Centre Emile Bernheim
Research Institute in Management Sciences

Solvay Brussels School
Economics & Management

Microfinance Over-Indebtedness: Understanding its Drivers and Challenging the Common Myths

Jessica Schicks

With over-indebtedness emerging among microfinance customers, the industry's sustainability and social impact are at risk. This paper develops an over-indebtedness definition that is appropriate for customer-protection purposes. It provides a framework of over-indebtedness causes, highlighting the role of external influences and the responsibility of lenders. It recognises the role that borrowers play in over-indebting themselves. The paper reveals why the five myths of microfinance over-indebtedness erroneously oversimplify the reality of microborrowers. Enhancing our understanding of what microfinance over-indebtedness is and how it is caused, the paper provides the basis for tailoring solutions to the root causes of over-indebtedness .

Keywords: Microfinance; Microcredit; Over-Indebtedness; Customer Protection; Behavioural Economics

JEL Classifications: O16, O50, G21

CEB Working Paper N° 10/048
2011

Université Libre de Bruxelles - Solvay Brussels School of Economics and Management
Centre Emile Bernheim
ULB CP114/03 50, avenue F.D. Roosevelt 1050 Brussels BELGIUM
e-mail: ceb@admin.ulb.ac.be Tel. : +32 (0)2/650.48.64 Fax : +32 (0)2/650.41.88

ULB

Microfinance Over-Indebtedness: Understanding its Drivers and Challenging the Common Myths

Jessica Schicks

CERMi (Centre for European Research in Microfinance)

Centre Emile Bernheim, Université Libre de Bruxelles (ULB), Solvay Brussels School of Economics and Management

Grant holder of ULB*

Abstract: With over-indebtedness emerging among microfinance customers, the industry's sustainability and social impact are at risk. This paper develops an over-indebtedness definition that is appropriate for customer-protection purposes. It provides a framework of over-indebtedness causes, highlighting the role of external influences and the responsibility of lenders. It recognises the role that borrowers play in over-indebting themselves. The paper reveals why the five myths of microfinance over-indebtedness erroneously oversimplify the reality of microborrowers. Enhancing our understanding of what microfinance over-indebtedness is and how it is caused, the paper provides the basis for tailoring solutions to the root causes of over-indebtedness .

Keywords: Microfinance; Microcredit; Over-Indebtedness; Customer Protection; Behavioural Economics

JEL-codes: O16, O50, G21

* The author is grateful to Marie-Christine-Adam Foundation for its financial support. She thanks Prof. Marek Hudon, Richard Rosenberg and Christoph Kneiding, William Steel, Meritxell Martinez and Katja Kirchstein for their valuable comments and suggestions. Any errors or misconceptions are the author's alone.

Microfinance Over-Indebtedness:

Understanding its Drivers

and Challenging the Common Myths

Abstract: With over-indebtedness emerging among microfinance customers, the industry's sustainability and social impact are at risk. This paper develops an over-indebtedness definition that is appropriate for customer-protection purposes. It provides a framework of over-indebtedness causes, highlighting the role of external influences and the responsibility of lenders. It recognises the role that borrowers play in over-indebting themselves. The paper reveals why the five myths of microfinance over-indebtedness erroneously oversimplify the reality of microborrowers. Enhancing our understanding of what microfinance over-indebtedness is and how it is caused, the paper contributes the basis for measuring over-indebtedness and tailoring solutions to its root causes.

Keywords: Microfinance; Microcredit; Over-Indebtedness; Customer Protection; Behavioural Economics

JEL-codes: O16, O50, G21

1. Introduction

Over the last decade, the microfinance industry[1] has achieved immense growth and public celebration. Its social impact promise of reducing global poverty has been complemented by sizeable profits for some microfinance institutions (MFIs) and their investors. But the fairy tale is getting cracks: the impact on poverty alleviation may be an illusion and the social microfinance industry faces increasing criticism for exploiting and in the worst case over-indebting poor customers for profit motives.

While the social mission of the microfinance industry gives specific importance to protecting the interest of customers, the 2008/2009 global banking crises has pointed out that an unsustainable financial services offer based on irresponsible lending implies risks for the industry as a whole. In this context, over-indebtedness is currently one of the most serious risks of microfinance, endangering both social impact and industry stability. It has the potential to push customers further into poverty, accompanied by the material, psychological and sociological consequences of debt. It has the potential to put MFIs, their portfolio quality, and their institutional stability at risk. Moreover, its consequences can spill over to investors, donors and the microfinance sector as such. In several countries such as Bosnia, Morocco, Nicaragua, Pakistan and India, an over-indebtedness crisis among microfinance clients has already materialised.[2]

From a perspective of customer protection, this paper contributes to our understanding of microfinance over-indebtedness and its causes. There is widespread ambiguity about how to define and measure over-indebtedness: Scholars implicitly talk about different things depending on their focus on risk management or customer protection. A clear definition is urgently required for research to be able to assess the extent of the problem in microfinance markets around the world and provide empirical insights into the most pressing questions around over-indebtedness. However, the definitions and measurements that -by a lack of alternatives- researchers tend to rely on to date, are grounded in a risk management framework. The current need for customer protection brings about different requirements. This paper develops an innovative definition of over-indebtedness based on borrower sacrifices. It contributes a practical approach to using this definition in empirical research.

Understanding the current over-indebtedness risks and developing potential solutions also requires an inclusive understanding of why over-indebtedness can emerge. To the author's knowledge, there is no comprehensive analysis of the potential drivers of debt problems: In developed country consumer finance research[3], our knowledge about over-indebtedness causes is spread across different strands of literature. We need a comprehensive framework that unites the insights of economists, sociologists and psychologists. In the microfinance literature, academic work on the causes of over-indebtedness is hardly existent. The literature on repayment problems is largely focused on questions of repayment incentives[4] and ignores many of the findings that consumer finance research offers about origins of debt problems. A framework to inform microfinance scholars and practitioners and enable them to better address the current over-indebtedness challenges in microfinance therefore needs to pull together our knowledge about over-indebtedness specifically in microfinance and combine it with the interdisciplinary findings that can be transferred from consumer finance to the microfinance context.

Providing an account of the most important factors that impact over-indebtedness, this paper pinpoints the role that external influences, lenders, and borrowers play in causing this problem. It reveals unexpected answers in the quest for over-indebtedness solutions and shows that reducing over-indebtedness does not automatically imply reducing access to finance. The paper proceeds to challenge five central myths of microfinance over-indebtedness: the benefits of competition, the dangers of consumer loans, the necessity of a tight repayment schedule, the irrationality of poor borrowers, and the need for MFIs to provide extensive loan information, including an APR.

The next section will present a unique categorization of approaches to defining and measuring over-indebtedness in the consumer finance and microfinance literature. Based on this analysis, it will develop a new over-indebtedness definition that is appropriate for microfinance research. In contrast to the existing approaches, this definition incorporates the industry’s current focus on customer protection. Section 3 will analyse the causes of over-indebtedness and the responsibility of lenders and borrowers respectively. Section 4 will reveal surprising answers to the five myths of microfinance over-indebtedness. Finally, section 5 will conclude and point out directions for further research.

2. Defining and measuring over-indebtedness in microfinance: When is too much too much?

Despite the importance of the topic, there is no universal definition of personal over-indebtedness. Definitions in the consumer credit as well as microfinance literature vary depending on the scientific lens and purpose of the research, on data availability, and most importantly on the severity of debt problems that represent the threshold to over-indebtedness. Existing studies are based on a variety of sometimes roughly similar and sometimes opposing definitions. Especially, they do not clearly distinguish between an institution-centric risk management approach and a borrower-centric perspective. There have been several efforts to analyse types of definitions and their advantages (for example Betti et al., 2007) but, to the author's knowledge, never a structured analysis of all the options.

Figure 1 provides a systematic overview of the dimensions that distinguish over-indebtedness definitions and of the different categories that have been used in the broad range of academic and policy-oriented literature on developed country consumer credit and on microfinance. Definitions differ for example depending on (1) the **purpose** of their research, their *academic backgrounds*, their precision in distinguishing or not between actual *definitions versus measurements or indicators* of over-indebtedness[5], and their *units of reference*. Besides *aggregate* measurement approaches to all customers of an institution or a country, some consider over-indebtedness an *individual* phenomenon. Others argue to take all *household* cash flows into account (Disney et al., 2008). In the microfinance context, the appropriate unit may even be a borrower's extended *support network of kin* (Guérin et al., 2009b).

Figure 1: Dimensions of over-indebtedness definitions

Type of choice	Dimension of choice	Categories			
1 Purpose	*Scientific lens*	Legal	Economic	Sociological	Other
	Precision	Definition	Indicator	Proxy	
	Reference unit	Individual	Household	Network of kin	Aggregate
2 Method	*Composition*	Single criterion	Multiple criteria		
	Scale	Quantitative	Qualitative		
	Perspective	Objective	Subjective		
	Data source	External	Self-reported		
3 Severity	*Time horizon*	Current	Structural	Permanent	
	Debt condition	Bankruptcy	Default	Arrears	Imbalance
	Role of the borrower	Innocent	Unintended	Deliberate[1]	
	Level of sacrifice	To minimum existence level	More than expected	Liquidity buffer[2]	No sacrifice

1 E.g., Strategic default or fraud 2 Inability to meet unexpected expenses

In terms of (2) **method**, over-indebtedness definitions diverge in applying either *single or multiple criteria*. If multiple criteria apply selectively they risk extending a definition too far (Disney, Bridges and Gathergood, 2008), if they apply simultaneously they increase precision. Over-indebtedness can represent exceedance of a *quantitative threshold*, for example a debt-to-income ratio, or can be defined in *qualitative* terms such as perceived burden. While for regulatory purposes, qualitative definitions tend to produce uncertainty for lenders seeking to comply, they are more flexible and better able to take into account individual borrower circumstances. Definitions are considered more reliable if based on *objective* information. However, many researchers emphasise the merits of a *subjective* over-indebtedness definition (Lea et al., 1993; Betti et al., 2007; Guérin et al., 2009b). They consider the individual the best judge of its complex debt situation and prospects. Guérin et al. (2009a) point out that, rather than a material problem of a disequilibrium between assets, revenues and debt, for the individual borrower, over-indebtedness may be a question of perceptions and social consequences. Debt conditions are heterogeneous in conditions and meaning. It depends on the nature of the individual debt relationships rather than amounts, which debt is a burden (Mosse et al., 2002; Guérin et al., 2009b). As a result, 'total amount of debt' for many poor borrowers is not a meaningful concept. Equally, *self-reports* are considered less reliable than *external data* and at

the same time better informed about borrower circumstances, future income prospects and meanings of debt. Lusardi and Tufano (2009) for example, in their US study on over-indebtedness and financial literacy, fully rely on self-reports.

