunate 10 percent. But even if improvement is possible, we will reach a point where the only way to further reduce over-indebtedness would be to tighten lending standards so much that plenty of otherwise qualified borrowers will be frozen out, or to relax collection standards past the point where delinquency can be kept manageable. At this point, many people would feel that the remaining level of over-indebtedness is acceptable if it is the price of continuing the huge benefits that 75 percent of the borrowers are getting.

However, there are growing doubts about the raising-millions-out-of-poverty narrative.

A few recent and rigorous impact studies have not found such results, and some older, more optimistic studies are being challenged. The issue is far from settled. But recent developments raise the distinct possibility that the benefits of microcredit may be less than previously advertised.²² It may be, for instance, that the principal benefit of microcredit lies not in getting people out of poverty but in helping them cope better with poverty, giving them useful cash management tools for a variety of purposes, including keeping their consumption stable, coping with shocks, and accumulating larger sums to pay for business and nonbusiness investments. If research confirms this, it is a valuable benefit, but considerably smaller than liberating households from poverty.

Returning to our hypothetical example, if the benefit to the 75 percent is a much more modest one, then the acceptable amount of collateral damage to other borrowers should be much smaller. Because our confidence about huge microcredit benefits is weakening (getting more realistic, some would say) these days, our concern about over-indebtedness should be growing because the amount of it we're willing to tolerate should be shrinking.

Putting all these considerations together, there is a strong case for intensifying the attention, research, and resources devoted to over-indebtedness issues. In particular, there is a strong message for most MFIs in competitive markets—especially markets that may be approaching local or national saturation levels. If possible, they need to develop early warning systems to identify an over-indebtedness problem before it shows up in a collapse of repayment. And they need to adjust their loan marketing, approval, management, and collection practices with a view to keeping over-indebtedness at acceptable levels. Section 5 looks at some of the steps that may be needed.

²¹ This is a utilitarian approach, trying to achieve the best collective outcome for those involved. Some people might argue that there are levels of damage (e.g., suicide) that are not acceptable under any circumstances, no matter what the benefit to others may be.

²² E.g., Rosenberg (2010); Collins, Morduch, Rutherford, and Ruthven (2009); and Karlan and Zinman (2007).

2. The Causes of Over-Indebtedness

Over-indebtedness is a complex phenomenon; in most cases, multiple factors are at work. Lender behavior can put clients at undue risk, clients themselves make mistakes in their borrowing decisions, and sometimes external factors beyond either party's control push debt to unsustainable levels.²³ We can describe some of these dynamics, but there isn't enough evidence yet to make strong assertions about how prevalent most of them are or how heavily they contribute to over-indebtedness.

The Responsibility of Microlenders

When trying to understand what can go wrong, we tend to learn best from examples where problems are most visible. There have been complaints about microlender behavior in a number of countries with recent repayment crises. MFIs are said to have marketed too aggressively, expanded too fast, used staff incentives that encouraged over-lending, offered the wrong products, obscured their loan terms, and used abusive collection practices. We look first at the challenges entailed by fast growth, and then at the products and procedures of MFIs more specifically.

Since its inception, the microfinance industry has pursued growth—indeed, rapid growth. Growth implies outreach to more customers, and—it is hoped—competition that brings down interest rates and improves customer service. These arguments may be valid, but they need to be handled with care. The industry is learning more about the challenges that come along with growth.

It is important to distinguish between growth of an individual MFI and growth of a microcredit market. It seems plausible that too rapid expansion of an MFI could overstretch its lending and management systems, lowering the quality

of preloan analysis as well as post-loan follow-up, and resulting in serious collection problems.²⁴ However, Gonzalez's analysis of MIX data finds no correlation between individual MFI growth rates and portfolio deterioration, except at extreme (and very unusual) levels (Gonzalez 2010).²⁵

The picture is different, however, when one looks at aggregate market-level growth rates. Gonzalez finds that high aggregate growth of a country's number of microfinance borrowers (greater than 63% per year) and an active-loans-to-total-population rate above 10 percent are significantly related to repayment problems. His findings are consistent with our discussion of the dynamics of competition in saturating markets in Section 1. MFIs push harder and harder to capture the remaining market share, they tie too much of loan officer compensation to making more and bigger loans, they start lending to borrowers who are likely to have more trouble repaying, their ability to assess repayment capacity declines because their borrowers are also carrying debt from competing lenders, and borrowers use their multiple access to refinance loans that are ultimately unpayable.²⁶

Some observers think that an over-supply of funding, along with funders' pressure on MFIs for growth and profitability, has contributed to over-indebtedness crises. Investor behavior affects the incentives of MFIs. In addition, the fast growing microfinance investment by commercial and quasi-commercial players has tended to concentrate on markets that have mature MFIs with strong profits and high growth—in other words, markets that are more likely to be saturated.²⁷

Regardless of growth rates and saturation, over-indebtedness can be influenced by specific products and practices of individual MFIs before, during, and after loan approval.²⁸

Ex ante, before the loan is made, over-indebtedness risks may emerge from a lack of

²³ This section is based on the analysis in Schicks (2010).

²⁴ E.g., Chen, Rasmussen, and Reille (2010), analyzing debt crises in Nicaragua, Pakistan, Morocco, and Bosnia–Herzegovina.

²⁵ The study finds that intensive growth (adding new borrowers to existing branches) is more dangerous than expansive growth (adding branches in new locations), but neither form of growth appears to correlate with collection problems except at growth rates that are very rare in large MFIs.

²⁶ E.g., Abed (2011).

²⁷ E.g., Chen, Rasmussen, and Reille (2010) and Roodman (2011).

²⁸ Some of these products and practices are discussed further in Section 5.

transparency. MFIs may reduce borrowers' ability to make smart choices if their advertising and face-to-face marketing do not communicate loan conditions—including pricing—in accurate, fair, and easy-to-understand terms.

Next, in giving loans, MFIs that are too growth-focused may relax lending standards and invest less in a sound evaluation of repayment capacity. This is especially likely when loan officers' incentives are strongly linked to adding new clients or making larger loans.²⁹

There is a complex debate about offering loans that will be used for consumption purposes. Some MFIs offer loan products that are explicitly focused on consumption uses. But even where loans are declared to be for business uses, many—sometimes most—borrowers use them for nonincome-generating purposes. Following up with borrowers to enforce business use of loan proceeds raises costs (and thus interest rates), and may not be effective. When loans finance consumption, the loan use does not produce returns that compensate for the interest expense. On the other hand, nonbusiness uses may be very helpful for managing emergencies, smoothing the volatility of poor people's incomes, and funding nonbusiness investment, such as education.³⁰ The relationship to over-indebtedness is ambiguous.

Paradoxically, a standard microcredit feature that was directed at testing repayment capacity of borrowers and reducing over-indebtedness risks can, in some cases, create the opposite result. Automatic loan size increases may lead some clients to take larger loans than are appropriate for them. Especially in group lending, where a loan officer is not assessing repayment capacity, ever-increasing loan sizes can eventually outstrip borrowers' ability to repay. At the other end of the graduated-loan-size ladder, many MFIs control credit risk by testing out new borrowers with

loans that are a lot smaller than those borrowers want and can handle. Where possible, borrowers go to other lenders to make up the total loan amount they want. This adds to the borrowers' transaction costs, and may even contribute to over-indebtedness by making it harder for each individual lender to assess borrowers' ability to handle their total indebtedness.

During the course of the loan contract, the installment schedule can affect the borrower's ability to repay. Products that are too inflexible and repayment schedules that are too far out of step with borrowers' cash flows can drive borrowers into over-indebtedness even when the debt amount is reasonable. When individual borrowers are struggling with liquidity problems rather than structural debt problems, the zero-tolerance policy that has been the mantra of many MFIs may need to be relaxed.³¹ The policy is valuable in teaching borrowers the importance of regular repayments, especially compared to typical government lending. It promotes the early recognition of repayment difficulties and keeps borrowers from piling up obligations (Gonzalez 2008). It reduces the risk of spillover effects of delinquency on nondelinquent borrowers and avoids the operational cost of handling large numbers of rescheduling requests. Nevertheless, if the zero-tolerance policy is so strict that there is no room to accommodate legitimate individual circumstances, the result can be an unnecessary increase in the struggles of honest borrowers.³²

A related issue concerns collection methods. Once borrowers have gotten into trouble, inappropriate collection practices can worsen their situation. While a certain level of firmness is necessary to provide sufficient repayment incentives, collection needs to respect the basic rights of borrowers. Also, if the MFI charges substantial penalties for late payments (over and above continued accrual of regular interest), it may place itself in the

29 E.g., Chen, Rasmussen, and Reille (2010).

30 E.g., Collins, Morduch, Rutherford, and Ruthven (2009). The authors caution against the assumption that borrowing for nonbusiness purposes is usually a recipe for over-indebtedness.

31 Some MFIs point with pride to their "perfect" 100% collection rate. In fact, that level of collection is anything but ideal. It usually means that the MFI is being too conservative in extending loans, which reduces both borrower access and MFI profits. Long experience has shown that most MFIs can tolerate low levels of nonrepayment (e.g., annual loan losses below 3–4%) without the problem spinning out of control.

32 Several studies have found that microborrowers resort to expensive informal moneylenders to make loan payments during low-income periods. E.g., Jain and Mansuri (2003) and the studies cited therein; CARE/Bangladesh (2005 and 2005a).

dubious position of making higher profits when clients can't or don't pay on time, which is hardly an incentive to minimize over-indebtedness.

Finally, after a loan cycle has been completed, it is difficult for some MFIs to accept that borrowers sometimes need a break from credit rather than an immediate follow-up loan. This is especially the case if MFIs are not offering deposits or other services that would bind clients to the institution while they are not borrowing.

This list of the ways MFIs can contribute to over-indebtedness is not an indictment but rather an illustration of the difficult challenges involved in lending to poor people, especially in an ever-changing and increasingly competitive market. Some of the core methodologies that make microlending successful and safer for both institutions and borrowers (e.g., fixed weekly repayment schedules or graduated loan sizes) can have unexpected effects in specific situations. The microfinance industry is currently in the process of learning about, and dealing with, risks that are becoming more apparent as the industry matures.

Why Borrowers Get Themselves into Trouble

Some people don't repay their loans simply because they would prefer to keep the money—they are able but unwilling to repay. Our focus in this paper is not on these opportunistic defaulters, but on borrowers who have genuine difficulties in repaying—those who are willing but unable to repay.³³ Borrowers need protection from irresponsible lender behavior, but this should not obscure the role borrowers themselves play. Every over-indebting loan contract represents a decision not only by the lender but also by the borrower.

As noted in Section 1, the emerging field of behavioral economics has identified biases that

can lead borrowers to take on more debt than is good for them. Some of the biases described by behavioral economists and confirmed by their experiments don't surprise us very much, because they are consistent with our everyday commonsense experience.

