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

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Abstract: The microfinance industry has been celebrated both for its social impact on poverty alleviation and for its profitability. With issues of over-indebtedness emerging among microfinance customers, both achievements are at risk. This paper contributes to the industry's understanding of the definition and causes of over-indebtedness. It reveals why the five myths of microfinance over-indebtedness erroneously oversimplify the reality of microfinance customers. The paper works with theoretical and empirical contributions from economics, psychology and sociology, and unites microfinance specific findings with the general consumer finance literature. In addition to external influences, it highlights the responsibility of lenders in driving microfinance customers into over-indebtedness. It also recognises the role that borrowers involuntarily play in over-indebting themselves. Enhancing our understanding of what microfinance over-indebtedness is and how it is caused, the paper provides the basis for tailoring over-indebtedness solutions to the root causes of the phenomenon and addressing the challenge at all suitable levels.

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

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1. Introduction

Over the last decade, the microfinance industry\(^1\) has achieved immense growth and unprecedented 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, not only for customers. 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 and Pakistan, an over-indebtedness crisis among microfinance clients has already materialised.\(^2\) Over-indebtedness represents a serious challenge for all microfinance providers: not only for those focussing on social impact but also for lenders following a limited "do no harm"-philosophy.

From a perspective of customer protection, this paper aims to better understand microfinance over-indebtedness and its causes. There is wide-spread ambiguity about how to define and measure over-indebtedness. Also, to the author's knowledge, there is no comprehensive overview of the potential drivers of this phenomenon. Especially in the microfinance literature, academic work on the causes of over-indebtedness is hardly existent. This paper will develop and work with an innovative definition of over-indebtedness based on borrower sacrifices. Providing an account of the most important factors that impact over-indebtedness, it will pin-point the role that external influences, lenders, and borrowers play in causing this problem. It will proceed 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 paper’s main contribution lies in bringing together the academic knowledge from several fields of research such as economics, sociology, and psychology and uniting the scholarship on consumer credit in developed markets with microfinance specific research.\(^3\)

The next section will review the options for over-indebtedness definitions in the consumer finance and microfinance literature. Based on this overview, it will develop a unique over-indebtedness definition for microfinance research. 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. There have been several efforts to analyse types of definitions and their advantages but, to the author's knowledge, never a structured outline of all the options.

**FIGURE 1: DIMENSIONS OF OVER-INDEBTEDNESS DEFINITIONS**

<table>
<thead>
<tr>
<th>Type of choice</th>
<th>Dimension of choice</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>Scientific lens</td>
<td>Legal, Economic, Sociological, Other</td>
</tr>
<tr>
<td></td>
<td>Precision</td>
<td>Definition, Indicator, Proxy</td>
</tr>
<tr>
<td></td>
<td>Reference unit</td>
<td>Individual, Household, Network of kin, Aggregate</td>
</tr>
<tr>
<td>Method</td>
<td>Composition</td>
<td>Single criterion, Multiple criteria</td>
</tr>
<tr>
<td></td>
<td>Scope</td>
<td>Quantitative, Qualitative</td>
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<td></td>
<td>Perspective</td>
<td>Objective, Subjective</td>
</tr>
<tr>
<td></td>
<td>Data source</td>
<td>External, Self-reported</td>
</tr>
<tr>
<td>Severity</td>
<td>Time horizon</td>
<td>Current, Structural, Permanent</td>
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<tr>
<td></td>
<td>Debt condition</td>
<td>Bankruptcy, Default, Arrear, Imbalance</td>
</tr>
<tr>
<td></td>
<td>Role of the borrower</td>
<td>Innocent, Unintended, Deliberate¹</td>
</tr>
<tr>
<td></td>
<td>Level of sacrifice</td>
<td>To minimum subsistence level, More than expected, Liquidity buffer², No sacrifice</td>
</tr>
</tbody>
</table>

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-indebtedness⁴, 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, Bridges, & Gathergood, 2008). In the microfinance context, the appropriate unit may even be a borrower’s extended support network of kin (Guérin, Roesch, Venkatasubramanian, & Kumar, 2009).