The most essential dimension of an over-indebtedness definition is that of (3) **severity**. Most researchers only consider a borrower over-indebted if his debt problems are of a *structural* nature and persistent over a certain time horizon (Canner and Luckett, 1991). According to the Life Cycle Hypothesis (Modigliani and Brumberg, 1980) and the Permanent Income Hypothesis (Friedman, 1957) as economic explanations of borrowing and saving, consumers aim at stable consumption over a long time horizon. Permanently high debt levels at young age might therefore be fully rational, assuming a higher future income level. To define over-indebtedness, the correct reference would thus be a *permanent, life-long* estimate of borrowers' income (Betti et al., 2007). On the other hand, given the short-term cash management challenges and high level of uncertainty about the future in the microfinance context, borrowing rather focuses on short-term liquidity.

The criterion with the most diverse range of options is that of debt conditions. Researchers differ in the severity of repayment problems they consider the threshold to over-indebtedness. Some count only legally bankrupt borrowers, while others include cases of default or arrears (for example Disney, Bridges and Gathergood, 2008; Kappel et al., 2010), or even all borrowers who struggle with an unhealthy debt balance (for example Collins, 2008). *Bankruptcy* is easy to measure on an aggregate level but represents a limited understanding of over-indebtedness, that is difficult to compare between legal systems internationally and over time. While *defaults* or *permanent arrears* are very common criteria for over-indebtedness in developed markets, Guérin et al. (2009b) point out that it might not be suitable in developing country environments where informal lending agreements play a large role, often without specifying explicit payment deadlines. Conversely, a system of juggling debts, continuously borrowing anew to repay other loans, may hide over-indebtedness for a long time before it manifests in the form of arrears. For *unhealthy debt balances*, the main challenge is that a specific threshold can never take all borrower circumstances into account. A debt-to-income ratio that is unsustainable for one borrower might be absolutely manageable for another. Also, fundamentally, these measurements are all repayment and thus risk-

management focused. While the unhealthy balances leave the widest room to bring in borrower experiences, the usual application is institution centric.

Finally, it is a common requirement in over-indebtedness definitions that problems exist against the *will of the borrower* who got into trouble *innocently* or at least *unintendedly*. Gonzalez (2008) provides an exception, claiming that 'overindebtedness 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.' It can result from either unwillingness to repay, or inability to repay, or costly actions required to repay. In fact, most indicators of over-indebtedness that do not rely on self-reports or carefully judged court cases, cannot distinguish the intentions of the borrowers.

Over-indebtedness definitions further differ in the *sacrifices* they expect from borrowers. In many countries, bankruptcy proceedings require debtors to give up all income and assets above a certain *minimum existence level* (see for example European Commission, 2008). Microfinance practitioners display a similar attitude that microcredit must not deprive customers of their 'basic survival capacity' in order to repay (DeVaney, 2006). However, this has not yet been formalised into a definition. A less severe option is to consider borrowers over-indebted if they need to reduce their spending beyond what they are accustomed to or make *more sacrifices than expected* (Murray, 1997). The *deprivation of any liquidity buffer* for emergencies (European Commission, 2008) is on a similar level but leaving more minimum resources to the borrower. The extreme other end is represented by definitions that count *every sacrifice by the borrower as a sign of over-indebtedness* (Canner and Luckett, 1991). This is a common expectation in the microfinance sector, with loans aiming to make borrowers better off and not to require sacrifices. While the sacrifice limit is often only implicit to an over-indebtedness definition as in the case of insolvency regulations, it is Canner's explicit sacrifice considerations that come closest to meeting the needs of the customer protection movement. They represent a borrower-centric approach. On the other hand, the approach ignores that borrowers may make a deliberate choice of sacrificing some consumption to reach a certain goal.

This paper requires a definition that takes the reality of the microfinance industry into account and promotes its customer protection perspective. The article will therefore follow an interdisciplinary

approach, defining over-indebtedness on a household level as broader kin support should not be the reason why a borrower manages to repay. It will honour the complexity of the phenomenon by means of multiple simultaneous criteria, working with qualitative elements to take the individual circumstances of borrowers into account and using subjective perceptions as the best judge of a household's debt situation.

Given the social mission of microfinance, default or arrears do not represent a suitable threshold for this research. While it is these measurements that most researchers have in mind when analysing over-indebtedness, they are lagging indicators even for risk management purposes and, more importantly, do not take the borrower perspective into account. For the microfinance industry to evaluate the need for and develop customer protection measurements against over-indebtedness, an over-indebtedness definition needs to specify what customers (and not lenders) are to be protected from. For example, borrowers who still manage to meet their repayment obligations but have to take their children out of school or miss meals to do so should count as over-indebted[6].

In developed country consumer insolvency definitions, this customer protection element is at least partly represented by contrasting arrears or default against a minimum existence level. Besides there not being defined minimum existence levels in most microfinance markets, borrowers will often already live below any acceptable minimum level of income, independently of their loans. They are therefore the only ones to decide on an acceptable level of sacrifices. The current EU definition of over-indebtedness includes a similar element with the criterion that borrowers perceive their fixed monthly payments as a 'heavy burden' and payment capacity as 'difficult' or 'very difficult' (European Commission, 2008). The subjective approaches that take into account that suffering simply is a subjective experience, are in line with the expanding academic literature on subjective, self-reported well-being and happiness measures (Binder and Coad; Dolan et al., 2008; Caporale et al., 2009; Oshio and Kobayashi, 2010; Angner, 2010).

Finally, while some permanence of difficulties is well implied, our definition needs to take the limited time horizon of microborrowing into account as well as the implications of severe sacrifices even over short periods of time. While it does not refer to one-off struggles but implies that debt problems are of a more structural nature, they can be structural within the course of a single loan.

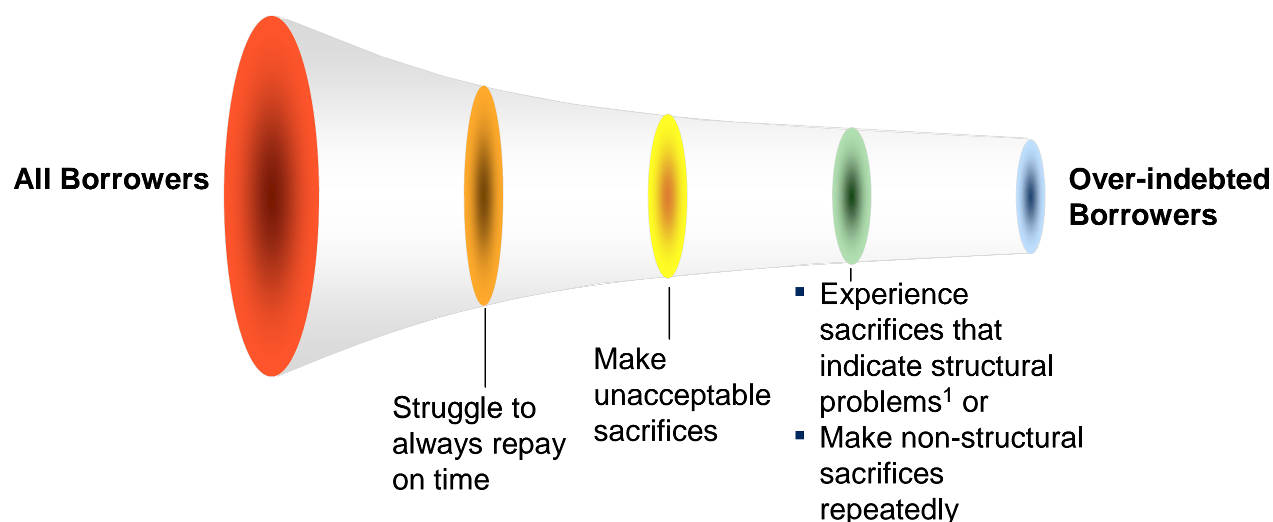
This research therefore suggests a qualitative, sacrifice-based definition of over-indebtedness that is unique in the academic literature[7]: **A microfinance customer is over-indebted if he/she is continuously struggling to meet repayment deadlines and structurally has to make unduly high sacrifices related to his/her loan obligations.**[8]

The definition excludes borrowers who strategically default or deliberately run up unsustainable amounts of debt, relying on a bailout or the option to switch to a new provider. While boundaries blur, the criterion of 'unduly high sacrifices' excludes deliberation. To allow for sacrifices willingly incurred by borrowers, sacrifices are deemed 'unduly high' if they exceed the cost that the borrower judges as acceptable for the loan purpose.

This definition is very close to an impact approach. A loan that makes the borrower suffer and worse off because sacrifices exceed benefits, is a loan that causes over-indebtedness. However, as in any Western insolvency regulations, the definition does not postulate causality between the loan and over-indebtedness. A beneficial loan rendered unbearable to repay by an emergency equally falls under the definition. This approach implies that a low level of over-indebtedness is bound to exist in any lending market and particularly one of poor and vulnerable borrowers. Preventing any loan for an investment that fails and makes the borrower worse off would restrict credit supply beyond its social optimum. However, such cases should be kept to a minimum.