To begin with, many people put too much weight on present gratification, because it is "salient," and pay too little attention to future consequences because they seem less real.³⁴ "Hyperbolic discounters" have a strong bias toward receiving rewards (e.g., loan disbursements) now and deferring costs (e.g., repayment) into the future. They regularly make present decisions that their future selves wind up regretting. In one study, they were found to borrow three times as much as "rational" consumers.³⁵ There are other theoretical approaches as well to the universally recognized phenomenon of temptation interfering with self-control.³⁶ See Box 1.

There are other relevant biases. For instance, people's predictions of the future tend to be over-optimistic. They underestimate the likelihood of shocks, underestimate the amounts they will wind up borrowing, and overestimate their ability to pay on time (Barr, Mullinaithan, and Shafir 2008; Kilborn 2005; Vandone 2009). "Habit persistence" causes people to reduce consumption too slowly when income declines, with obvious consequences for the likelihood of over-borrowing (Brown 1952). In general, human beings have difficulties with processing all the complex information related to loan contracts. They tend not to fully understand all the implications of loans and sometimes rely on rather weak proxies in their decision making. For example, people are inclined to think that the credit limit they are given by financial institutions is an indicator of their ability to repay (Soman and Cheema 2002).

Some behavioral biases affect poor people more than others. It seems plausible to assume that

33 We would probably include borrowers who make dishonest statements in their loan applications, embellishing their financial situation or not admitting the real purpose of a loan, as long as they borrow in good faith that they will repay the debt to the MFI and, if problems arise, will make serious efforts to fulfill their repayment obligations.

34 E.g., Mullinaithan and Krishnan (2008)

35 E.g., Laibson (1997); Laibson, Repetto, and Tobacman (2003).

36 E.g., Akerlof (1991), Gul and Pesendorfer (2004), Fudenberg and Levine (2006)

Box 1. Poor People Recognize Their Problems with Self-Discipline

Paradoxically, many poor people take out loans precisely for the sake of external discipline. They use the loan proceeds for some important purpose, knowing that the repayment schedule will force them to regularly set money aside, protecting it from the insistent temptation of current consumption.^a Accumulating a usefully large lump sum of cash through borrowing is more expensive than doing the same thing through saving, but many poor people are happy to pay the price to shore up their self-control. When savings products are designed with a commitment feature that deliberately prevents everyday access to the money, there tends to be strong demand from poor people, and their asset accumulation and investment are likely to improve.^b

^a E.g., Collins, Morduch, Rutherford, and Ruthven (2009); Rutherford and Arora (2009); Rutherford (2000)

^b E.g., Ashraf, Karlan, and Yin (2005); Duflo, Kremer, and Robinson (2009).

resisting the “temptation” to over-borrow is particularly challenging for poor people, who are more likely to find themselves in desperate situations. Inequality and social comparison can lead lower income groups to borrow irresponsibly in a desire to keep up with the consumption levels of peers (Duesenberry 1949, Luttmer 2005, Christen and Morgan 2005, Brown 2004). Social obligations to support relatives and neighbors at any cost may drive people into indebtedness (Cressy 2006, Guerin 2000). Obviously, the pain of deferring a given quantum of consumption is worse for the poor than for the rich (Bannerjee and Mullainathan 2009). And mistakes in predicting the future tend to have more drastic consequences for people living closer to the edge of survival. We emphasize that none of this necessarily means that the poor are less rational than the rich. For the most part, poor people probably have the same biases as rich people, but because of their more vulnerable circumstances, those biases tend to produce more damaging results (Bannerjee and Duflos 2007, Bertrand and Mullainathan 2010).

At the same time, it is important not to overstate the case about cognitive and behavioral biases. To begin with, while everyone acknowledges the existence of such biases, there is some scholarly disagreement about how much they skew real borrowing behavior.³⁷ Also, many of the empirical results cited here are from rich countries. One cannot automatically assume they apply equally well in poor country settings.

In addition to the biases discussed above, microborrowers have to deal with a learning curve. Many of them have gone quite quickly from having no formal loan access to having simultaneous access to multiple sources. Some speculate that borrower inexperience is a major source of debt problems.

In sum, when we look for the causes of over-indebtedness, we need to examine borrower decision making, not just the behavior of lenders. Indeed, lenders’ policies should be based on a realistic recognition of the biases of their borrowers. The existence of borrower bias does not absolve lenders from their responsibility for prudent, fair lending that does not leave undue numbers of borrowers in trouble.

The Power of External Factors

In addition to behavior by lenders and borrowers, circumstances beyond the control of either of them contribute to over-indebtedness.

Individual borrowers are hit by household-specific external shocks, most commonly a sudden reduction in income (e.g., a job loss or illness in the household) or a large unexpected expense (e.g., an accident, medical costs, or funeral obligations).³⁸ Other shocks affect many borrowers at the same time—e.g., natural disasters or conflicts that destroy livelihoods. Changes in government policies can affect input and market prices, or displace street vendors (Stearns 1991). Macroeconomic contractions and currency fluctuations can impair many borrowers’ repayment capacity.

³⁷ E.g., Ellihäusen (2010).

³⁸ E.g., Bouquet, Wampfler, Ralison, and Roesch (2007), Krishnaswamy (2007).

One key characteristic of poverty is the difficulty of building safety buffers for such situations. These shocks are very common in the lives of vulnerable populations, but it is difficult to account for them at the time of borrowing and lending, so they subject all credit decisions to a higher level of uncertainty. Before the shock occurs, the debt level can seem quite manageable. But pre-existing debt tends to limit the household's maneuvering room in handling a shock when it occurs. What originally seemed like a reasonable debt burden can quickly turn into unsustainable over-indebtedness. And the more rigid the loan repayment schedule is, the harder it is for the borrower to manage the shock.

One by one, each of these shocks is unpredictable. But the overall prevalence of such shocks among the target population is eminently predictable. Lenders need to factor in these risks when they design their loan products, and when they decide how much to lend to whom.

Finally external sources of over-indebtedness risks can also include the regulatory environment, infrastructure for information exchange among lenders, etc. They impact the behavior of lenders and borrowers.

To conclude, lenders, borrowers, and external influences all contribute to over-indebtedness, and each of the factors discussed in this section represents a potential lever to reduce the problem. Section 5 presents a brief survey of commonly proposed approaches.

3. Defining and Measuring Over-Indebtedness

When people in the microfinance industry discuss over-indebtedness, they usually don't have to interrupt the conversation to figure out whether they're talking about the same thing. In this sense only, the term is not problematic. But when the time comes to design research or draft regulations, being precise about the meaning of "over-indebtedness" raises tricky questions, not all of which have clear answers.

We begin by distinguishing definitions from proxy indicators. A definition tries to clarify the core meaning of a term. For instance, our rough provisional definition at the start of this paper was that borrowers are "over-indebted" if they have serious problems in paying off their loans. It is hard to do direct measurement of over-indebtedness defined this way. So we might look for a more easily measurable proxy—e.g., we could measure borrowers' debt payments as a percentage of their income. One could reasonably assume that this correlates pretty well with over-indebtedness—i.e., people whose debt service ratio is high are more likely to encounter serious difficulty in repaying. It's useful to keep this distinction between definitions and proxies in mind while reading this section, which discusses both. But it's not always clear which is which: one person's proxy can be another's definition.

The choice of an indicator (whether as definition or proxy) depends on its purpose. Regulators, for instance, look for legal definitions that can be applied more or less mechanically, with as little ambiguity as possible, so that the application of the regulation will be as predictable as possible for all parties. Academics or market researchers need indicators that can be measured by the data or investigative tools available to them.

This section looks at the following definitions and proxies:

- Negative impact
- Default and arrears
- Debt and debt service ratios
- Multiple borrowing
- Borrower struggles and sacrifices
- Composite indicators

Negative impact. Saying people are over-indebted would seem to be an assertion that they have *too much* debt—which would ordinarily mean more debt than is good for them. In this view, the question would come down to whether or not the loan is making the borrowers worse off than they would have been without the loan.

We might think that this should be the core definition from a policy perspective. After all, we would like as much as possible to prevent loans that make borrowers worse off. As for loans that make borrowers better off, we should prefer *not* to prevent such loans, even if (for instance) repaying them ties up a big portion of the borrowers' income, or the borrowers have to struggle to repay. The test, then, would be whether the loan has a negative impact on the borrower.

But this definition doesn't fit well with common usage. Let's imagine someone who is temporarily short on cash and takes out a very small loan to buy a shirt he doesn't really need; the loan is repaid very easily when payment falls due. Perhaps the loan made the borrower worse off—it might have been better not to spend money on the shirt, and the loan interest was a further cost—but this is not the sort of image most of us have in mind when we talk about over-indebtedness.

A further problem is that credibly determining the impact of loans is difficult and expensive.³⁹ For example, at present one of the most widely recognized tools for testing the impact caused by loans is the randomized controlled trial (RCT), an approach that (1) imposes severe demands on the lenders who participate, (2) can cost hundreds of thousands of dollars per study, and (3) can take years to produce results. RCTs are not a practical tool for ongoing monitoring of over-indebtedness.⁴⁰ Thus, the negative impact definition may not be of much practical use, whatever its theoretical merits.

Default and arrears.⁴¹ The most common proxy indicator for over-indebtedness is default. Clearly, when microborrowers have loans they can no longer repay, they are over-indebted. This is

the moment when over-indebtedness puts the sustainability of MFIs at risk, and when borrowers may be exposed to public humiliation, asset seizures, loss of creditworthiness, or erosion of the social networks on which they rely.

However, borrowers who default don't usually do so because they are suddenly struck with too much debt on the day payment falls due. The problems have most likely been around for quite some time. The over-indebtedness has usually started much earlier and has probably been accompanied by signs of the problem getting worse. Also, some borrowers default not because they have an unmanageable debt situation, but because they find it more convenient not to pay. Default is not a definition of over-indebtedness, but rather it a trailing indicator of it.

Arrears (delinquency), as an indicator, have the same advantages and disadvantages as default. They start flagging the problem a little earlier, when a payment is late, but before it's clear the loan won't be repaid. But the borrowers' debt situation may have been unmanageable well before a payment is actually missed. Arrears and default rates often measure a consequence of over-indebtedness,⁴² but not over-indebtedness itself. They are the most widely used indicators only because they are the easiest to measure. (See Box 2.)

Debt ratios. Another common set of indicators takes the term "over-indebted" more literally. It defines as over-indebted borrowers who have borrowed "over" a certain limit. The limit is often framed as the ratio of individual or household debt service to income (or take-home pay, or disposable income after deducting minimum consumption expense). One is over-indebted if loan payments eat up more than X percent of one's income. This

³⁹ See, e.g., Rosenberg (2010).

⁴⁰ In theory, it might be desirable for impact RCTs to collect data about over-indebtedness indicators, so as to determine how well they correlate with negative impact. E.g., if someone fails to repay a loan, how strong an inference (if any) can we draw that the loan made them worse off? However, there are challenges to the practical implementation of such a strategy.