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 et al., 2008), if they apply simultaneously they increase precision. Over-indebtedness can represent exceedance of a quantitative threshold, e.g. 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 emphasize the merits of a subjective over-indebtedness definition (Betti, Dourmashkin, Rossi, & Yin, 2007; Guérin et al., 2009; Lea, Webley, & Levine, 1993). They consider the individual the best judge of its complex debt situation and prospects. Guérin, Roesch, Héliès, and Venkatasubramanian (2009) 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. As a result, “total amount of debt” for many poor borrowers is not a meaningful concept (Guérin et al., 2009). 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.

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. According to the Life Cycle Hypothesis (Modigliani & 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 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 as over-indebted, while others include cases of default or arrears, or even all borrowers who struggle with an unhealthy debt balance. 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, Roesch, Venkatasubramanian, and Kumar (2009) point out that it might not be suitable in developing country environments where informal lending agreements play a large role, that often do not specify explicit payment deadlines. Conversely, a system of juggling debts, continuously borrowing again 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 they would have to define appropriate thresholds and can thus never take all borrower circumstances into account. A debt-to-income ratio that is unsustainable for one borrower might be absolutely manageable for another.

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 unintended. 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. Microfinance practitioners display a similar attitude that microcredit must
not deprive customers of their basic survival capacity in order to repay. 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*. The *deprivation of any liquidity buffer* for emergencies 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*. This is a common expectation in the microfinance sector, with loans aiming to make borrowers better off and not to require sacrifices. However, 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 even arrears do not represent a suitable threshold for this research. Instead, 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-indebted². Besides there not being defined minimum existence levels in most microfinance markets, borrowers will often already live below any acceptable minimum level of income, independent of their loans. They are therefore the only ones to decide on an acceptable level of sacrifices. While some permanence of difficulties is well implied, the 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.

This research will therefore use a qualitative, sacrifice-based definition of over-indebtedness that is unique in the academic literature⁶: *A microfinance customer is over-indebted if he/she is continuously struggling to meet repayment deadlines and repeatedly has to make unduly high sacrifices to meet his/her loan obligations.*⁷
The definition excludes borrowers who strategically default or deliberately run up unsustainable amounts of debt, relying on a bail-out or the option to switch to a new provider. While boundaries blur, the criterion of "unduly high sacrifices" excludes deliberation. To allow for deliberate sacrifices incurred by borrowers, sacrifices are deemed "unduly high" if they are bigger than borrowers expected when taking the loan and exceed the cost they are willing to take on for the loan purpose.

This definition is very close to an impact approach. A loan that makes the borrower worse off because sacrifices exceed benefits, is a loan that causes over-indebtedness. Under this definition, 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. 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.

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

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\(^8\), over-indebtedness is thus an undesired consequence both for parties and in perfect markets should not exist. This section will analyse explanations 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.

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 or of financial difficulties.
Studies vary in the loan products they take into account. Borrower behaviours might differ between e.g. 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 studies identify causal relationships (e.g. Webley & Nyhus (2001) based on a longitudinal approach or Brown, Garino, Taylor, and Wheatley Price (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, Wampfler, Ralison, and Roesch (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 (e.g. displacement of street vendors) or political crises. Also, 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.

**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, Morduch, Rutherford, & Ruthven, 2009). Microfinance institutions tend to underestimate their impact on borrower debt load, believing that their loans substitute for informal loans, whereas in reality they mostly add to a borrower's leverage (Guérin et al., 2009). 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 suffer 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, aggressive sales techniques in microfinance refer to marketing tactics that frame credit offers to exploit the psychological biases of borrowers. An individual's perception of affordability being positively affected by the offer to buy on credit (Notani, 1997), "easy money" can incite borrowers to over-estimate their opportunities.

At the root of the MFIs' sales focus is the industry's growth pressure and strive for financial returns that may over-rule an institution's social mission. Rapid growth not only has direct risks of lending to customers beyond their capacity but in extreme cases also exceeds the institutional capacity of MFIs for information systems, lending policies and governance. Especially growth rates above 250%, local growth in existing branch locations and growth in countries with a penetration rate above 10% or high aggregate microfinance growth on the country level, present risks to MFI portfolio quality (Gonzalez, 2010). According to pre-crisis MIX Market data\(^1\), the gross loan portfolio of Morocco's 10 reporting MFIs grew at a compound annual growth rate of 110% in 2006 and 2007, the portfolio more than doubling every twelve months. The fastest portfolio growth in 2006 was experienced by one of Morocco's main institutions, Zakoura, at 182%, nearly tripling its outstanding
loans. In 2007, the smaller MFI ARDI grew fastest in gross loan portfolio, at 330%, adding more than four times its loan portfolio in the course of one year. This speed of growth must imply challenges for an institution’s management.