To put this definition into practice and measure over-indebtedness in an empirical microfinance context, Figure 2 suggests a funnel of over-indebtedness criteria, filtering out borrowers at each step until only the over-indebted remain. The information can be collected in household surveys, interviewing respondents about their debt struggles and collecting detailed lists of all sacrifices respondents take on to make loan repayments or experience as a result of repayment problems. Respondents have to subjectively weight their sacrifices by acceptability and indicate the frequency of each sacrifice experienced. Sacrifices count as unduly high if they are unacceptable to the borrower. They count as structural if they have been performed repeatedly, e.g. more than tree times, or if for specific sacrifices such as asset seizures even a one-off occurrence is a sign of structural problems.

Figure 2: A survey-based measurement of microfinance over-indebtedness from a customer protection perspective



1 For example suffering an asset seizure, or selling/pawning one's assets

Future research should analyse to what extent simpler indicators such as debt-service ratios, delinquency, or the number of credit arrangements, represent workable measurements or proxies for this definition. This would also show to what extent a bank's credit risk management is in line with avoiding over-indebtedness from a customer protection perspective. In the mean time, simply relying on existing risk management indicators for customer protection purposes is not appropriate and risks ignoring many cases of struggling borrowers who still manage to avoid delinquency at the cost of high sacrifices.

3. The reasons for over-indebtedness: why do people overborrow?

Microfinance customers have good reasons to take loans but little reason to borrow to the extent of over-indebtedness. Neither should lenders -and even less so MFIs with a social mission– have an interest in over-indebting their customers. With a few exceptions[9], over-indebtedness is thus an undesired consequence for both parties and in perfect markets should not exist. This section will analyse why people borrow more than they can handle, examining the influence of external factors, the problems caused by lenders, and the role of borrowers themselves. It develops a simple and

inclusive framework of over-indebtedness causes that will allow future research to analyse the full scope of influence factors, be more comprehensive in its empirical approach, and develop solutions to over-indebtedness that are based on a full understanding on the issues to tackle.

In transferring empirical findings from the consumer credit literature to the microfinance context, there are several challenges to keep in mind:

- Studies differ in their definition of over-indebtedness. Some are not over-indebtedness specific but analyse the causes of being in debt, of accumulating credit, of becoming delinquent or of financial difficulties.
- Studies vary in the loan products they take into account. Borrower behaviours might differ between for example credit card use and decisions on instalment loans.
- Borrower behaviours and characteristics differ between relatively similar Western markets (Betti et al., 2007) or even within countries (Collins, 2008). Transferability to microfinance markets may be limited.
- Only very few studies identify causal relationships (for example Webley and Nyhus, 2001 based on a longitudinal approach or Brown et al., 2005 using the Granger causality test). Most empirical research uses cross-sectional data, identifying characteristics and behaviours 'associated' with debt or over-indebtedness but not able to exclude spurious correlation.

Consequently, existing research is a suitable starting point to understand microfinance over-indebtedness but more microfinance specific empirical research will be required to confirm and extend the below findings.

→ **Outside influences:** One set of factors that can push borrowers into over-indebtedness is outside the control of the lending parties. In spite of sound lending decisions, **external shocks** to the income or expenses of a microborrower can turn a debt load unsustainable. An empirical study by Bouquet et al. (2007) in Madagascar confirms that credit problems are most frequently due to drops in expected income or rising expenses. Besides personal shocks such as illness or job loss, macroeconomic developments such as the financial crisis can drive borrowers into such difficulties.

Factors typical for developing countries may be natural disasters and changes in government policies (for example displacement of street vendors) or political crises.

In group lending, according to a study from Bangladesh, the risk of shocks is higher for homogenous groups with little diversified business activities (Sharma and Zeller, 1997). On the other hand, a study from Burkina Faso suggests that the benefits of group homogeneity may outweigh the lack of diversification (Paxton et al., 2000). Furthermore, the **institutional and legal environment** influences the behaviour of lenders and borrowers. For example, the existence of credit bureaus, the efficiency of the judicial system, and the level of competition can enhance or reduce the risks of over-indebtedness.

Understanding these external influences on over-indebtedness is a prerequisite for developing appropriate solutions. The answers may range from regulatory measures to the promotion of credit bureaus, to improving safety nets for borrowers or simply to factoring the likelyhood of shocks into the evaluation of repayment capacity.

→ **Lender behaviour:** Whatever the institutional environment, over-indebtedness is ultimately created by the parties that make the credit decision: lenders and borrowers. The three major levers of lending behaviour that enhance over-indebtedness risks, are a) an excessive marketing and growth focus, b) unsuitable product characteristics, and c) conducive lending procedures.

a) MFIs can push borrowers beyond their limits due to an exaggerated **focus on portfolio growth** and by means of aggressive marketing techniques. The lending focused business model of MFIs can create pressure on customers to continue borrowing instead of focussing on the protective services they need (Guérin, 2006) or taking a break when they do not require credit (Collins et al., 2009).[10] Microfinance institutions tend to underestimate their impact on borrower debt load, believing that their loans substitute for informal loans, whereas in reality, at least in South India, they mostly add to a borrower's leverage (Guérin et al., 2009a). Another mechanism driving MFIs to over-indebt clients, is the volume focused incentive system (Rahman, 1999). It rewards credit officers for loan disbursements, even if clients struggle to repay. Many MFIs mitigate this effect with complementary incentives for portfolio quality, avoiding incentives to lend to borrowers who will

default. For existing lending relationships however, portfolio quality incentives can be a reason to re-lend to delinquent borrowers, enabling them to keep up repayments beyond their capacity. Finally, in a study with US students, the offer to buy on credit positively affected an individual's perception of affordability (Notani, 1997). This effect probably being the same among microborrowers, ‘easy money’ and aggressive sales techniques can incite borrowers to overestimate their opportunities.

At the root of the MFIs’ sales focus is the industry's growth pressure and strive for financial returns that may overrule an institution’s social mission. In extreme cases, rapid growth may exceed the institutional capacity of MFIs for information systems, lending policies and governance. Especially growth rates above 250 per cent, local growth in existing branch locations and growth in countries with a penetration rate above 10 per cent or high aggregate microfinance growth on the country level, present risks to MFI portfolio quality (Gonzalez, 2010). According to pre-crisis MIX Market data[11], the gross loan portfolio of Morocco's 10 reporting MFIs grew at a compound annual growth rate of 110 per cent in 2006 and 2007, the portfolio more than doubling every twelve months. The fastest portfolio growth in 2007 was that of ARDI at 330 per cent, adding more than four times its loan portfolio in the course of one year.

This speed of growth implies challenges for an institution’s management. It leads to a high share of inexperienced loan officers that may make weaker loan decisions than experienced colleagues and identify less with the values of their institution. ARDI’s personnel grew by about 350 per cent in 2007 so that nearly 80 per cent of its employees were new to the institution. In the two years following this strong growth phase of Morroco’s MFIs, the >30 day portfolio at risk (PAR) rose from below 1 per cent to an average of 7 per cent. This excludes ARDI which stopped reporting its PAR.

On the other hand, the microfinance industry equally offers examples of institutions that maintained high growth rates over many years without exceeding their institutional capacity. New loan officers may even be the more careful ones. The problem with fast growth is probably more problematic on a market level when microfinance markets get closer to saturation than on an individual MFI level.

b) MFIs increase over-indebtedness risks if they offer **products that are inappropriate to the borrower's situation**. This impact chain is not about inducing borrowers to take more credit than reasonable, but about a debtor's ability to meet his obligations from existing contracts. For example, if maturities are short and instalment schedules inflexible this can make it difficult for borrowers with volatile incomes to repay on time (section 4.C). The difficulties get exacerbated if MFIs are excessively reluctant to reschedule loans for honest borrowers in liquidity difficulties. Repayment capacity also is a function of loan use. In Bouquet et al.'s empirical work in Madagascar (2007), the most frequent product feature borrowers cite as a reason for repayment problems is the timing of disbursements. If MFIs disburse too late for the borrower to exploit his business opportunity, customers may not earn enough returns. On a similar line, consumer loans are frequently identified as a source of over-indebtedness as they do not provide debtors with returns for repayment (section 4.B).

c) Finally, microlenders contribute to over-indebtedness with their **lending procedures**. The most important lender contribution probably stems from a lax evaluation of repayment capacity and the automatic increases in loan sizes over time. In Bangladesh and Bolivia, larger loan amounts and a higher debt to asset ratio are positively related to borrower's repayment problems (Sharma and Zeller, 1997; Vogelgesang, 2003; Godquin, 2004). Lending procedures furthermore promote over-indebtedness through a lack of transparency. An Indian study discovered that more than 70 per cent of microcredit clients believed all or most of the rules regarding their loan contract were not communicated to them in written form (Tiwari et al., 2008). Excessive interest rates and fees contribute to debt problems, especially if borrowers are not fully aware of them.

The final trade-off to be highlighted concerning lending policies is that of collection practices. Microfinance institutions in India and beyond increasingly face accusations of employing collection practices that unduly increase the burden of indebtedness for borrowers, humiliating and intimidating them or depriving them of assets (Augsburg and Fouillet, 2010). Borrowers are not necessarily aware of their rights and in India for example consider it normal for an MFI to force borrowers to discuss their delinquency in public, to extend group meetings at the cost of business time or punishment by husbands, or to seize assets in spite of an uncollateralized loan contract

(Tiwari, Khandelwal and Ramji, 2008). At the same time, if collections are too lax, repayment difficulties may materialise too late when over-indebtedness has already become unavoidable (Vogelgesang, 2003).

This analysis of the lenders' contribution to over-indebtedness prompts a strong message to those seeking to address over-indebtedness risks: Reducing access is not necessarily the answer. The term 'over-indebtedness' bears a notion of 'too much' debt and conveys the idea that the only solution to too much debt is 'less debt'. This approach is suitable to address cases of excessive growth, aggressive marketing and lax credit distribution policies only. When over-indebtedness results for example from unsuitable product features or is aggravated by inappropriate collection practices, borrowers do not need less credit but better credit. The microfinance industry will have to continue developing its methodology and increasingly shift focus from pure outreach to delivering quality services. This entails a broader product portfolio, both with more flexible lending products and with broader access to savings and insurance products.