⁴¹ "Default" as used here refers to a situation where the borrower never repays all of the loan, and the lender is left with a loss of principal. "Arrears" or "delinquency" refers to a situation where the borrower fails to make one or more payments on time, but might later repay the loan in full.

⁴² Of course, arrears and defaults occur not only when borrowers are unable to repay, but also when borrowers are able but unwilling to repay. In particular, when most MFIs are collecting well, high arrears at an individual MFI more often reflects a management problem than over-indebtedness.

Box 2. What Do Repayment Rates Tell Us?

High delinquency or default in a market is usually—though not always—a good sign that there has been serious over-indebtedness.^a But what about the converse proposition: do high repayment rates that characterize microcredit in most markets tell us that there's little over-indebtedness there? As noted in Section 1, this is a more dubious proposition.

To begin with, the fact that borrowers repay loans doesn't tell us whether they've had to struggle with serious difficulties to do so. Over-indebted people sometimes repay, albeit at the cost of major sacrifices. (See "Borrower struggles and sacrifices" on p. 23.) The stronger the external incentives to repay (e.g., peer pressure or aggressive collection practices), the more likely it is that borrowers will make serious sacrifices to repay.

Also, a borrower may be in trouble for some time before a failure to pay shows up in the loan collection statistics. This risk of hidden delinquency is aggravated by the fact that, especially in competitive markets, borrowers who are unable to repay their loan can postpone the day of reckoning by taking out a new loan from some other source—e.g., a competing MFI or an informal lender—to pay off the original loan. On the one hand, juggling different credit sources is a standard survival skill of the poor in certain markets and does not automatically imply over-indebtedness.^b On the other hand, such juggling can conceal over-indebtedness for a long time until it eventually hits some lender's books as a failure to pay.

How long can borrowers' inability to pay be camouflaged this way? Clearly, the more lenders a borrower has access to, the longer an unpayable debt can be shifted around among them, at least if there is no credit bureau. (Note that borrowers also roll over their unpayable debt with informal moneylenders, who don't show up in any credit bureau.) Some practitioners will hazard a guess that it's hard to keep such a house of cards in place for more than a couple of years. But we don't know of any empirical evidence on the topic.

Imagine an MFI in a competitive market that has reported a continuous history of very high collection

rates. Taking into account the possibility of such rollovers of unpayable debt, and assuming the correctness of the MFI's repayment statistics, we might repose more confidence in the situation as reported two years ago than in the situation reported last year or during the current year. (Remember that we are talking here about confidence that most borrowers were willing and able to pay, not confidence that few borrowers were being over-indebted.)

Looking at repayment statistics from a different perspective, the sad truth is that, even at this late stage in the evolution of management information systems for microfinance, some big MFIs' repayment statistics can't be trusted. There may be a gap between reporting and reality because managers are deliberately concealing problems. Probably more often, the problem is inadequate information systems, so the managers are as much in the dark as anyone else.

A striking example can be found in the rating firm M-CRIL's on-the-ground testing of likely loan loss levels in branches of several big Indian MFIs. The MFIs' financial reports showed annual loan loss levels of about 0.5 percent of portfolio. M-CRIL investigators estimated that real losses were likely to be 5–7 percent (Sinha 2010). (The prevailing rule of thumb for uncollateralized microcredit has been that something like 5 percent tends to be an upper limit of sustainability. An annual loss rate above that level must be reduced quickly or it will tend to spin out of control, rising rapidly to levels that cannot be compensated for through higher interest rates.) In the Indian MFIs, the gap between report and reality happened mainly because loan officers were simply rescheduling or otherwise renegotiating the loans of borrowers who couldn't pay, even when eventual repayment was very unlikely. This left the loans looking like they were being paid on schedule, and protected loan officers' bonuses that were linked to low delinquency.^c The MFIs should have had internal audit systems that would flag such practices.

All in all, then, high repayment rates are not a clean bill of health.

^a High default in a *market* usually involves serious over-indebtedness. But high default for a *particular lender*, when other lenders in the market are collecting successfully, is more likely to be a symptom of poor loan management and insufficient attention to collection systems and performance. Also note that in some repayment crises, political agitation may be a major contributor, leading to opportunistic default by many borrowers—e.g., Krishnaswamy and Ponce (2009a). Of course, the political agitation may have resulted from a real over-indebtedness problem in the first place.

^b E.g., Collins, Morduch, Rutherford, and Ruthven (2009) and Morvant-Roux (2009).

^c Rescheduling or renegotiating loans is appropriate when borrowers have temporary cash flow problems but are likely to be able to pay off their obligations somewhat later. Rescheduling is inappropriate, indeed dangerous, when it is done to postpone the day of reckoning on loan amounts that are unlikely ever to be recovered.

measurement is based on an admittedly crude estimate that such a situation is unsustainable, or at least that it is bad, for the average borrower.⁴³

The debt service ratio compares scheduled loan payments with the income available to make those payments. This comparison is a fundamental tool of risk management for many microlenders. In most individual lending programs, a key part of the loan officer's job is supposed to be sizing up a loan applicant's likely repayment capacity by looking at income and household expense, and seeing whether there is enough surplus income to cover the periodic payments on the proposed loan.⁴⁴

Sometimes a microlender's loan policy states an explicit numerical threshold—e.g., “loans should normally not be approved if the payments would exceed X percent of the borrower's disposable household income.” The percentage threshold may be a seat-of-the-pants guesstimate, or it may be determined by analyzing historical repayment experience with thousands of borrowers: if borrowers have a debt service ratio of X percent, what percent of the time do they default?

Other microlenders require the same cash flow analysis, but do not define a numerical threshold. Either way, when the debt service ratio is judged to be too high, the loan is refused.

So debt service ratios can help estimate the odds of loan repayment. Indeed, debt or debt service ratios are often used in efforts to quantify over-indebtedness. But such measures have their limitations.

One challenge is that there is no one-size-fits-all ratio that is appropriate for everyone. Circumstances of borrowers and their households vary a lot—e.g., number of children, absolute size of income, etc. A

ratio that is perfectly manageable for one borrower may be too much of a burden for another.

Even if debt ratios were perfect proxies for over-indebtedness, the necessary data are usually not readily available, especially in less developed markets. Most microcredit markets do not yet have credit bureaus that cover microcredit. And even where such credit bureaus exist, they have no income information for microborrowers and can't give a complete picture of their debt either, because so many borrowers also use informal lenders that don't report to credit bureaus. This problem is especially acute if there is no way to determine the borrower's consumption expenses, so that the ratio has to be based on income rather than income net of basic expenses.

Finally, the use of the loan proceeds can make a huge difference. For example, suppose we are told that a given borrower's total monthly debt service is 75 percent of monthly income. At first blush that sounds terribly high, because it seems as if only 25 percent is left for essential consumption expenses. This analysis would be near the mark if, for instance, the loan proceeds are used to pay for a wedding. But suppose the loan proceeds are used to finance basic food, clothing, and shelter. In that case, the inflow (loan disbursement) and later outflow (loan payment) of principal doesn't change the total amount available for consumption. It is only the interest expense on the loan that reduces consumption possibilities. The same debt service ratio might be completely unsustainable when financing a funeral, but very manageable when financing basic consumption.⁴⁵

So, it is impossible to set a threshold debt service percentage that fits all borrower circumstances well. The problems with debt-to-asset ratios are similar. But this certainly does not mean that the ratios

43 Debt-to-asset ratios are also used: over-indebtedness starts when a borrower's total debt exceeds Y% of the borrower's assets. This approach is close to the common definition of corporate bankruptcy as a situation where liabilities exceed assets. But debt-to-asset ratios tend to be less relevant in microfinance. Microborrowers tend to have few assets, their loans are usually uncollateralized, and the lenders typically expect to be repaid out of current income, not by liquidation of assets.

44 In group lending programs, decisions about a borrower's creditworthiness are usually made by fellow group members, not a loan officer. But when group members make such judgments, surely it is not unusual for them think about whether the borrower has enough income to make the loan payments.

45 For an extreme illustration, imagine someone who spends his entire take-home pay every month on consumption, uses a credit card for all purchases, and pays off the card each month without incurring any interest. The debt service ratio is 100% of take-home pay, yet the use of credit rather than cash is completely manageable, and leaves the borrower no worse off.

are useless for market research. Not surprisingly, some studies have established a robust correlation between a given debt ratio and high delinquency.⁴⁶ High delinquency is not the same as having serious problems in repaying (our provisional definition of over-indebtedness), but it seems reasonable to assume that there equally is a correlation between the debt-to-income ratio and over-indebtedness.

Guérin, Roesch, Subramanian, and Kumar (2011) point out another limitation of debt ratios, especially for poor borrowers in developing countries. Working with rural villages in Tamil Nadu in India, they find that debts differ in their social meaning, depending on their conditions and the relationships involved—especially given the diversity of informal loans that microborrowers may also be carrying. Certain debt contracts, or failure to pay those contracts, are more dishonoring than others, more difficult to handle, or more costly in terms of reciprocal obligations (e.g., expressing gratitude or making a return loan at a time that may be inconvenient). Some have tight repayment schedules with high penalties on late payments, while others pose less of a problem even if their amounts may be higher. The concept of a “total amount of debt” is therefore not intuitive for many poor borrowers and can feel like comparing apples to oranges. The more we aggregate information into ratios and unified thresholds across a market, or even an industry, the further we get from the real world of microborrowers and their experiences of over-indebtedness.

Multiple borrowing. Once borrowers have access to competing lenders, some take loans from more than one of those lenders at the same time. Multiple borrowing—or to be more precise, cross-borrowing—is often seen as a proxy or early warning signal for over-indebtedness.⁴⁷ The standard picture includes two problems: (1) if there is no credit bureau, borrowers accumulate more debt than they can handle because lenders have no way of knowing how much other debt the borrower

is carrying, and (2) borrowers postpone—and deepen—their problem by taking out new loans to pay off old ones, even though they may never be able to retire all their debt.

Conceptually, there are two problems with multiple borrowing as an indicator of over-indebtedness. First, someone can be over-indebted with even a single loan. Second, and more importantly, there are many settings where multiple indebtedness is a common, and perfectly manageable, cash flow management technique for low-income households.

In some cultures, the phenomenon has existed for a long time in the informal sector. It is part of the sophisticated system of money management poor people have developed, where one person is often a borrower and a lender at the same time (Collins, Morduch, Rutherford, and Ruthven 2009; Morvant-Roux 2009). Poor borrowers may consider it totally normal to juggle their different sources of cash, including a number of lenders. They may make smart choices within their systems of multiple indebtedness, aiming not to pay off the total amount they owe, but rather to keep their creditworthiness with as many lenders as possible as a safety net for future cash needs. They may not consider themselves at all over-indebted (Guérin, Roesch, Subramanian, and Kumar 2011). There are other good reasons for multiple borrowing that have nothing to do with having too much debt. Good borrowers may want, and be able to handle, larger loans than individual MFIs are ready to offer,⁴⁸ or an additional opportunity may come up in the course of a loan cycle. An emergency can be a good reason to borrow anew without implying over-indebtedness. Finally, additional loans may help manage an unfavorable timing of disbursement or a strict repayment schedule that doesn’t fit a borrower’s cash flow. In short, multiple borrowing options are beneficial for many borrowers.

Empirical findings are mixed. Most studies have found at least some degree of correlation between

46 E.g., Maurer and Pytkowska (2010), Vogelgesang (2001), Rinaldi and Sanchez-Arellano (2006).

47 Strictly speaking, “multiple borrowing”—carrying more than one loan at a time—would include having two or more loans from a single lender. “Cross-borrowing” refers to simultaneous loans from different lenders. This section focuses on the latter situation. But we retain the term “multiple borrowing” because it is the one most commonly used.

48 E.g., Grammling (2009).

multiple loans and repayment problems.⁴⁹ But studies in other settings have found no such correlation. For instance, Gonzalez (2008) found that the Bolivian over-indebtedness crisis in the late 1990s was not associated with multiple borrowing. The indicator would not have revealed that an over-indebtedness crisis was going on. Another study actually found a negative relationship between multiple loans and repayment failures—i.e., multiple borrowers repaid better than those with single loans (Krishnaswamy 2007). This somewhat surprising finding might be explained by hypothesizing that the more skilled money managers were more likely to take on multiple debts. Alternatively, it might be that those with multiple loans were temporarily postponing an inevitable delinquency or default; longitudinal research would be required to test this explanation.

To sum up, there is reason to believe that, for some borrowers, multiple borrowing can be a step on the path to over-indebtedness, but, by itself, it is not a reliable measurement to identify over-indebtedness problems in a population. At best, it might be a useful piece of a multi-factor over-indebtedness index.

Borrower struggles and sacrifices. The above measures leave out some people we normally would think of as over-indebted, and include people we would not think of as over-indebted. Our earlier provisional definition—borrowers are “over-indebted” if they have serious problems in paying off their loans—was chosen because we think it corresponds to what most people have in mind when they use the term. If borrowers simply can’t repay, almost everyone would regard them as over-indebted. If certain borrowers do manage to repay their loans, but have to make extreme sacrifices to do so, most of us would think they probably have too much debt. (More later on what’s “extreme.”)

Some researchers have looked at the sacrifices borrowers make to repay.⁵⁰ Others have framed a formal over-indebtedness definition along these lines.⁵¹

Gonzalez’s (2008) definition is that “over-indebtedness occurs when the repayment outcome of a loan contract does not correspond to the original expectations of either the borrower or the lender or both.” Even if they eventually repay, microborrowers are over-indebted already when payment requires more costly actions than expected. This is quite a broad concept of over-indebtedness. It includes costly actions even if the borrower might not view them as sacrifices.⁵²

According to Schicks (2010), the threshold of over-indebtedness is reached when a microborrower “is continuously struggling to meet repayment deadlines and structurally has to make unduly high sacrifices related to his/her loan obligations.” Especially in the context of an industry that says its purpose is to help the poor, microborrowers who manage to repay only by sacrificing minimum nutrition levels or their children’s education should be counted as over-indebted. In the context of short-term microlending, this definition treats over-indebtedness as a structural phenomenon. Only repeated sacrificing or severe sacrifices that indicate persistence of debt problems meet the threshold.

But when are sacrifices “unduly high”? In the absence of any objective standard that would apply in all settings, Schicks’s approach is to let the borrowers themselves indicate the outer limits of the level of sacrifice they feel is acceptable. If the focus is on the level of distress experienced by borrowers, then their subjective judgment is the only source that can take all individual circumstances and complexities of the debt phenomenon into account.

49 E.g., Maurer and Pytkowska (2010), Chaudhury and Matin (2002), CARE/Bangladesh (2005), Martinez and Gaul (2011), Grammling (2009), Krishnaswamy and Ponce (2009a).

50 E.g., CARE/Bangladesh (2005, 2005a).

51 Cf. Rhyne (2010).

52 Gonzalez’s definition includes opportunistic default (in this case, it is the lender’s expectations that are not met), even though most people would not describe such defaulters as over-indebted.

Like any other approach with subjective elements, using borrower judgments about the acceptability of sacrifices has its downsides. It has to deal with the idiosyncrasies, biases, and honesty of respondents. This can be an acceptable challenge in a research context but would be problematic for regulatory purposes. Box 3 illustrates one approach to implementing this struggle-and-sacrifice definition in on-the-ground research, showing that it can deliver useful results.

There is also an ethical complexity. If over-indebtedness is defined in terms of subjective acceptability of sacrifices, then one might conceivably make the perverse argument that the way to reduce over-indebtedness is to condition borrowers to accept greater sacrifices. Nevertheless, the idea that borrowers are not over-indebted if they are happy with their loans in spite of some struggle is powerful from a consumer protection perspective. For example, reducing the stigmatization of borrowers in difficulty and enhancing their safety network may be a valid measure to ease over-indebtedness.

Finally, the notion that borrowers are suffering from serious sacrifices to repay their loans might lead to an inference that the loans have hurt the borrowers and that we'd therefore prefer to prevent such loans. This inference is not necessarily true. For instance, a borrower who has to go without food for two days to repay a loan may have taken the loan in the first place to avoid going without food for a full week. In this scenario, the loan has helped the borrower notwithstanding the serious and repeated repayment sacrifices. Struggle and sacrifice are not the same as negative impact.⁵³ Given the low, variable, and vulnerable incomes of poor people, coming up with the money for any cash need, not just loan repayments, often requires serious sacrifice.⁵⁴ This consideration might temper our judgment as to what level of struggle-and-sacrifice over-indebtedness is reasonable in microlending.

Even if measuring struggle and sacrifice doesn't automatically tell us that borrowers are being

hurt by their loans, it is still very useful as an indicator. First, if a large proportion of borrowers are struggling to repay their loans, we would want to know that regardless of whether the loans are ultimately pluses or minuses in their lives. Better loan analysis, more flexible loan policies, or other measures (even alternatives to credit) might reduce the problem.

Second, repayment struggles may not prove negative impact, but it seems reasonable to think that, all other things being equal, higher levels of borrower struggle increase the probability that the loans are actually making people worse off. And the borrower's judgment that sacrifices were related to the loan and "unacceptable" given the loan's purpose implies a certain relationship to impact. The link between struggle and negative impact gets stronger when the definition includes only those sacrifices that borrowers themselves judge as "unacceptable." Presumably, borrowers would be less likely to feel that repayment sacrifices are unacceptable in situations where they think the loan has made them better off, notwithstanding the sacrifices.

Finally, tracking this kind of indicator (like some of the other indicators) over time can reveal important trends and perhaps reveal growing problems before they hit the lenders' delinquency reports. We would argue that, for survey work oriented to consumer protection, it is the most powerful of the definitions.

Composite indicators. Finally, when no definition is free of challenges, it makes sense to adapt the definition and measurements we are working with to the questions we ask. It is not one solution we are looking for but a set of responses to the various purposes of measuring over-indebtedness. A client protection question is likely to work best with one of the latter definitions; a regulatory definition is more likely to use fixed criteria that might be imperfect but at least provide clear guidelines. And a risk management definition for lenders may look slightly different again.

⁵³ In this simple example, the borrower would probably not rate the sacrifice of going without food as "unduly high." But real situations are usually more complex.

⁵⁴ Cf. footnote 56.

One approach to deal with the limitations of the various criteria is to combine several measures into a composite indicator. One such example, in a developed nation context, has been suggested by the European Commission (2008). For the political purpose of approximating the number of consumers with over-indebtedness problems in a society, it combines subjective elements, such as the household's perception that repayment is "very difficult" and the debt a "heavy burden," with objective criteria, such as persistent arrears and debt or other required payments that push a household below the poverty line. Applying several indicators simultaneously reduces the number of subjects who fall into the over-indebtedness category, while applying them selectively increases the number. See Box 3 for a brief discussion of financial vulnerability indices.

The microfinance industry needs empirical research to identify proxies, or proxy combinations, that not only correlate well with over-indebtedness but are practical for ongoing collection. Kappel, Krauss, and Lontzek (2010), described in the next section, report on work toward an early warning index that incorporates multiple indicators.

Box 3. Financial Vulnerability Indices

The University of South Africa's Bureau of Market Research has developed a Consumer Financial Vulnerability Index (CFVI), which combines income vulnerability (household income and savings) with expenditure vulnerability (consumption and debt service) (van Aardt and Moshoeu 2009).^a CFVI incorporates a broad range of financial obligations, not just debt service. Conceptually, this is a superior approach. Being short of money to pay a debt is not that different from being short of money to make any other required payment. Likewise, the inclusion of income in the equation makes sense. Difficulties spring not from payment obligations, but from a mismatch between payment obligations and income. Collecting this fuller set of information is, of course, more challenging, especially in less developed countries.

^a See also European Commission (2008).

4. The Empirics of Microcredit Over-Indebtedness: What We Know to Date

We have been able to locate six field studies that try to quantify microcredit over-indebtedness. Given the small number of studies, our ability to generalize is limited. But most of them have found levels of over-indebtedness (variously defined) that seemed higher than what the conventional wisdom about microcredit might have suggested. As noted earlier, a normal, "healthy" level of over-indebtedness—i.e., a level that couldn't be lowered without undue restriction of loan access—is probably higher than what we would expect or want to see at first intuition. But even with that caution in mind, the levels of over-indebtedness found in most of the studies seem worrisome. On the other hand, most of the markets studied were selected precisely because local observers were concerned about over-indebtedness problems,⁵⁵ so the small sample of countries is highly skewed. A brief discussion of each of the studies follows, with key points summarized in Table 1.

Bolivia. Gonzalez (2008) relied on a 1997–2001 household survey. He identified 1,256 households that had at least one microloan during the period and were willing to repay it. Three quarters of these households had to resort at least once to costly, unanticipated measures to repay the loan. The list of costly measures included having to work more than one's regular schedule (66%), liquidating financial savings (47%), having remittances specially sent for the purpose (29%), selling productive assets (23%), getting a new loan to repay another (10%), and others.

Gonzalez's definition of over-indebtedness was an unusually expansive one. It included some repayment measures (e.g., working extra hours or drawing on savings) that most people would not regard as drastic, even if the household didn't anticipate them at the time of the loan. And a single occurrence of such actions over a four-year span was enough to count the household as over-indebted. So it is not surprising that the

proportion of people who were over-indebted by this definition was quite high—85 percent.⁵⁶

Gonzalez found that, for his sample as a whole, there was no significant association between multiple borrowing and over-indebtedness. Surprisingly, in spite of the comprehensive information (including past repayment problems) the Bolivian credit bureau collects, he couldn't detect a significant relation between use of a credit bureau and lower loan delinquency.