→ **Borrower behaviour:** To every credit decision there are two parties: a lender and a borrower. Both have the obligation to make responsible choices. Both can turn a credit agreement harmful for the other party or for themselves. A customer protection perspective should therefore resist the temptation of seeking fault only with lenders and with adverse circumstances. It should equally pay attention to the role that borrowers themselves play in destructive credit. It should recognise, that to a certain extent, protecting borrowers from over-indebtedness may mean protecting them from themselves.

a) Psychological research and behavioural economics have revealed numerous **cognitive and psychological biases** that can lead to borrowers over-indebting themselves. Against the postulate of traditional economic theory, the rationality of human decision makers is bounded by imperfect information and limited cognitive abilities so that errors in judgement occur. For example, individuals with limited information tend to rely on *proxies in their decision making.* In experiments and surveys with individuals in the US, Soman and Cheema (2002) find that inexperienced consumers tend to see their credit limit as a signal of future earnings and affordability. Being offered more credit may encourage individuals to borrow beyond what they can afford. Lusardi and Tufano (2009) discover

strikingly low levels of debt literacy across the USA. Those who are less debt literate are more likely to be over-indebted. Also, decision makers in Western cultures tend to suffer from an *overconfidence bias* and from *habit persistence*, reducing consumption too slowly in adaptation to income fluctuations (Brown, 1952). They may overconsume and underestimate the risk of borrowing.

As general human characteristics, these findings are likely to apply to micbroborrowers as well. As a result, understanding credit offers and making sound borrowing decisions is challenging for the target groups of MFIs who usually have low education levels and little experience with formal lending institutions. If these challenges are combined with the attractiveness of the Western lifestyle and the development aid rhetoric of microfinance, MFI customers may be unable to restrict their borrowing to healthy levels.

Two more factors are relevant from the perspective of behavioural economics and psychology. One is self discipline and a borrower's difficulties with *the intertemporal balancing of utility* (section 4.D). The other is the influence of psychological concepts on over-indebtedness, particularly a *borrower's attitude* towards the future (Brown et al., 2005), towards debt (Livingstone and Lunt, 1992; Lea, Webley and Levine, 1993), or towards money and money management (Webley and Nyhus, 2001) as well as his *locus of control* (Livingstone and Lunt, 1992; Webley and Nyhus, 2001). The attitudes of microborrowers may differ from those found by the above studies that were all conducted in the British context, but the mechanisms are likely to be similar. For microfinance investment loans, this might include attitudes towards risk taking in business decisions. If a certain attitude implies a risk of the borrower slipping into over-indebtedness, MFIs might want to be more careful in lending to these customers, or introduce measures such as awareness campaigns and trainings to counter the corresponding risks.

b) There are also **sociological factors** that can drive borrowers towards over-indebtedness. The *pressures of consumer society and materialism* may lead consumers to overspend and borrow beyond their limits. Consumption in France and probably any other materialistic society loses its function of satisfying basic needs and instead is required to build one's identity (Viaud and Roland-Lévy, 2000). If sociologists see a causal relationship between a culture of consumption and the

level of consumer debt, lenders should be aware that borrowing decisions may result from societal pressures. This phenomenon is likely to be similar among the poor at least in those cultures where globalization, communication technology and probably also credit contribute to spreading consumer society.

A second influence factor is that of *inequality and social comparison*. US research shows that it can drive lower income groups to borrow irresponsibly to keep up with the consumption levels of peers (Duesenberry, 1949; Christen and Morgan, 2005; Luttmer, 2005). Microfinance specific research would need to confirm this effect for the different cultural setting. As a third point *economic socialisation* influences people's readiness to take on debt. In Britain, societal support for debt determines to what extent the average borrower perceives debt as a burden or as an easy solution (Lea, Webley and Levine, 1993). According to a US study, the attitudes and experiences of parents with debt and money are relevant (Stone and Maury, 2006), and few microborrowers have learned from their parents how to handle formal credit. Furthermore social obligations to support to relatives and neighbours may drive people into indebtedness, an influence that is likely to be strong in microfinance environments.

c) Ultimately, empirical studies have analysed **socio-demographic and economic characteristics** for their association with repayment problems and over-indebtedness. While some might not be causal relationships, others probably help explain over-indebtedness. The most common socio-demographic factors in consumer finance and some microfinance studies include young *age,* more and younger *children,* low levels of *education and literacy* and low or unstable *labour market status* (Livingstone and Lunt, 1992; Lea, Webley and Levine, 1993; Lea et al., 1995; Vogelgesang, 2003; Godquin, 2004). In line with the findings on education, in Burkina Faso and Bolivia a lack of borrower training and experience with past loans is related to a lower payment performance (Paxton, Graham and Cameron, 2000; Schreiner, 2004). On the other hand, repayment performance in group lending may go down over loan cycles if repeat loans no longer meet the needs of all group members to the same extent ('the matching problem') (Paxton, Graham and Cameron, 2000; Godquin, 2004).

Single adult households and those with recent *changes in family composition*, for example divorce, are at risk (Lea, Webley and Levine, 1993; Vogelgesang, 2003). Also, ill *health, gender* and *ethnicity* are related to indebtedness (Lea, Webley and Levine, 1993; Godquin, 2004; Disney, Bridges and Gathergood, 2008). Many of these characteristics are prominent among microfinance customers and might also be related to indebtedness in the developing country context. Even if they should not lead to exclusion of the target group, they should be taken into account in avoiding over-indebtedness.

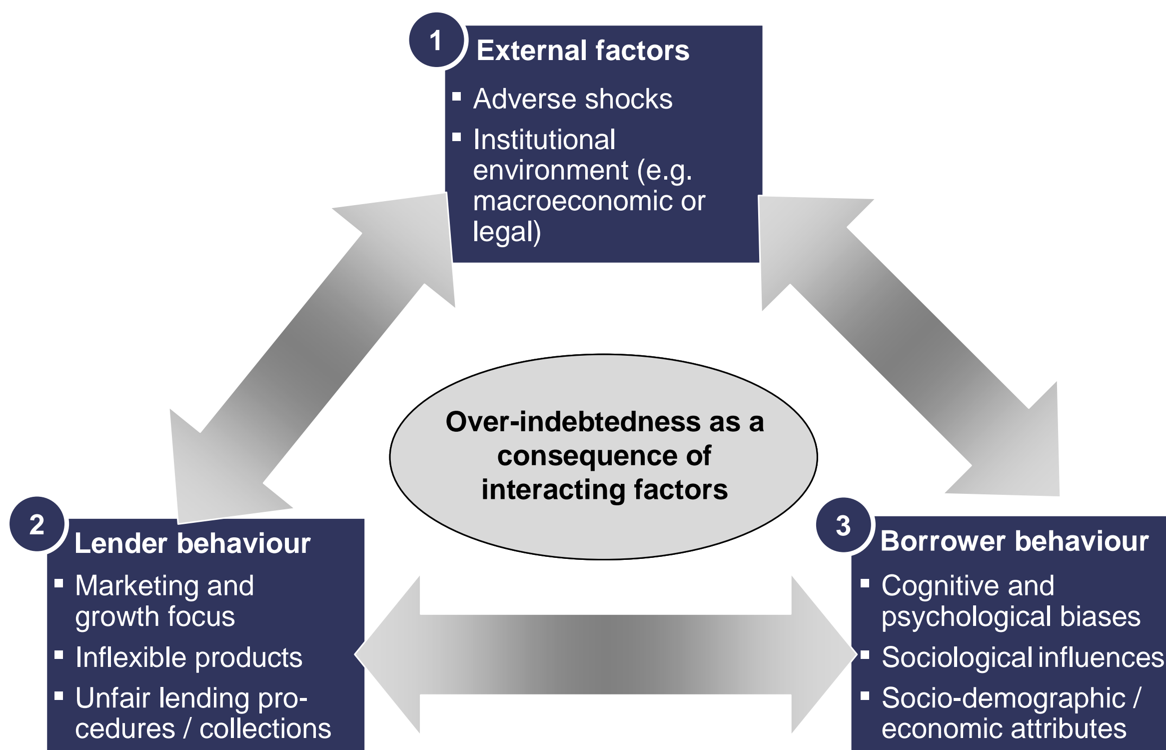
The most common economic factor in the literature is *low income* (Livingstone and Lunt, 1992; Lea, Webley and Walker, 1995). In a developing country study, Collins (2008) finds a correlation of indebtedness to income only in urban but not in rural areas, credit in urban areas consisting mainly of formal and in rural areas of informal arrangements. A study from Burkina Faso found that borrowers in rural areas in general are more prone to repayment problems, maybe as a result of rural poverty (Paxton, Graham and Cameron, 2000). Other research points towards the influence of *income instability* (Webley and Nyhus, 2001), low *wealth* (Sharma and Zeller, 1997; Godquin, 2004; Disney, Bridges and Gathergood, 2008) and low *returns on the borrower's investment* (Gonzalez, 2008). The role of returns is probably what explains the difference in risk between economic sectors and business activities of borrowers found by Schreiner (2004). While microfinance institutions are aware of lending to low and instable income customers with low wealth levels, they might overestimate the returns on investment for their customers and not take into account that a large share of loans is not actually put to productive use.

The findings about borrower influences on over-indebtedness risks do not only point towards selecting the right borrowers to reduce over-indebtedness. They suggest that financial literacy training, awareness campaigns, and for example the right to withdraw from spontaneous credit decisions might be effective in reducing over-indebtedness. Also, they highlight the need for MFI communication to match borrowers' educational levels and for advertisements not to deliberately exploit psychological biases.

→ **To sum up,** figure 3 provides an overview of the causes of over-indebtedness. Among external influences, adverse shocks to the income or expenses can turn debt unmanageable. Similarly, the

institutional and legal environment can enhance or reduce the risks of over-indebtedness. In microfinance markets in developing countries, institutional protection from over-indebtedness may be weak. A significant share of the responsibility for over-indebtedness also lies with lenders. MFIs can push borrowers beyond their limits due to an exaggerated focus on portfolio growth and by means of aggressive marketing techniques. They sometimes offer products that are inappropriate to the borrower's situation, enforce unrealistic instalment schedules, resist the need to reschedule loan agreements, artificially limit maturities and so on. Microlenders also contribute to over-indebtedness due to their operating procedures, being lax about evaluating repayment capacity, offering intransparent terms and conditions and using coercive collection practices. Finally, microborrowers play an important role in their own over-indebtedness. Due to cognitive limitations, difficulties to resist temptation, and sociological pressures, they sometimes make irresponsible borrowing decisions. The tendency towards over-borrowing also depends on borrowers' socio-demographic and economic characteristics, many of those that are related to over-indebtedness being particularly prominent among the microfinance target group.

Figure 3: Drivers of over-indebtedness



If a credit relationship leads to over-indebtedness, that is usually the result of interacting factors. If a borrower made perfectly informed, rational decisions, not giving in to temptation or social pressures, an MFI would face little risk to over-indebt this customer. At the same time, if an MFI put its social mission and customer interest above all other goals, designed products that perfectly matched their customers' needs, carefully evaluated repayment capacity and took the psychological limitations and biases of their customers into account in their communication and lending decisions, even imprudent borrowers would hardly be at risk.

In reality, both parties are bound to make mistakes given the complexity of the situation and their information asymmetries. Adverse shocks may turn even the best borrowing and lending decisions into over-indebtedness triggers in some cases. It is therefore important to design measures to prevent over-indebtedness that tackle as many of the over-indebtedness reasons as possible. Based on a detailed understanding of causes, solutions reach far beyond reducing access to loans. For the remaining microborrowers that can still not be protected from over-indebtedness, additional curative and rehabilitative customer protection measures are required.

4. Challenging five myths about microlending and over-indebtedness

Based on the above understanding of the root causes that drive over-indebtedness, this section will revisit the five typical misconceptions of microfinance that A) MFI competition is always good for customers, that B) microloans should be used for productive investments only, that C) the success of the microcredit methodology relies on small, regular instalments and a zero-tolerance policy, that D) the poor over-indebt themselves by making more irrational decisions than the rich, and that E) transparency requires MFIs to publish extensive loan information including annual percentage rates (APRs). While there are academic findings to put each of these myths into question, they still hold strong in the public debate. This paper argues that a much more balanced view is required on each of these topics.

A. Competition is good for borrowers

According to the ruling opinion, competition among MFIs will benefit customers. It will make MFIs more professional and efficient, bringing down costs and increase customer service. Whenever commercially oriented MFIs are criticised for high interest rates, a lack of transparency or other profit maximising strategies that are little customer friendly, microfinance experts tend to cite upcoming competition as the silver bullet that will bring the expected benefits of market orientation to clients.

While this argument has come true in certain cases, the downsides of competition have been given little attention.[12] In fact, competition impacts the incentive structures for borrowers and lending institutions. It increases asymmetric information by making information sharing more difficult (McIntosh and Wydick, 2005). On the borrower side, it reduces repayment incentives given the choice of alternative credit sources (Gonzalez, 2008). On the side of lending institutions, competition can create pressure to overlend, particularly if new market entrants are aggressive and pay less attention to repayment capacity. Hellmann et al. (2000) provide theoretical support for these concerns, showing that competition increases moral hazard and incites lenders to gamble. They claim that competition reduces franchise values (that is the capitalised value of expected future profits) and thereby lowers incentives for making good loans and incites opportunistic lender behaviour.

Empirical findings on the effects of competition are unclear to date. Krishnaswamy (2007) measures better repayment rates in more competitive branch locations in India. This may be due to an initial effect of multiple borrowing hiding repayment difficulties in more competitive areas. According to the findings of Vogelgesang (2003) from Bolivia, the effects of competition vary with the macroeconomic environment: in good times the increase in supply leads to better repayment rates, but in economic crises –where over-indebtedness risks are higher- it triggers a deterioration of repayment behaviour. For Grameen Bank borrowers, Matin (1997) and Chaudhury and Matin (2002) find a negative impact of access to multiple lending NGOs on repayment performance. To conclude, there is a need for further research into the relationship of competition and over-indebtedness. Studies should be conducted in geographies that experienced over-indebtedness problems and try to isolate the influence of competition between lenders in leading to these crises. In the mean time, we can not rely on the common beliefs in the benefits of competition. It may well represent the major institutional factor to promote over-indebtedness, particularly in the absence of credit bureaus.

B. MFIs should not offer consumer loans

The benefits of microfinance were originally promoted as poverty alleviation through microenterprise development. The idea was not that of consumption smoothening, but of investments into microenterprises, the returns of which would increase the microentrepreneurs' income and help them move out of poverty. Consumer loans were considered inappropriate as they do not create returns and risk over-indebting borrowers (see for example Vogelgesang, 2003). Many practitioners and most investor communication still insist on this investment loan paradigm.

A simple argument against lending exclusively for productive purposes is its lack of feasibility. In fact, a lot of microcredit is used for consumption purposes (Brett, 2006; Menon and van der Meulen Rodgers, 2011). A microloan generally flows into the borrower's household and is in most cases dedicated to different household expenses, including consumption and productive uses. As there is no distinction between household and business cash flows, MFIs are hardly able to prevent the use of a loan for household purposes. Money is fungible so that even a loan fully invested into the business might reduce the investment otherwise made from the household's own resources and

thus increase resources for consumption. Furthermore, in a detailed longitudinal study of financial diaries of poor households in South Africa, Collins (2008) finds that even distinguishing which loans are used for productive or consumption purposes is extremely difficult. The paper provides examples of hybrid loan uses such as buying a school uniform to provide a child access to schooling – a consumer good and at the same time an investment in the child's education and future income generating ability. Also, an emergency loan that helps a household fund its daily meals and avoids them falling ill or selling productive assets to cover their liquidity gap might indirectly have productive consequences.

Feasibility is not the only challenge to the investment loan logic. Over the past years, a number of literature reviews and impact studies have put the original paradigm of microfinance into question. They find only mixed results of impact studies to date and no sufficiently reliable econometric research to prove that positive impact is in fact attributed to microfinance (Banerjee et al., 2009; Karlan and Zinman, 2009; Odell, 2010). While increasingly diverse and rigorous impact studies continue to assess the empirical results of microfinance, microfinance theory is gradually moving away from the microenterprise approach to a household finance approach, pointing towards the role of microfinance in short-term consumption smoothing and managing the risks of low and volatile incomes (Collins et al., 2009; Karlan and Zinman, 2009). Consumer loans can serve as a liquidity buffer for emergencies. In addition, financial services enable borrowers to make big ticket expenses for religious ceremonies and life-cycle events such as weddings. Investments into income generating opportunities represent only one such big ticket expense.

To sum up, consumer loans are frequently identified as a potential source of over-indebtedness as they do not provide debtors with returns for repayment. However, avoiding the use of loans for consumption purposes is hardly feasible in reality. In addition, researchers increasingly point out the valuable contribution of consumer loans to consumption smoothing and risk management and warn the industry of depriving the poor of this valuable tool by over-emphasising the myth of poverty alleviation from investment credit. If they simply do not have the required cash for an emergency, sometimes the poor do not have a choice but to borrow and somehow manage repayments and

interest from their future incomes. Repaying consumer loans from MFIs may be more sustainable than borrowing from other lenders at even higher interest rates.

It is therefore important to offer both types of microloans but tailor loan decisions and products to the various loan uses, avoiding investment loans where investments do not create sufficient returns and consumer loans where they are not justified by a real need. A differentiation by loan terms for example might incentivise customers to go for shorter terms for emergency borrowing and for longer loans for investment purposes – optimally with an instalment schedule that fits the investment cycle of the borrower's activity.

Microfinance needs to let go of its condemnation of consumer loans and develop a more nuanced approach. Eventually, the microfinance industry should continue its dialogue of what this change in impact paradigm implies for the role of microfinance in developing policy, its value to the poor, its value to the economic development of a country, and the need for or legitimacy of donor funds and subsidies on the one, and high interest rates on the other hand.

C. Microfinance requires a tight loan schedule and zero-tolerance policy

A key feature of the microfinance methodology is its regular instalment schedule. On the one hand, the high frequency of repayments helps borrowers to repay, small regular amounts being easier to assemble than larger ones. On the other hand, it is an important disciplining mechanism for borrowers to repay their loans, highlighting repayment problems early on. In addition to the instalment schedule, a focus of microfinance best practice has been on its zero-tolerance policy (see for example Stearns, 1991). It incites MFIs to teach borrowers the importance of repayments and differentiate MFI lending from frequently forgiven government lending. It promotes the early recognition of repayment difficulties and keeps borrowers from piling up obligations (Gonzalez, 2008). It avoids strategic defaults and spillover effects of a certain level of delinquency on non-delinquent borrowers (Stearns, 1991; Krishnaswamy, 2007). It improves MFI portfolio quality and has operational benefits of avoiding the cost of handling large numbers of rescheduling requests.

However, the typical weekly instalment schedule of microfinance may be too inflexible given the volatility of microborrowers' cash flows (Collins et al., 2009; Guérin et al., 2009a). At their low level

of income, they might simply have no sustainable option to repay a loan in a 'bad' week. Also, in the investment loan logic, the typical repayment schedule starts too early for most investments to generate returns. This paper has identified inappropriate product features as a cause of over-indebtedness. Instalment schedules that do not match borrowers cash flows represent a prime example. While testing their hypothesis only in a low delinquency environment in urban India, Field and Pande (2008) find that switching from weekly to monthly instalments is feasible without reducing repayment discipline. Further research should investigate this question in environments where more differences in repayment capacity are visible and assess the impact of loosening other typical characteristics of the microfinance methodology.