Ghana. Grammling (2009) studied cross-indebtedness and over-indebtedness among borrowers at an MFI affiliate in Ghana, using a combination of techniques, including “rapid market appraisals” of microfinance clientele in markets, villages, and the MFI's premises; in-depth interviews with the MFI's clients; and an exchange of information on a sample of clients of the MFI and two competitor MFIs.⁵⁷

Over-indebtedness was broken into three categories:

- Not over-indebted.
- At risk of becoming over-indebted—the borrower is decapitalizing, but business assets exceed liabilities.
- Over-indebted—the borrower is decapitalizing, and business assets do not exceed liabilities. However, private assets are not included in the analysis, so it can be assumed that some borrowers in this category will manage to pay their loan by selling nonbusiness assets.

The researchers assessed the over-indebtedness level of each borrower, based on interviews, loan files, and information exchanged among MFIs.

Twelve percent of the MFI's borrowers were found to be over-indebted, and 16 percent were judged to be at risk of over-indebtedness—

levels much higher than what the MFI's ongoing collection statistics would have suggested at the time of the study. More than half the borrower respondents had more than one loan at a time, and cross-borrowing did correlate with over-indebtedness, even though many cross-borrowers were not over-indebted. Grammling concluded that multiple and over-indebtedness were growing fast, and that a credit bureau was urgently needed. See Box 4 for a discussion of a later Ghana study.

Country X. A restricted-distribution study used a sample of roughly a thousand microborrowers at a half-dozen institutions. Levels of over-indebtedness were assessed using data on client debt service and income from a credit bureau and the lenders' loan files. In a second phase, problem clients and lender staff were interviewed to shed light on the causes of over-indebtedness.

Over-indebtedness was based on a debt-service ratio: households' monthly loan payments divided by gross income net of expenses.⁵⁸

- Not over-indebted—debt service below 75 percent of net income.
- At risk of becoming over-indebted—debt service between 75 and 100 percent of net income.
- Over-indebted—debt service more than 100 percent of net income.

Among the borrowers studied, 17 percent were classified as over-indebted and 10 percent as at risk of becoming over-indebted. Multiple borrowing correlated strongly with over-indebtedness. Poorer clients were more likely to be over-indebted. The average monthly income of over-indebted households was less than half that of the not-over-indebted households.

Karnataka, India. In 2009, there were mass defaults, largely by Muslims, in several towns

⁵⁶ Gonzalez's focus was not to identify problem lending, but rather to explore clients' willingness to make extra efforts to repay loans.

⁵⁷ In Ghana (and no doubt in some other countries as well), borrowers are culturally reluctant to discuss loans, and especially their difficulties in repaying loans. Grammling provides a useful description of techniques he used to overcome this problem.

⁵⁸ This analysis treats household expenses as a fixed amount per month (probably drawn from loan officers' appraisal of borrowers' cash flow as recorded in the MFIs' loan files). In fact, household expenditures are somewhat flexible and can rise or fall to accommodate loan payments.

Box 4. Recent Over-Indebtedness Study in Ghana

Two years following the Grammling study, after the Ghanaian microfinance market stopped growing and MFIs became more careful with disbursements, one of the authors of this paper returned to Ghana to analyze over-indebtedness in more detail. In cooperation with the Independent Evaluation Department of the German development bank KfW and the Smart Campaign, the study is the first to apply an over-indebtedness definition that is based on excessive sacrifices in quantitative empirical research.

The researchers asked more than 500 microborrowers from five of Ghana's top MFIs about their experiences with their loans. They collected detailed information on the borrowers' personal situation, financial literacy, risk attitude, and borrowing behavior. Most importantly, they mapped current outstanding loans for every borrower and collected a detailed list of whatever sacrifices borrowers had to make to repay. Borrowers rated the acceptability of each sacrifice on a subjective scale from "easily acceptable" to "not acceptable at all." For example, they would rate "cut down on eating" as acceptable if it was about buying less meat in a week and as rather unacceptable if it was about going hungry and eating only a single meal per day. Their subjective judgment showed a fairly high tolerance for sacrifice, some borrowers finding it acceptable to eat less or sell their belongings. Borrowers indicated how frequently they experienced each sacrifice.

The study sheds new light on over-indebtedness, tackling it from a thoroughgoing customer protection perspective. By quantifying sacrifices, the study gives struggling borrowers a voice and provides insights into the efforts microborrowers make to meet their payment obligations. Additionally, the data will enable us to reassess whether over-indebtedness is a significant problem in Ghana and to test some of the potential drivers that we have discussed in Section 2 of this paper for their relevance in the Ghanaian microfinance setting. Watch upcoming Smart Campaign publications from the Centre for Financial Inclusion for results.

in Karnataka, prompted in large part by orders from local Muslim organizations banning Muslims from continuing contact with MFIs. Krishnaswamy (2011) reports on a CGAP study, conducted by the consulting firm EDA, of borrowers in two towns

that had mass defaults and two similar towns where such defaults did not occur.

In the mass-default towns, 21 percent of respondents said repayment was a burden (versus only 3% in the nondefault towns); 34 percent said they had skipped important expenses, including meals, or sold/mortgaged assets to repay loans (versus 2% in the nondefault towns); and the amount of weekly loan service actually paid at the time of the crisis averaged 27 percent higher than the borrowers said was affordable (versus 4% less in the nondefault towns). In the mass-default towns, some of the default was probably opportunistic. One can only speculate as to how much the opportunistic default and the environment of political agitation may have skewed borrowers' accounts of their sacrifices in the mass-default towns.

An index of subjectively reported debt stress was found to be correlated with debt service ratio, income shocks during the preceding year, income variability, and numerical literacy, among others.

Tamil Nadu, India. Combining quantitative and qualitative research methodologies, Guérin, Roesch, Subramanian, and Kumar (2011) find that the average household in the sample villages in South India has about one year's household income outstanding in debt and is making monthly repayments that amount to half of its income.⁵⁹

The paper argues that over-indebtedness is a complex social concept that has multiple meanings. For the purpose of the study, it defines over-indebtedness as a process of impoverishment through debt, distinguishing three different levels:

- **Transitional over-indebtedness**—debt servicing leads to a poverty trap, preventing any accumulation of assets, but households have effective strategies in place that promise a reduction of debt in the future. Average debt levels of 1.4 annual household incomes. Debt service around one-third of monthly household income.

⁵⁹ Some alert readers may wonder how the math in this sentence works. It makes sense if some of the debt is amortized over a period greater than a year. The most common sources for loans in Guérin's study were "well-known people" and "pawnbrokers." Self-help groups, which are often included within the boundaries of "microfinance," ranked third, being used by 41% of the households.

- Pauperization—in spite of assets sales, debt levels continue increasing, just to service existing debts and ensure household survival. Households survive on multiple borrowing and have no realistic prospect of meeting their repayment obligations in the long run. Average debt levels of 3.2 annual household incomes. Debt service ratio around 100 percent.
- Extreme dependence—households depend on kin support and charity for daily survival and have no possibility of ever repaying their debt. Many cases lead to complete social isolation and loss of self-dignity. The average debt level of this group is 13 times its average annual household income.

Of the original sample of 344 households, Guérin, Roesch, Subramanian, and Kumar studied only the most indebted 20 percent in detail. Out of these 68 households, 13 (19%) have fallen into “transitory over-indebtedness,” 26 (38%) represent cases of “pauperization,” and 29 (43%) suffer from “extreme dependence.”⁶⁰ The findings suggest that over-indebtedness is also prevalent among households that didn’t fall into this subsample. Twenty percent is, therefore, the absolute minimum estimate for overall over-indebtedness in the original sample.

Analyzing the causes that lie behind the over-indebtedness phenomenon, Guérin, Roesch, Subramanian, and Kumar make out two major forces: over-indebtedness seems to result from the combination of material poverty and growing social aspirations.

Multi-country study. Kappel, Krauss, and Lontzek (2010) develop a preliminary early warning index for over-indebtedness on a country level, using primary data from an MFI survey combined with secondary data from MIX Market⁶¹ and macroeconomic databases. The sample is limited to 13 countries and is based on the experience with

only 3–4 crisis countries. The authors acknowledge that this imposes severe restrictions on the reliability of the index, but the paper takes an important first step in developing a methodology for predicting country-level repayment crises.

The study focuses on over-indebtedness in the sense of repayment problems, defining it as a chronic and involuntary inability to meet all payment obligations by means of the household’s excess cash. It approximates over-indebtedness on the country level, using 30- and 90-day arrears as a measurement of crisis outbreak and the loan loss rate and write-off ratio as measurements of continued crisis.⁶² On an individual level, it uses a debt service ratio as proxy for over-indebtedness.

Drawing on the available data for a modified approach of signaling analysis and sometimes on hypotheses from the literature or the judgment of microfinance practitioners, Kappel, Krauss, and Lontzek (2010) identify 14 potential early warning indicators for over-indebtedness:

1. Remittances
2. Market penetration
3. Growth rates of total volume of loan portfolios
4. Quality and use of credit information sharing systems
5. Perceived commercial bank involvement
6. Perceived level and trends in competition
7. Perceived investment flows
8. MFI liquidity
9. Average loan balance per borrower
10. Loan requirements and lending methodologies
11. Productivity
12. Growth and market targets
13. Multiple lending
14. Consumer lending

The study concludes that countries such as Bosnia–Herzegovina, Cambodia, and Peru currently have the highest over-indebtedness risks among the 13 sample countries. Bolivia, Ecuador, El Salvador,

⁶⁰ We are providing percentages to give the reader an idea of the magnitude of problems identified by this study. However, we cannot draw reliable statistical conclusions about the distribution of households within this smaller subsample of only 68 respondents.

⁶¹ Microfinance Information Exchange, an online information portal based on self-reports but offering the broadest global database on MFIs to date. www.mixmarket.org

⁶² The loan loss rate and write-off ratio measure unrecoverable loan amounts as a percentage of total loan portfolio.

and Georgia display the lowest risks of over-indebtedness according to the selected indicators.

[There have been several studies of over-indebtedness among low-income and other borrowers in South Africa. We have not included them here because little of the lending involved was the kind of microcredit that is the focus of this paper. Nevertheless, it's worth noting that these South Africa studies have generally found worrisome levels of over-indebtedness.⁶³] As noted, the list of quantitative studies available so far seems much too short. We hope that many more researchers will work on such studies, including not only academic research but also less rigorous market research conducted by MFIs and regulators. See Table 2 for a summary of the empirical studies discussed in this section.

5. What Can Be Done?

Finally, we will look at practical steps by lenders (and, secondarily, by donors and investors that

support access to finance) that might prevent or remedy over-indebtedness. The list of such steps is fairly long. We can provide only a brief, broad-brush survey here—full discussion of any one of the topics would require a separate paper.

Note that this paper *does not* address actions by regulators.

Despite the desire for concrete, down-to-earth advice on what to do and what not to do, *on most topics we avoid recommendations, not only because the evidence base is thin, but also because the usefulness of the action depends heavily on local circumstances.* We cannot offer a how-to manual, but rather we can offer a checklist of options to consider along with a few factors to bear in mind when considering them. We begin with measures that MFI managers can take, and then turn to possible actions by funders. (See Box 5 for a discussion of the Smart Campaign's consumer protection resources.)

Table 2. Summary of empirical studies

Setting (Author)	Methodology	Definition of Over-indebtedness	Findings
Bolivia 1997–2001 (Gonzalez 2008)	HH survey	Costly unanticipated actions to repay	85% of HH had at least one occurrence during the four years
Ghana 2009 (Gramling 2009)	Rapid market assessment, borrower surveys, info exchange between MFIs	Business decapitalizing (as assessed by researchers)	12% over-indebted, another 16% at risk
Country X 2009 (restricted report)	Debt service and expense data from credit bureau and loan files of lenders	Debt service greater than 100% of HH income net of other expenses	17% over-indebted and another 11% at risk (debt service 75–100% of net income)
Karnataka, India, 2010 (Krishnaswamy 2011)	Loan records and HH survey	Subjective report of stress; sacrifices to repay	Over-indebtedness high in mass-default towns, but low in nondefault towns
Tamil Nadu, India 2005–2009 (Guérin, Roesch, Subramanian, and Kumar 2011)	Qualitative interviews, observation, and HH survey (N=344)	Impoverishment through debt	More (possibly much more) than 20% over-indebted
Multi-country study (Kappel, Krauss, and Lontzek 2010)	Preliminary composition of an early warning index, largely based on signaling analysis with an MFI survey and MIX Market data	Chronical and involuntary inability to meet all payment obligations by means of the household's excess cash. Proxies: arrears, write-offs, loan losses, debt service ratio	14 potential early warning indicators for over-indebtedness. Highest risk countries in sample: Bosnia–Herzegovina, Cambodia, Peru

63 E.g., Collins (2008)

Box 5. The Smart Campaign

The Smart Campaign is a global coalition of hundreds of MFIs, investors, donors, and other industry players who are committed to keeping clients' welfare as the driving force in microfinance. Its Client Protection Principles include a heavy focus on avoidance of over-indebtedness. For a list of normative recommendations in this regard for MFIs, see Smart Campaign (2011). More generally, the Campaign's Web site (www.smartcampaign.org) offers a wealth of client-protection resources.

We begin with measures that MFI managers can take, and then turn to possible actions by funders.

MFI actions

MFIs can consider revisions to **product design**:

Flexible loan product offerings that better meet client needs. The incomes and expenses of microborrowers tend to be irregular and unreliable. The harder it is for them to match their actual cash flow with their loan repayment schedule, the more debt stress is likely to occur.

In the early years of microcredit, most MFIs settled on one-size-fits-all loan products with lockstep installments due every week or every month. The MFIs understood that this rigid approach didn't fit their borrowers' cash flows very well. They chose the model because a single cookie-cutter product helped keep costs low (cost was the central challenge of early microcredit), and frequent regular installments reduced repayment risk for uncollateralized borrowers.

But much of the industry has moved a long way up the learning curve since then. Lending institutions are more experienced and solid. Numerous MFIs have demonstrated the skill needed to offer multiple loan products, including more flexible products, without delinquency or costs spinning out of control. Grameen Bank, for instance, has had great success with its Grameen II product line up, which includes options for borrowers who have temporary problems making their

payments.⁶⁴ Note that if an MFI allows penalty-free prepayments, borrowers are more likely to pay off their loans during good times, which obviously eliminates the risk that they will run into trouble meeting later payments.

Whatever the relation to over-indebtedness, improving product flexibility and, more generally, matching products better to client needs are important overall goals for the microcredit industry. And it seems strongly plausible that over-indebtedness would be lower if amortization schedules could fit better with the timing of borrowers' incomes, and if more flexibility could be allowed in repayment. However, we don't want to imply that all microlenders should be moving to flexible loan products right now. All other things being equal, flexible products tend to be more complex and expensive to administer, and there are situations where insisting on too much flexibility can actually limit access. General discussions like this one can't go very far toward defining the proper balance among flexibility, cost, risk, and access. That question should be addressed in specific settings, based on the particular characteristics of individual lenders and their borrowers.

More conservative loan amounts and increments on graduated lending ladders. Lenders might lower the size of new clients' first loans, or slow the growth in loan sizes when previous loans are repaid, or not grant the same size increase to everyone automatically. Steps like these should be approached cautiously, because they directly reduce loan access. As noted, clients are often driven to multiple borrowing (including informal borrowing) because they want, and can handle, loan amounts that are larger than an MFI is willing to give them.

Savings. Voluntary savings products might also play a role in reducing borrower stress. If the MFI offers convenient, safe, liquid savings vehicles, its customers will use them. A customer with a liquid savings cushion would seem less likely to have to make extreme sacrifices, such as selling a business

⁶⁴ E.g., Rutherford, Maniruzzaman, Sinha, and Acnabin & Co (2004).

asset or taking a child out of school, to make a loan payment.

Nonliquid “commitment” savings products, with restrictions on withdrawal, and/or incentives to make regular deposits, can play a role as well. As discussed in Section 2, many poor people take out loans to help themselves with the discipline to save—i.e., to set aside a regular amount each period and protect it from the temptations of immediate consumption. They find this service so valuable that they are willing to pay high interest rates to save this way. A good commitment savings product would be much better than debt for this purpose. The borrower’s cost and risk are both much lower that way.⁶⁵

MFI managers have reported that when loans are funded largely by local community deposits, both loan officers and borrowers are more responsible about putting those funds at risk. And finally, a loan officer may be less likely to twist a borrower’s arm to take out an inappropriate follow-on loan if the MFI will have a continuing deposit relationship with the customer.

MFI managers can consider adjustments to their sales process:

Marketing practices and follow-on loans. Some marketing practices—e.g., targeting active clients of another microlender with offers to add to their debt level—can intensify the risk of over-indebtedness.

Loan officers should avoid pressuring existing clients who have repaid a loan to take out another one immediately, especially if the clients don’t need a new loan just then. Particularly, they should not say, or imply, that these clients will lose access to future loans if they don’t borrow constantly.

Clear disclosure of loan terms. It seems plausible that people who understand the costs and other

requirements of their loan clearly would be less likely to over-indebt themselves. And indeed, there is a straightforward case for informing borrowers about the obligations they are undertaking, whether or not it reduces over-indebtedness. Even in the absence of regulatory requirements, MFIs should ensure that borrowers get a brief, understandable statement of how much net cash will be disbursed to them, the expected repayment schedule, any fees and penalties, and perhaps other key terms and risks (e.g., the consequences of default).⁶⁶ The format for such disclosure needs to be tested for intelligibility—information that is complete and accurate may still be useless if it is stated in language that borrowers cannot digest, or is buried in a lengthy and complicated disclosure document.

When it comes to disclosure of interest costs, the picture is more complex. Theoretically, the ideal interest rate disclosure format would capture all information about amount and timing of cash flows in a single number that can be used to compare the cost of various forms of credit that may be structured quite differently. Discounted cash flow calculations, such as the annual percentage rate (APR), do this, and APR is the standard disclosure tool in most of the world.

But an emerging body of evidence suggests that APR disclosure doesn’t work very well, at least by itself. However accurate it might be, it seems to fall short of the desired effect on borrower behavior, especially for lower income and less sophisticated borrowers, in both rich and poor countries.⁶⁷ It seems likely that in most microcredit settings, clients will be better served by complementing or replacing APR with some other price disclosure method—e.g., a simple statement of the total amount of interest and fees that the borrower will pay over the life of the loan. The Philippine central bank is involved in field research testing various forms of interest disclosure with microborrowers.

⁶⁵ See Abed (2011).

⁶⁶ Although it is less common among microlenders, late-payment penalties can be a major source of income for some lenders. But such penalties are usually not included in APR calculations, because there is no way to predict their amount at the beginning of a loan.

⁶⁷ E.g., Collins, Morduch, Rutherford, and Ruthven (2009); Bertrand and Morse (2010); Robb (2007); Barr, Mullinaithan, and Shafir (2008); Elliehausen (2010); Brix and McKee (2010).

Financial literacy. Growing concern about over-indebtedness is matched by growing interest in programs that help cultivate the knowledge, skills, attitudes, and behavior people need to make sound financial decisions. Some MFIs deliver such material to customers at the preloan stage. Often such programs are also promoted by governments, educators, and civil society actors. Evidence so far about the effectiveness of these programs seems mixed.⁶⁸ More research and experimentation is needed.

Expand into new areas rather than already served ones. As noted in Section 1, MFIs often prefer to expand into areas where some competitor has already developed customer awareness of microcredit and demonstrated a strong market, rather than expanding into previously unserved localities. As MFIs become more aware of the risks to themselves and their customers posed by oversaturated local markets, we hope that they will channel their expansion more often into un- or underserved areas. This could reduce over-indebtedness and improve outreach at the same time.

Many MFIs face key issues in their **loan underwriting** (i.e., analysis of borrower credit-worthiness).

Cash flow evaluation. The most obvious way to reduce over-indebtedness risk is to strengthen the assessment of a borrower's repayment capacity before approving loans. This starts with determining the amount, regularity, and reliability of the borrower's (or, more typically, the borrowing household's) income. Income has to be matched against outgoing cash flows, including not only the debt service on the proposed loan, but also

consumption and other expenses, including, where possible, debt service on other borrowings. The risk of adverse shocks to income and expenses should be considered.

However, information about the borrower's other debts may be difficult to get if there is no credit reporting system, and even a good credit reporting system will not capture debts to informal lenders.⁶⁹ We discuss credit reporting later in this section.

This kind of cash flow analysis is a common feature of individual and solidarity group lending,⁷⁰ even though it is not always vigorously implemented. It is far less common in group lending. In some circumstances, the threat of over-indebtedness might require substantial adjustments to group lending techniques. After an over-indebtedness crisis, Kashf Foundation in Pakistan eliminated group lending and moved to an individual model where loan officers analyzed each borrower's cash flow, though this roughly doubled the cost of lending.⁷¹ As a less drastic alternative, the Negros Women's Trust for Finance in the Philippines is experimenting with training group borrowers to analyze each other's cash flow.⁷²

MFIs sometimes fail to refresh the cash flow analysis when borrowers take out follow-on loans that are much larger than the original loan for which the analysis was performed.