Furthermore, the widespread zero-tolerance policy hinders loan officers from rescheduling loans for borrowers in short-term liquidity difficulties. By forcing them into delinquency and potentially adding late fees or increased interests to their obligations, the lack of rescheduling may turn short-term liquidity gaps into longer-term problems. It may put obligors under avoidable repayment pressures, including the stress and humiliation of delinquency. In a South African example, the promotion and implementation of a zero-tolerance policy in microfinance has reached the extent that MFIs happily reported how borrowers had gone hungry and even sold their food to repay on time (Smets and Bähre, 2004). Based on the sacrifice-based definition, these are cases of over-indebtedness. In addition to impeded reschedulings, there are examples of unsuitable reschedulings, for example adding missed instalments to the next one instead the end of the repayment schedule. This risks overburdening the borrower again.

To conclude, the regular instalment schedule of microfinance and the zero-tolerance policy serve a good purpose and might help some borrowers to stay out of over-indebtedness. At the same time, they are absolutely inappropriate to certain borrower circumstances. Again a much more nuanced approach is required, letting go of the standard microfinance paradigms and taking the realities of microfinance borrowers and over-indebtedness risks into account. Otherwise these policies may well create the exact debt problems they are aiming to avoid.

D. The poor face higher over-indebtedness risks because they make more irrational decisions than the rich

One of the cause of over-indebtedness is the unreasonable behaviour of borrowers, taking on too much debt. From the perspective of behavioural economics, there are several explanations why people fail to act in their own interest. For example, choices that are rational based on the current utility function in every single instance may not maximise long-term individual welfare.

According to the theory of *procrastination* by Akerlof (1991) or the *hyperbolic discount function* (Laibson, 1997), human beings often engage in time-inconsistent behaviour. If it is rational for example, to save for retirement, but present costs of postponing consumption seem higher than the distant benefit of saving, then in each moment it may seem rational to start saving just a little bit later. Near-term events are subject to higher discount rates than far away events. The loss of postponing saving by one more day seems negligible. However, individuals tend not to foresee that the dilemma will be the same in the next instance and in all the following ones, ultimately leading to overconsumption and leaving the individual without savings. For borrowing, the effect may be the same, a small purchase on credit not causing problems, but the chronic accrual of credit leading to over-indebtedness. Gul and Pesendorfer (2004) and Fudenberg and Levine (2006) provide similar explanations with their *theory of temptation* and the '*dual self' model*.

Some researchers have argued that the poor are more likely than higher-income households to give in to temptation and chose immediate gratification. However, building on household surveys from 13 developing countries, Banerjee and Duflo (2007) explain that this is not due to higher irrationality. They emphasise that for the poor, their potential daily savings are very small and the likelihood high that savings get consumed before accumulating enough for an investment. In this situation, starting to save may not seem worthwhile. This effect is later labelled *'temptation tax'* (Banerjee and Mullainathan, 2009). Banerjee and Mullainathan model further reasons why the poor may be more subject to temptation than the rich: The goods that usually lead to spontaneous purchases are *low-price satiation goods*. Increasing spending on such goods increases pleasure only up to a limit that may be unproblematic for the rich but represent a significant share of income for the poor. If the poor seem more irrational than the rich, that is largely a result of *declining temptations*. In addition, investments that the poor can make are very small. They may seem unimportant because they will never make a substantial change to the individual's economic

circumstances. Shortsightedness is therefore not a sign of stronger irrationality but of different incentives. Bertrand et al. (2004) add that if the poor are prone to the same biases as everybody else, in their vulnerable situation these biases have worse consequences.

There also is empirical support for time-inconsistent behaviour among the poor. While most studies cannot distinguish reasons and link time inconsistencies to irrationality or to the incentive structures of poverty, Bauer et al. (2009) show for rural India that present-biased women borrow more from microfinance institutions - most likely not because they are giving in to temptation, but rather because they are aware of their present bias. They use loans as commitment devices and mechanism to replace savings, in fact handling their psychological biases well. The study therefore supports the argument that time-inconsistent behaviour of the poor does not result from higher irrationality levels.

To sum up, over-indebtedness may result from time-inconsistent borrowing decisions of microfinance customers that fail to create a sustainable balance between the short-term benefits and long-term costs of a loan. There are numerous reasons, why microfinance customers may find the intertemporal balancing of their utility particularly difficult, resulting from the incentive structures they live in. Moreover, the same amount of temptation in a microborrower is likely to lead to worse consequences than for richer individuals. The poor are thus not less rational than the rich but they are subject to stronger challenges and the impact of their mistakes is more severe. While it is true that poorer individuals are more at risk of over-indebtedness than those that are better off, this is not due to a lack of rational abilities but rather due to their difficult financial situation and the effects that their circumstances have on their decisions.

E. To avoid over-indebtedness, MFIs need to be transparent: provide sufficient information and state an Annual Percentage Rate

An important reason for over-indebtedness is that the consequences of loans are simply hard to understand. Lenders can exploit this challenge, promoting a loan's upsides and trying to downplay or hide the cost of credit. In microfinance pricing, there are numerous means for MFIs to obscure the actual cost of their products to clients. Among the most common techniques to reduce pricing

transparency are the introduction of fees to increase income without stating higher interest rates, the communication of monthly instead of annual interest rates, and the application of interest to a flat instead of declining balance.

Customer protection advocates have therefore promoted an increase in pricing transparency. Especially, a comparable format in stating interest rates is required to represent the full cost of a loan and enable borrowers to compare offers between different lenders. Experts promote the communication of Annual Percentage Rates (APR), a measure that is less subject to tricks and – based on a common formula – makes credit offers more comparable. Furthermore, the quest for transparency requires institutions to publish extensive information on their terms and conditions, making all implications of their products available to loan applicants before signing a loan contract. In developed countries, standardised documents of many pages of loan details have been developed for this purpose.

Even if designed to protect customers, both the APR and the extensive reporting formats for loan terms and conditions do not always promote the benefit of borrowers. There is a misalignment between transparency guidelines and the mental processes of human beings. If transparency guidelines are not compatible with people's way of thinking, they risk being ineffective or even counterproductive.

Psychologists have identified that people often do not think about spending decisions and loan decisions by means of discount rates as economic logic would suggest. Instead humans make spending decisions by means of simpler mental representations that fit their cognitive capacity. Ranyard and Craig (1995) combine the original theories of *mental accounts* (Thaler, 1985) and of *psychological accounts* (Kahneman and Tversky, 1984) in the concept of *dual accounting*. People use a mix of recurrent budget period accounts on the affordability of instalments in every future period of a loan and of total cost representations of the cumulated interest on a loan to make their borrowing decisions. In most cases, discounting does not play a role.

Empirical findings confirm the psychological theories on time-related information processing: Tiwari et al. (2008) find that clients in India think about their loans in terms of how much they owe on a

weekly basis but know little about interest rates or total interest expenses. Working with students in Britain, Ranyard and Craig (1993) find that without information on total interest charged, borrowers strongly underestimate the repayment period and total repayment amount of loans. Stating an APR to represent the cost of credit is therefore not compatible with our instinctive cognitive approach to loan decisions. If loan information is inappropriate to mental processes, underestimating loan duration may imply underestimating the impact of a credit decision and contribute to over-indebtedness. In developing countries with weak educational systems this effect is likely to be even stronger.

Finally, Collins et al. (2009) point out that especially for the short-term loans of microfinance customers, an APR may not represent an appropriate measure of price. When borrowers make loan decisions just for a few weeks, they are going to decide based on the actual cost of the loan to their budget rather than a hypothetical annual price. Pointing out the high APR of a loan to borrowers compares to dissuading someone from taking a taxi to the airport based on the cost they would face if they used a taxi for every mile the move in a year. For many microfinance borrowers, the interest on a loan is rather perceived a fee for a service (bridging the liquidity gap) than as the intertemporal cost of funds. Last but not least, the trend towards communicating increasingly comprehensive loan information to borrowers is noble as such – but it may actually contribute to the information overload that borrowers suffer from and discourage well reflected borrowing decisions. The more extensive the documentation, the more confusing and discouraging it seems.

As a result, MFIs should take the challenges of budgeting and time-related information processing seriously and adapt their customer communication accordingly. If terms and conditions are presented in a way that is not suitable for the borrowers' mental representations, customers may not understand the implications of taking a loan and over-indebt themselves. The current trends towards APRs and extensive loan contracts and term sheets is likely to aggravate over-indebtedness risks. From a customer protection perspective, MFIs should aim at a balance between transparency and understandability, providing a simple to grasp overview of loan costs that focuses on the information psychology has shown to be easiest to process.

5. Conclusion

Over-indebtedness is a serious risk to the microfinance industry. First, it contradicts the sector's social mission. It can enhance the poverty of microfinance customers, threaten their social position and lead to psychological disorders and health problems. Second, at the latest when over-indebtedness triggers default it represents a threat to the sustainability of MFIs. As a third aspect, over-indebtedness may have spillover effects that would affect even healthy institutions and their customers and risks damaging the reputation of the microfinance industry as such. Given the trend towards an interpretation of microfinance impact as reducing the vulnerability of poor households, it is interesting to note that for certain customers the over-indebtedness evidence points to an increase in household vulnerability due to microborrowing. Based on an improved understanding of the causes of over-indebtedness, it is therefore necessary to implement customer protection measures, reducing the risk of over-indebtedness for MFI customers and providing relief to those already in trouble.

This paper develops an innovative sacrifice-based definition of over-indebtedness. For purposes of customer protection, microborrowers count as over-indebted if they are structurally suffering from inacceptable sacrifices to repay. The definition takes their subjective knowledge about their future prospects and the implications of different types of debt into account. Also, this paper provides an unprecedented overview of over-indebtedness causes based on microfinance research as well as interdisciplinary consumer finance research. It highlights the interacting factors and responsibilities behind the over-indebtedness phenomenon. The causes framework shows lenders to enhance over-indebtedness risks via their marketing and growth focus, unsuitable product characteristics and inappropriate lending procedures. Borrowers contribute to the problem as a result of their cognitive biases, psychological misrepresentations, and responsiveness to sociological pressures. In addition, external influences such as adverse shocks to the income and expenses of borrowers can drive borrowers into over-indebtedness, facilitated by the institutional and legal environment. This framework reveals the full breadth of potential solutions to the over-indebtedness challenge and shows that reducing over-indebtedness does not automatically imply reducing access to credit.