Specific limits on debt service ratios. Once the cash flow analysis is done, an MFI may constrain loan officers' discretion by imposing a cap on the debt service for the proposed loan as a percentage of net income—e.g., a loan will be denied if the repayments would constitute more than X percent of household income minus consumption and other

68 E.g., Bilal (2010).

69 Clients are usually not forthcoming about their other debt. They perceive (quite correctly) that disclosing other debt may hurt their chances of getting their loan approved. In the absence of a credit reporting system, one possible approach to improving clients' incentives to disclose might be for microlenders to make it clear to borrowers that (1) carrying multiple loans is fine as long as total debt service doesn't exceed repayment capacity, and (2) failure to disclose other active loans (perhaps only loans from formal lenders) will, if detected, result in the cancellation of the current loan and the borrower's permanent exclusion from the MFI's services. E.g., the lenders could try to locate occasional examples of false disclosure by informal consultations with other lenders, and make sure that its broad clientele is aware that the sanctions are in fact enforced vigorously in these cases. This approach sounds harsh, but it could reduce over-indebtedness.

70 In solidarity group lending, borrowers are organized into small groups, but the MFI lends to individuals rather than the group, and assesses each individual loan separately.

71 Roshaneh Zafar at the 2011 Boulder MicroFinance Training. Kashf's Web site is www.kashf.org.

72 Roque Caseres at the 2011 Boulder MicroFinance Training. The MFI's Web site is www.nwtf.ph. For suggestions on loan underwriting in group lending, see Smart Campaign (n.d.). See also Smart Campaign (2010) for a recommendation against approving loans based solely on guarantees by others, when there has been no appraisal of the borrower's repayment capacity.

expenses (including debt service on other loans). The MFI may or may not allow exceptions to the policy based on a specific approval process.⁷³

Verifying borrowers' repayment history and other debts. Where there is a credit reporting system, MFIs need to be sure their loan officers use it to identify borrowers who have experienced problems with repayment in the past, as well as to find out what debts the borrower has with other formal lenders. Even in the absence of a formal or informal credit reporting system, MFIs may be able to tap community knowledge, or use other techniques, to identify borrowers who are in debt to another lender. And in any circumstances an MFI can, of course, check its own collection history with the borrower; surprisingly, a few MFIs fail to do this systematically.

An MFI's **collection process** is another arena for possible action.

Appropriate policies for renegotiation of loans. When borrowers cannot meet a payment, loan officers or managers may renegotiate the delinquent loan, either by amending its terms to stretch out the repayments (rescheduling) or by giving the borrowers new loans they can use to pay off the old ones (refinancing). The motivation for the renegotiation may be to accommodate individual borrowers who are likely to be able to repay eventually. This is appropriate. As discussed earlier, literal enforcement of a zero-tolerance policy is seldom desirable. But often, staff—with or without the collusion of branch managers—will extend or roll over loans for a borrower who has no realistic prospect of eventual repayment, to protect salary bonuses that are tied to loan repayment. This kind of renegotiation is extremely dangerous, because it can conceal from central management a serious outbreak of repayment problems until it spins out of control. Perversely, a policy that prohibits loan rescheduling altogether can make it more likely that loan officers roll over uncollectible loans by issuing new ones to the same

borrower. In addition, inappropriate rescheduling may allow borrowers to dig themselves deeper into debt problems instead of facing them at an early stage where less drastic solutions might still be available.

Getting the rules right involves some tricky balancing. Opening the door to loan rescheduling introduces ambiguity and may increase costs, but keeping this door totally shut hurts borrowers who have run into honest repayment difficulties but are likely to be able to pay eventually. MFIs need clear, carefully thought out renegotiation policies.

Restraining abusive collection. Over-aggressive loan collection practices are doubly dangerous. They increase the likelihood that borrowers will make draconian sacrifices to repay, which may be good for the lender but can be bad for the borrowers. And conscience-shocking collection practices have often fueled major political backlash.

Which practices are abusive? Some—e.g., physical threats—should be unacceptable in any setting. But as long as they do not reach the extent of harassment, the acceptability of others—e.g., repeated visits to a borrower's house, publicizing the names of nonpaying borrowers, or pressure from other members of a borrower's group—may depend on local attitudes and culture.

Collection practices need to be effective, without trespassing on the courtesy and respect clients deserve. This can be a delicate balancing act. MFIs need to define acceptable practices with care and specificity.⁷⁴

Penalty interest. Some lenders charge higher interest on late payments. This has obvious value as a repayment incentive, but it can be dangerous. Not only does it add to the payment obligation of already overburdened borrowers, but in addition, if a lender is making a substantial portion of its profit from late fees, it may have created, intentionally

⁷³ The Smart Campaign (2011) cautions that if the lender is calculating debt service ratios, "[i]t is also useful to have a qualitative definition of over-indebtedness to help staff keep the main objective in mind and to avoid the rote use of numeric tools." An example of such a definition is a state in which a borrower has to make significant sacrifices to his or her standard of living or business affairs in order to repay debts.

⁷⁴ The Smart Campaign's checklist on collection practices is at http://www.smartcampaign.org/storage/documents/Tools_and_Resources/Collections_Guidelines_FINAL.pdf. For a good example of a collections policy, see Swadhaar (2011).

or unintentionally, an incentive to get borrowers in trouble.

Internal redress mechanisms. Problems and misunderstandings inevitably arise in the course of collections as well as other aspects of credit delivery. They can be addressed better if the lender has a clear and fair dispute process that is known to customers, readily accessible, and efficient. Some complaints turn out to be inquiries or misunderstandings. If they are handled well, the borrower ends up more loyal to the lender; if not, the borrower may be less inclined to meet his or her loan obligations. In other cases, legitimate complaints may point to inconsistent or inappropriate behavior by staff (e.g., pressure to borrow more than desired, overly aggressive collections) or their failure to follow established policy. If customers know where to go in such cases and have confidence that they will get an even-handed hearing and that the matter will be dealt with promptly, the lender has a chance to identify credit risk trouble spots, ensure compliance with policy, and take appropriate action against infractions. The lender also receives valuable feedback that can inform improvement in loan products and processes.

Some lenders place internal dispute resolution with a person or unit that is separate from lending operations, and reports to senior management or the board. Special care should be taken to ensure that customers know their options for recourse. Some lenders' procedures for handling borrowers with serious repayment problems include one-on-one debt counseling and a well-articulated process for deciding when rescheduling or refinancing might be justified.

Redress mechanisms could also be lodged externally, for instance with a federation of microlenders.

Other MFI measures that can affect over-indebtedness are not associated with a particular stage of the loan process.

Written policies, and enforcement through internal audit. Whatever policies the lender adopts on each of the topics discussed so far in this section, they should be stated in writing, communicated clearly to loan officers, and reinforced periodically.

Even when an MFI puts its policies in writing and communicates them clearly, the parts that are inconvenient for loan officers will not be implemented consistently unless incentives are properly aligned. One strong incentive is a vigorous system of internal audit that regularly checks on compliance with these policies.

Most MFIs use people with accounting backgrounds to staff their internal audit department. But for testing loan officer behaviors like the ones we've been discussing, managers should strongly consider adding former loan officers into their internal audits. Former loan officers "know all the tricks," and they will be much more effective at interviewing loan officers and borrowers—an essential component in testing compliance with the policies discussed above. Staff whose background is accounting are more likely to focus on paper documentation.

Specialized portfolio audits. Normal external audits of MFIs, and sometimes even bank examinations by prudential supervisors, do not look at loan portfolio quality intensively enough to provide solid assurance that the reported collection performance reflects reality. This is a serious gap. Loan collection is far and away the biggest business risk facing most MFIs. And while good collection is not a guarantee that there is little over-indebtedness, deteriorating collection is a sign that there may be serious borrower distress.⁷⁵

An MFI that wants solid independent portfolio testing usually needs to supplement its standard annual audit with additional "agreed procedures" that instruct auditors to conduct specified tests and report the results. There are at least two portfolio testing tools available that focus on the

⁷⁵ In some cases, poor collection results not so much from borrower distress as from management's failure to keep their staff strongly focused on loan repayment.

specific risks presented by microcredit portfolios (Christen and Flaming 2009, MicroSave 1999). Both of these tools can also be used by internal auditors. They examine not just loan balances but also MFI policies, procedures, and information systems. Note that we are speaking here of auditing issues connected with loan repayment. We are not suggesting audits as a tool to directly determine client over-indebtedness.

Staff training. Training can raise loan officers' awareness of the problem of over-indebtedness, educate them about the lender's formal policies, and illustrate practical ways to deal with commonly encountered situations. One good way to find out whether management is serious about preventing over-indebtedness is to see whether this topic features prominently in employee training—both initial training at the time of hiring and follow-on training thereafter.⁷⁶

Staff incentives. Employees respond to incentives. Many MFIs offer cash bonuses for certain kinds of results, for instance recruiting new borrowers, increasing the loan portfolio, or maintaining strong collection. Even when there are no cash bonuses, employees have expectations about what kind of results lead to promotion and salary raises.

At the risk of some over-simplification, we can divide staff incentives into two groups: those that push toward *expansion* of the MFI's or the individual loan officer's number of borrowers or amount loaned, and those that focus on *collection* of loans. It has long been argued that expansion incentives are dangerous unless they are balanced with strong collection incentives. The concern was mainly for the well-being of the MFI. Without enough staff attention to maintaining repayment, delinquency could spin out of control. But even if the concern is client welfare rather than MFI welfare, a strong focus on loan repayment makes sense. When loan officers know their compensation or promotion depends on high repayment, they are less likely to structure loans that hurt borrowers by over-straining their repayment capacity.

One of the Smart Campaign's assessment criteria is "Portfolio quality valued: Productivity targets and incentive systems value portfolio quality at least as highly as other factors, such as disbursement or client growth. Growth is rewarded only if portfolio quality is high" (Smart Campaign 2010).

But collection targets can be a double-edged sword. If the targets are so high that they amount to zero tolerance for delinquency and default, then three problems occur. First, the MFI is probably restricting access by lending too conservatively. Maintenance of perfect collection is often a sign that the MFI is denying loans to many people whose odds of repayment are very high. A modest level of delinquency—say, maybe a PAR of 1–2 percent—is safe and sustainable, and consistent with serving a less restricted range of borrowers. Second, expectations of zero delinquency can encourage loan officers to engage in abusive collection practices. Third, such an expectation can lead loan officers to reschedule or refinance loans that are ultimately unpayable, depriving management of critical information about portfolio problems.

Staff quality. It has been suggested that higher pay may attract more qualified loan officers, who would exercise better judgment in assessing repayment ability. The suggestion seems plausible, but we have no empirical evidence to offer on the subject. Of course, higher loan officer pay will usually mean higher interest rates for borrowers.

Early warning systems for over-indebtedness. Many MFI managers are caught unawares by an over-indebtedness crisis that would have been much easier to fix if it had been spotted earlier. This strongly suggests the need for formal or informal early warning systems. The approaches discussed here could be implemented by MFIs, MFI associations, or government bodies.

First consider *nonsurvey* approaches that are possible if microlenders and their borrowers are covered by a functioning credit reporting system. Such a credit database can be used to track multiple

⁷⁶ Sample training resources can be found at www.smartcampaign.org.

indebtedness, the amount of indebtedness per customer, the number of loan commitments, or the number of credit inquiries—at least for debt with formal creditors. This information can be useful for watching trend lines even if we aren't prepared to identify particular thresholds as unacceptable.

As credit bureaus are unlikely to have income information for microborrowers, an MFI could draw on its own loan files to produce a debt-service-to-income ratio. At a minimum level, national household surveys may have average income estimates for various occupational groups that could be combined with debt information from the credit bureau.

Loan officers often know their customers well and could provide useful indications of over-indebtedness trends if this information can be collected in ways that don't threaten their bonuses, raises, and promotions. Another approach that doesn't require formal survey work is to find a way to collect loan officer views about how many clients are over-indebted, and whether things are getting better or worse. For MFIs that offer voluntary savings services, it may be useful to monitor for deposit withdrawals that are used to pay a loan installment. And, obviously, management and information systems that flag delinquency immediately and control inappropriate loan renegotiation will bring problems to light more quickly.

Now turn to *approaches that involve surveying*—going out and asking an appropriately sized sample of clients. In most cultures, money and especially debt are sensitive subjects. In addition, respondents may worry that disclosing their debt problems will make it harder for them to get new loans. Interviewers need to be taught how to win respondents' confidence, guarantee confidentiality, and frame tactful questions to get the desired information.

In the end, responses don't have to be totally honest for the results to be useful. The usual bias will be to understate one's debt or difficulty in repaying. So the reported result can be treated as a lower bound, with actual over-indebtedness likely to be higher rather than lower. Also, for all kinds of trend analyses, as long as the same biases are present from quarter to quarter or year to year, trend data can be meaningful even if we can't quantify the amount of the biases. (See Box 6 for advice on conducting client surveys.)

Finally, some initiatives are implemented at the level of the market rather than of individual MFIs.

Credit reporting systems.⁷⁷ Credit reporting systems allow lenders to share information on borrowers' debt, debt service, and/or repayment performance. By informing lenders about a loan applicant's other obligations, these systems reduce the risk of over-indebting the borrower, and the consequent risk to the lenders' own viability. Just as important, a credit reporting system lets borrowers convert their good repayment behavior with one lender into a reputational asset that gives them access to other credit sources as well. Many people consider credit reporting to be the single most powerful weapon to fight over-indebtedness in competitive markets. At the same time, credit bureaus can have their downsides for clients and aren't a silver bullet that fixes over-indebtedness alone without attention to the other kinds of measures discussed here.⁷⁸

The ideal reporting system for low-income borrowers would allow (or require) participation not only by licensed banks, but also unlicensed nondepository lenders, such as MFIs and consumer credit companies, as well as other providers that clients owe regular payments to (e.g., telephone providers or appliance and furniture merchants), and include both positive and negative repayment information.

⁷⁷ Our discussion of this topic draws on Christen, Lauer, Lyman, and Rosenberg (2011). This paper distinguishes three broad approaches to the sharing of borrower information among lenders: government-run "credit registries," privately owned "credit bureaus," and MFI-specific databases that are usually set up because credit registries and bureaus won't incorporate lower income borrowers or lending institutions that are not licensed and prudentially regulated.

⁷⁸ Data accuracy and client privacy are common issues. And in one sense, credit bureaus can increase repayment stress for borrowers. Without a credit bureau, the borrower can default with one MFI but then get loans from its competitors. Once the credit bureau is in place, the pressure on the borrower to pay is higher, because default could reduce access to finance and potentially other types of transactions in the long run.

Box 6. Client Surveys: Advice from Two Field Researchers

Surveying is complex work that calls for detailed expertise. In an interview for this paper, Marguerite Robinson and Daryl Collins, two very experienced client research specialists, were willing to offer some general pointers:

- MFIs or government bodies that want survey work usually can't expect meaningful answers on questions like these if they just turn over the whole task to a local research firm. The actual surveying can be contracted to a research firm, but the MFI or other commissioning institution should have its own in-house expertise to develop and pilot the questionnaire, to monitor the survey work, and, if possible, to include the outside firm's lead field researcher during the pilot testing to make sure that expectations are understood.
- Field enumerators/interviewers need substantial training, not just a few general guidelines, if they are expected to get honest and open answers on sensitive questions like household debt.
- Organizations that want to launch this kind of market research should begin with intensive qualitative interviews with a few respondents, to understand the dynamics of the behavior they're investigating, before they launch statistical surveys of large samples.

In addition, Collins was willing to venture an order-of-magnitude guesstimate of survey costs, subject to situational caveats. To survey the clients of a single MFI, a sample of around 750–1000 might typically be required. Depending on local survey firm pricing, the cost might range from \$30,000 to \$150,000, which should be within the means of a medium or large MFI. For a national survey, one might multiply those estimates by a factor of something like five. Of course, these figures depend on the size of the MFI or country, on the type of survey, and on the desired results and statistical significance levels. Other researchers suggest that costs may be lower.

It would be a mistake to assume that every microcredit market needs a credit bureau. Among other circumstances, MFIs in some early stage markets aren't yet making enough loans for credit reporting to be cost-effective. But based on past experience, MFIs are much more likely to start thinking about credit bureaus too late rather than too early.

Industry codes. Local MFI networks in a number of countries have worked on voluntary codes of behavior over the years. The earlier attempts were often driven, in large part, by a desire to forestall government regulation. Getting agreement on, and compliance with, the codes has often been difficult. As over-indebtedness and other consumer problems have become more prominent recently, the motivation behind the codes seems to be increasing, and the codes are paying more detailed attention to consumer protection issues, including over-indebtedness. The international Smart Campaign has made considerable progress in developing substantive consumer protection principles, offering tools to implement those principles, and securing endorsements from hundreds of institutions around the world. It is clearly a promising initiative, though more time will be needed before the impact on MFI behavior can be assessed.

Funder actions

Some observers have concluded that the behavior of funders—i.e., the donors and investors that finance MFIs—can contribute to credit crises. For instance, Chen, Rasmussen, and Reille (2010) found that in four crisis countries rapid growth, market saturation, and in some cases over-lending were fueled by the large supply of funding—mainly debt funding—from international investors and domestic “apex” wholesalers. Some of this funding was purely commercial, but most of it came from sources that included social welfare in their objectives. Naturally, funders—especially the more commercially oriented ones—want to invest in strong MFIs with solid track records in dynamic markets. This biases them toward markets where the risk of saturation-induced over-indebtedness may be higher.

Many of the institutions that fund MFIs face disbursement pressure of their own. The supply of money they have to move sometimes exceeds the demand from appropriate investees. If they over-fund an MFI or a market, they are solving their own problem in a way that can hurt the very clients the money is supposed to be helping.

Here is one point on which we are prepared to make a definite recommendation: for all funders, and especially for donors or socially oriented investors, evaluation of microlenders as potential grantees or investees should always include an explicit assessment of over-indebtedness risk. This includes trying to gauge the saturation level of the overall markets into which they are investing, and assessing whether the microlender investees are dealing appropriately with the range of options laid out above. In Section 1, we developed an argument for regarding over-indebtedness as a clear and present danger for microlending. If that argument is convincing, then any funder who professes a social objective should avoid financing microlenders that are not taking credible steps to address that risk.⁷⁹

“Credible steps” vary from one setting to another, but at a minimum, a funder ought to assure itself that the investee microlender is

- not using deceptive or high-pressure marketing tactics
- not structuring staff incentives in ways that encourage over-lending
- taking reasonable measures to check on borrowers’ repayment capacity, past repayment history, and outstanding obligations with other lenders
- maintaining and communicating clear written policies to guide employees in addressing over-indebtedness risk
- not using collection techniques that are abusive, given the local setting.

Roodman (2011, ch. 9) elaborates on the risk of investor-driven credit bubbles, and argues that microfinance funders should set up reporting systems that allow transparency and exchange of information about levels of investment in MFIs and markets.

Public development agencies can finance some of the above measures directly—e.g., implementation of credit reporting services, early warning systems, or financial literacy initiatives—or by supporting

regulators’ efforts to control over-indebtedness risk. In addition, we encourage institutions who finance microcredit research to emphasize studies that examine the extent and dynamics of over-indebtedness.

Conclusion

We began this paper by listing reasons for paying close attention to the risk of over-indebting microborrowers, especially as more and more markets become competitive and eventually approach saturation. We pointed out that there is often a trade-off between over-indebtedness on one hand and access or cost for borrowers on the other: the only way to eliminate over-indebtedness completely is to stop lending.

We looked at some of the causes of over-indebtedness, finding that lender practices, borrower mistakes, and external factors all contribute to the problem.

We then investigated various definitions or proxy indicators for over-indebtedness, finding that all of them suffer from limitations. For survey work, we preferred an indicator based on borrower struggles and sacrifices to repay loans. At the same time, we noted that poor people often have to struggle and sacrifice to come up with many kinds of cash payments, even without microloans, and we cautioned that, when one finds borrowers struggling to repay their loans, one cannot automatically conclude that the loans are making those borrowers worse off.

We reviewed a short list of studies that have tried to quantify microcredit over-indebtedness levels and over-indebtedness risk. Most of them found levels of over-indebtedness, variously defined, that seem worrisome, but the study countries were not representative of worldwide microcredit markets. Most of these studies were implemented because there was a pre-existing concern about an over-indebtedness crisis in the particular markets. Overall, the evidence is too skimpy so far to draw general conclusions about

79 Cf. UNPRI, “Principles for Investors in Inclusive Finance,” http://www.unpri.org/files/2011_01_piif_principles.pdf.

the degree of microcredit over-indebtedness worldwide, but at least it shows that the topic needs more attention.

Finally, we looked all too briefly at a wide range of possible approaches to preventing over-indebtedness, focusing on measures for microlenders and for those who fund them. Among the most important are improvements in MFI marketing and underwriting, products that better match client needs and cognitive abilities, credit reporting, and early warning systems.

If managers, loan officers, and funders become more alert to microcredit's potential downsides, that alone should go a long way to help—along with a lot more research on the extent and dynamics of over-indebtedness. In too many places, we are simply flying blind right now.

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credit reporting from Xavier Reille, Tim Lyman, and Gregory Chen; on redress mechanisms from Kate McKee; and on financial capability from Margaret Miller. The paper has been improved by review and comments from Gabriel Davel, Gregory Chen, Robert Christen, Daryl Collins, Tilman Ehrbeck, Marek Hudon, Kate McKee, Alexia Latortue, David Porteous, Marguerite Robinson, David Roodman, Stuart Rutherford, Jeanette Thomas, and Jacob Yaron. Of course, this does not imply that they agree with everything in the paper.

The suggested citation for this Occasional Paper is as follows:

Schicks, Jessica, and Richard Rosenberg. 2011. "Too Much Microcredit? A Survey of the Evidence on Over-Indebtedness?" Occasional Paper 19. Washington, D.C.: CGAP, September