The paper challenges a number of conventional beliefs such as the inappropriateness of consumer loans for microfinance customers, the requirements of a tight repayment schedule in the microfinance methodology, and the universal benefits of competition for customers. It provides the basis for the design of appropriate customer protection mechanisms, tackling the phenomenon at its roots. Only with knowledge of the different factors that create over-indebtedness, can regulators, MFIs, and other parties tailor effective over-indebtedness protection measures to the microfinance market.

Further research is required into this young field, confirming to what extent the over-indebtedness drivers in developed country consumer finance apply to the microfinance context. Empirical research should measure the prevalence of over-indebtedness in specific geographies and examine in more detail the causes of debt problems in these markets. Also, qualitative research needs to provide insight into the experiences of over-indebted customers and the sacrifices they make. On the basis of these findings, the microfinance industry will have to develop appropriate approaches of customer protection. Academic research can contribute to this process both with answers to the above questions and by analysing the available customer protection approaches in the commercial banking industry for transferability to the MFI sector.

Appendix

Appendix 1: Dimensions of objective over-indebtedness measurements

Type of choice	Dimension of choice	Categories			
1 Measures	*Metric*	Continuous	Ordinal	Dichotomous	
	Unit of measurement	Absolute amounts[1]	Ratios (relative amounts)	Absolute number[2]	Duration[3]
	Parameters	Stock data	Cash flow data		
	Level of differentiation	Fixed thresholds	Flexible thresholds[4]		
2 Components	*Types of expenses*	Debt expenses	Debt + fixed expenses	All expenses	
	Types of products	Installment debt[5]	Revolving debt	Mortgages	Non-credit debt
	Types of obligations	Repayments + interest	Interest only		
	Types of income	Gross income	Disposable income	Above minimum existence level	

1 E.g. of debts or in arrears
2 E.g. of credit arrangements or loans in arrears
3 E.g. of delinquency
4 E.g. specific to borrower characteristics such as age
5 Secured and unsecured loans

Appendix 2: Characteristics of the new over-indebtedness definition

Type of choice	Dimension of choice	Categories			
1 Purpose	*Scientific lens*	Legal	Economic	Sociological	Other
	Precision	Definition	Indicator	Proxy	
	Reference unit	Individual	Household	Network of kin	Aggregate
2 Method	*Composition*	Single criterion	Multiple criteria		
	Scale	Quantitative	Qualitative		
	Perspective	Objective	Subjective		
	Data source	External	Self-reported		
3 Severity	*Time horizon*	Current	Structural	Permanent	
	Debt condition	Bankruptcy	Default	Arrears	Imbalance
	Role of the borrower	Innocent	Unintended	Deliberate[1]	
	Level of sacrifice	To minimum existence level	More than expected	Liquidity buffer[2]	No sacrifice

1 E.g., Strategic default or fraud
2 Inability to meet unexpected expenses

[1] This paper focuses on institutional microfinance, following the solidarity banking, village banking or individual lending models. It includes formal and semi-formal institutions that follow a social mission and are operating within structures that aim at operational sustainability or even profitability. Although microfinance has expanded to a broad range of financial services, this paper focuses on its original product, micro loans.

[2] For a perspective of debt related farmer suicides in India and their relationship to gender imbalances especially in female self-employment and wage work see Rao (2011). However, Gruère and Sengupta (2011) find that there has actually not been an increase in suicides in the respective areas. Also, rather than microfinance, they identify agricultural and societal factors as the causes of debt-related suicides in rural India. Earlier crises took place in Bolivia and South Africa in the late 1990s and early 2000s.

[3] Contrarily to the paradigm of microenterprise finance, this paper uses the consumer finance literature from developed markets as a reference literature. It is more appropriate than a corporate finance perspective, as microfinance relies mostly on character-based lending techniques, a lot of microcredit is used for consumption purposes, microborrowers make personal rather than professional credit decisions, and as – being personally liable for their loans - microborrowers face the same personal consequences of over-indebtedness that are discussed in consumer credit research.

[4] See Godquin (2004) for a review of the empirical literature.

[5] As they are often subject to discussion, Appendix 1 provides an overview of the different dimensions of quantitative over-indebtedness measurements.

[6] In addition to sacrificing current income for instalments, Brett (2006) has found microborrowers to rely on cash support from their families and social networks, take on additional debt, sell assets, reduce the quantity and quality of their food, and to take on additional paid labour to be able to repay on time. Gonzalez (2008) identifies similar repayment sacrifices in Bolivia and adds reductions in human capital investments that risk reducing income generating capacity and household welfare in the long run. From a rural Indian perspective, Mosse et al. (2002) find that debt may force households to mortgage or sell assets, marry off daughters, sell their workforce into 'bonded labour' or migrate for labour.

[7] It comes close to the definition of Gonzalez (2008) but excludes strategic defaults. The notion of sacrifice for microcredit repayments has been brought up first by Brett (2006), however in that instance not in relation to over-indebtedness.

[8] See Appendix 2 for the categories applied in this definition of over-indebtedness. The most suitable definitional categories for this paper's approach are highlighted in blue.

[9] From a profitability perspective, lenders may well accept a certain level of arrears and default as long as the costs of improved risk management exceed the costs of delinquency. Except for the indirect impact through customer satisfaction, lenders do not take borrowers' sacrifices into account in their cost calculations and ignore when defaults can only be avoided at a high cost to the borrower. In some cases, the repayment problems of borrowers may even be in a lender's interest, increasing the interest earned with each given loan or keeping the borrower dependent on the lender.

[10] Banerjee and Mullainathan (2009) explain that MFIs have an incentive not to move customers out of poverty and the dependence of loans, but to keep profitable borrowers trapped in a cycle of debt.

[11] www.mixmarket.org, self-reports of limited liability but sufficient for the purposes of this argument

[12] See Schicks (2007) for the effects of competition between profitable and subsidized MFIs.

References

Akerlof, G. A. (1991). Procrastination and Obedience. *The American Economic Review,* 81(2)*,* 1–19.

Angner, E. (2010). Subjective well-being: Financial Crisis: Capabilities and Happiness. *Journal of Socio-Economics,* 39(3)*,* 361–368.

Augsburg, B. and Fouillet, C. (2010). Profit Empowerment: The Microfinance Institution's Mission Drift. *Perspectives on Global Development and Technology,* 9(3)*,* 327–355.

Banerjee, A. and Mullainathan, S. (2009). *The shape of temptation: Implications for the economic lives of the poor.* Harvard University & MIT.

Banerjee, A. V. and Duflo, E. (2007). The Economic Lives of the Poor. *Journal of Economic Perspectives,* 21(1)*,* 141–167.

Banerjee, A. V., Duflo, E., Glennerster, R. and Kinnan, C. (2009). *The miracle of microfinance? Evidence from a randomized evaluation.* MIT Poverty Action Lab. Cambridge, MA.

Bauer, M., Chytilová, J. and Morduch, J. (2009). *Behavioral Foundations of Microcredit: Experimental and Survey Evidence from Rural India.* Financial Access Initiative. New York.

Bertrand, M., Mullainathan, S. and Shafir, E. (2004). A Behavioral-Economics View of Poverty. *The American Economic Review,* 94(2)*,* 419–423.

Betti, G., Dourmashkin, N., Rossi, M. C. and Yin, Y. P. (2007). Consumer over-indebtedness in the EU: measurement and characteristics. *Journal of Economic Studies,* 34(2)*,* 136–156.

Binder, M. and Coad, A. From Average Joe's happiness to Miserable Jane and Cheerful John: using quantile regressions to analyze the full subjective well-being distribution. *Journal of Economic Behavior & Organization,* In Press, Corrected Proof.

Bouquet, E., Wampfler, B., Ralison, E. and Roesch, M. (2007). Trajectoires de crédit et vulnérabilité des ménages ruraux: Le cas des Cecam de Madagascar. *Autrepart,* 44*,* 157–172.

Brett, J. A. (2006). "We Sacrifice and Eat Less": The Structural Complexities of Microfinance Participation. *Human Organization,* 65(1)*,* 8.

Brown, S., Garino, G., Taylor, K. and Wheatley Price, S. (2005). Debt and Financial Expectations: An Individual- and Household-Level Analysis. *Economic Inquiry,* 43(1)*,* 100–120.

Brown, T. M. (1952). Habit Persistence and Lags in Consumer Behaviour. *Econometrica,* 20(3)*,* 355–371.

Canner, G. B. and Luckett, C. A. (1991). Payment of household debts. *Federal Reserve Bulletin,* 77(4)*,* 218.

Caporale, G. M., Georgellis, Y., Tsitsianis, N. and Yin, Y. P. (2009). Income and happiness across Europe: Do reference values matter? *Journal of Economic Psychology,* 30(1)*,* 42–51.

Chaudhury, I. A. and Matin, I. (2002). Dimensions and dynamics of microfinance membership overlap: A micro study from Bangladesh. *Small Enterprise Development,* 13(2)*,* 46–55.

Christen, M. and Morgan, R. M. (2005). Keeping Up With the Joneses: Analyzing the Effect of Income Inequality on Consumer Borrowing. *Quantitative Marketing and Economics,* 3(2)*,* 145–173.

Collins, D. (2008). Debt and household finance: Evidence from the Financial Diaries. *Development Southern Africa,* 25(4)*,* 469–479.

Collins, D., Morduch, J., Rutherford, S. and Ruthven, O. (2009). *Portfolios of the Poor: How the World's Poor Live on $2 a Day*. Princeton, NJ: Princeton Univ. Press.

DeVaney, P. L. (2006). *Bringing Pro-Consumer Ideals to the Client: A Consumer Protection Guide for Financial Institutions Serving the Poor. Monograph Series: Vol. 14*. Washington, DC: ACCION Publications.

Disney, R., Bridges, S. and Gathergood, J. (2008). *Drivers of Over-Indebtedness: Report to the Department for Business, Enterprise and Regulatory Reform.* Centre for Policy Evaluation, University of Nottingham.

Dolan, P., Peasgood, T. and White, M. (2008). Do we really know what makes us happy?A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology,* 29(1)*,* 94–122.

Duesenberry, J. S. (1949). *Income, Saving and the Theory of Consumer Behavior*. Cambridge, MA: Harvard University Press.

European Commission (2008). *Towards a Common Operational European Definition of Over-Indebtendess.* OEE Studies. Brussels.

Field, E. and Pande, R. (2008). Repayment Frequency and Default in Microfinance: Evidence from India. *Journal of the European Economic Association,* 6(2/3)*,* 501–509.

Friedman, M. (1957). *A Theory of the Consumption Function*. Princeton: Princeton University Press.

Fudenberg, D. and Levine, D. K. (2006). A Dual-Self Model of Impulse Control. *The American Economic Review,* 96(5)*,* 1449–1476.

Godquin, M. (2004). Microfinance Repayment Performance in Bangladesh: How to Improve the Allocation of Loans by MFIs. *World Development,* 32(11)*,* 1909–1926.

Gonzalez, A. (2008). *Microfinance, Incentives to Repay, and Overindebtedness. Evidence from a Household Survey in Bolivia* (Doctoral thesis). Ohio State University, Ohio.

Gonzalez, A. (2010). *Is Microfinance Growing Too Fast?* MIX Data Brief No. 5. Retrieved from www.themix.org.

Gruère, G. and Sengupta, D. (2011). Bt Cotton and Farmer Suicides in India: An Evidence-based Assessment. *Journal of Development Studies,* 47(2)*,* 316–337.

Guérin, I. (2006). Women and Money: Lessons from Senegal. *Development and Change,* 37(3)*,* 549–570.

Guérin, I., Roesch, M., Héliès, O. and Venkatasubramanian (2009a). Microfinance, Endettement et Surendettement: Une Étude de cas en Inde du Sud. *Revue Tiers Monde,* 197*,* 131–146.

Guérin, I., Roesch, M., Venkatasubramanian and Kumar, S. (2009b). *The Social Meaning of Over-Indebtedness and Creditworthiness in the Context of Poor Rural South-Indian Households (Tamil Nadu)*, Draft paper presented at the RUME / IEDES workshop on over-indebtedness in Paris, December 2009.

Gul, F. and Pesendorfer, W. (2004). Self-Control and the Theory of Consumption. *Econometrica,* 72(1)*,* 119–158.

Hellmann, T. F., Murdock, K. C. and Stiglitz, J. E. (2000). Liberalization, Moral Hazard in Banking, and Prudential Regulation: Are Capital Requirements Enough? *The American Economic Review,* 90(1)*,* 147–165.

Kahneman, D. and Tversky, A. (1984). Choices, values and frames. *American Psychologist,* 39(4)*,* 341–350.

Kappel, V., Krauss, A. and Lontzek, L. (2010). *Over-Indebtedness and Microfinance - Constructing an Early Warning Index.* Center for Microfinance, University of Zurich, responsAbility, Council of Microfinance Equity Funds, Triodos Investment Management. Zurich.

Karlan, D. and Zinman, J. (2009). *Expanding Microenterprise Credit Access: Using Randomized Supply Decisions to Estimate the Impacts in Manila.* Financial Access Initiative. Cambridge, MA. Retrieved from http://financialaccess.org.

Krishnaswamy, K. (2007). *Competition and Multiple Borrowing in the Indian Microfinance Sector.* Institute for Financial Management and Research, Centre for Micro Finance Working Paper.

Laibson, D. (1997). Golden Eggs and Hyperbolic Discounting. *Quarterly Journal of Economics,* 112(2)*,* 443–477.

Lea, S. E. G., Webley, P. and Levine, R. M. (1993). The Economic Psychology of Consumer Debt. *Journal of Economic Psychology,* 14(1)*,* 85–119.

Lea, S. E. G., Webley, P. and Walker, C. M. (1995). Psychological Factors in Consumer Debt: Money Management, Economic Socialization, and Credit Use. *Journal of Economic Psychology,* 16(4), 681–701.

Livingstone, S. M. and Lunt, P. K. (1992). Predicting personal debt and debt repayment: Psychological, social and economic determinants. *Journal of Economic Psychology,* 13(1), 111–134.

Lusardi, A. and Tufano, P. (2009). *Debt Literacy, Financial Experiences, and Overindebtedness.* National Bureau of Economic Research NBER Working Paper Series No. 14808. Cambridge, MA.

Luttmer, E. F. P. (2005). Neighbors as Negatives: Relative Earnings and Well-Being. *Quarterly Journal of Economics,* 120(3), 963–1002.

Matin, I. (1997). Repayment performance of Grameen Bank borrowers: the unzipped' state. *Savings and Development,* 4, 451–473.

McIntosh, C. and Wydick, B. (2005). Competition and microfinance. *Journal of Development Economics,* 78(2), 271–298.

Menon, N. and van der Meulen Rodgers, Y. (2011). How Access to Credit Affects Self-employment: Differences by Gender during India's Rural Banking Reform. *Journal of Development Studies,* 47(1), 48–69.

Modigliani, F. and Brumberg, R. (1980). Utility Analysis and the Consumption Function. An Interpretation of Cross-Section Data. Post Keynesian Economics, edited by Kenneth K. Kurihara, pp. 388-436 Rutgers University Press 1954. In A. Abel (Ed.): *Vol. 2, The Collected Papers of Franco Modigliani. The Life Cycle Hypothesis of Saving,* pp. 79–127. Cambridge, MA; London: MIT Press.

Mosse, D., Gupta, S., Mehta, M., Shah, V., Rees, J. f. and Team, K. P. (2002). Brokered livelihoods: Debt, Labour Migration and Development in Tribal Western India. *Journal of Development Studies,* 38(5), 59–88.

Murray, A. P. (1997). Debt and "the" consumer. *Business Economics,* 32(2), 41–45.

Notani, A. S. (1997). Perceptions of Affordability: Their Role in Predicting Purchase Intent and Purchase. *Journal of Economic Psychology,* 18(5), 525–546.

Odell, K. (2010). *Measuring the Impact of Microfinance: Taking Another Look.* Grameen Foundation USA Grameen Foundation USA Publication Series. Washington, DC.

Oshio, T. and Kobayashi, M. (2010). Income inequality, perceived happiness, and self-rated health: Evidence from nationwide surveys in Japan. *Social Science & Medicine,* 70(9), 1358–1366.

Paxton, J., Graham, D. and Cameron, T. (2000). Modeling Group Loan Repayment Behavior: New Insights from Burkina Faso. *Economic Development and Cultural Change,* 48(3), 639–655.

Rahman, A. (1999). Micro-credit Initiatives for Equitable and Sustainable Development: Who Pays? *World Development,* 27(1), 67–82.

Ranyard, R. and Craig, G. (1993). Estimating the duration of a flexible loan: The effect of supplementary information. *Journal of Economic Psychology,* 14(2), 317–335.

Ranyard, R. and Craig, G. (1995). Evaluating and budgeting with installment credit: An interview study. *Journal of Economic Psychology,* 16(3), 449–467.

Rao, S. (2011). Work and Empowerment: Women and Agriculture in South India. *Journal of Development Studies,* 47(2), 294–315.

Schicks, J. (2007). Developmental Impact and Coexistence of Sustainable and Charitable Microfinance Institutions: Analysing BancoSol and Grameen Bank. *European Journal of Development Research,* 19(4), 551–568.

Schreiner, M. (2004). Scoring Arrears at a Microlender in Bolivia. *Journal of Microfinance,* 6(2), 65–88.

Sharma, M. and Zeller, M. (1997). Repayment performance in group-based credit programs in Bangladesh: An empirical analysis. *World Development,* 25(10), 1731–1742.

Smets, P. and Bähre, E. (2004). When Coercion Takes Over: The Limits of Social Capital in Microfinance Schemes. In H. Lont & O. Hospes (Eds.), *Livelihood and microfinance. Anthropological and sociological perspectives on savings and debt* (pp. 215–236). Delft: Eburon Academic Publishers.

Soman, D. and Cheema, A. (2002). The Effect of Credit on Spending Decisions: The Role of the Credit Limit and Credibility. *Marketing Science,* 21(1)*,* 32–53.

Stearns, K. (1991). *The Hidden Beast: Delinquency in Microenterprise Credit Programs.* ACCION International Discussion Paper Series No. 5. Washington DC. Retrieved from http://www.ruralfinance.org.

Stone, B. and Maury, R. V. (2006). Indicators of personal financial debt using a multi-disciplinary behavioral model. *Journal of Economic Psychology,* 27(4)*,* 543–556.

Thaler, R. (1985). Mental Accounting and Consumer Choice. *Marketing Science,* 4(3)*,* 199–214.

Tiwari, A., Khandelwal, A. and Ramji, M. (2008). *How Do Microfinance Clients Understand their Loans?* Institute for Financial Management and Research, Centre for Micro Finance Working Paper Series No. 25.

Viaud, J. and Roland-Lévy, C. (2000). A positional and representational analysis of consumption. Households when facing debt and credit. *Journal of Economic Psychology,* 21(4)*,* 411–432.

Vogelgesang, U. (2003). Microfinance in Times of Crisis: The Effects of Competition, Rising Indebtedness, and Economic Crisis on Repayment Behavior. *World Development,* 31(12)*,* 2085–2114.

Webley, P. and Nyhus, E. K. (2001). Life-Cycle and Disproportionate Routes into Problem Debt. *British Journal of Psychology,* 92*,* 423–446.