Growth also requires employee increases, leading to a constantly high share of inexperienced loan officers that may make weaker loan decisions than experienced colleagues and identify less with the values of their institution. In Morocco, the most critical experience was that of ARDI in 2007, when the MFI grew personnel by about 350%: nearly 80% of its employees were new to the institution. While at the time a >30 day portfolio at risk (PAR) above 1% was the absolute exception, at the end of 2009, PAR has reached its current peak in Morocco with an average of 7% (no data available for ARDI). Two institutions, ATIL and Zakoura even report 18% and 14% PAR respectively.

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 focuses on 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. Productive investments, especially those subject to seasonality, require cash when the investment opportunity exists. If MFIs disburse too late, customers may not earn 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).

Lastly, the focus of many microlenders on women can contribute to over-indebtedness. Rahman (1999) and Brett (2006) reveal that loans are often used by husbands. Indebting female borrowers without control over their resources and loan use can be a catalyst of over-indebtedness.
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. Lending procedures furthermore promote over-indebtedness through a lack of transparency. An Indian study discovered that more than 70% of clients believed all or most of the rules regarding their loan contract were not communicated to them in written form (Tiwari, Khandelwal, & Ramji, 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 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. Borrowers are not necessarily aware of their rights and 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 et al., 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).

![Borrower behaviour: To every credit decision there are two parties: a lender and a borrower. Both have the obligation to make responsible choices. Both are can let a credit agreement turn 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**. Soman & Cheema (2002)
find that inexperienced consumers tend to see their credit limit as a signal of future earnings and affordability. The credit limit may encourage individuals to borrow beyond what they can afford. Lusardi & 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 tend to suffer from an overconfidence bias and from habit persistence, reducing consumption too slowly in adaptation to income fluctuations (Brown, 1952). They may over-consume and underestimate the risk of borrowing.

As a result, understanding credit offers and making sound borrowing decisions is challenging for microborrowers who usually have low education levels and little experience with formal lending institutions. 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 inter-temporal 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 (Lea et al., 1993; Livingstone & Lunt, 1992), or towards money and money management (Webley & Nyhus, 2001) as well as his locus of control (Livingstone & Lunt, 1992; Webley & Nyhus, 2001). 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 over-spend and borrow beyond their limits. Consumption loses is function of satisfying basic needs and instead is required to build one’s identity. Sociologists see a causal relationship between a culture of consumption and the level of consumer debt. On the one hand, they can reproach microfinance to spread consumerism with their credit offers. On the other, in most societies such influences exist independently of microfinance. Instead of denying to the poor what we value in our own society, the
solution is rather to be aware that the poor’s borrowing decisions may result from societal pressures.

A second influence factor is that of inequality and social comparison. It can drive lower income groups to borrow irresponsibly to keep up with the consumption levels of peers (Christen & Morgan, 2005; Duesenberry, 1949; Luttmer, 2005). As a third point economic socialisation influences people’s readiness to take on debt. Societal support for debt determines to what extent the average borrower perceives debt as a burden or as an easy solution (Lea et al., 1993). The attitudes and experiences of parents with debt and money are relevant, 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 over-indebtedness. While some might not be causal relationships, others probably help explain over-indebtedness. The most common socio-demographic factors include young age, more and younger children, low levels of education and low or unstable labour market status (Gonzalez, 2008; Lea et al., 1993; Lea, Webley, & Walker, 1995; Livingstone & Lunt, 1992; Vogelgesang, 2003). Single adult households and those with recent changes in family composition, e.g. divorce, are at risk (Lea et al., 1993; Vogelgesang, 2003), as well as people in rented accommodation as opposed to home-ownership (Disney et al., 2008; Lea et al., 1995) - at least before the financial crisis. Finally, ill health, gender and ethnicity are related to indebtedness (Disney et al., 2008; Lea et al., 1993). 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 (Lea et al., 1995; Livingstone & Lunt, 1992). 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. Other studies point towards the influence of income instability.
(Webley & Nyhus, 2001), low wealth (Disney et al., 2008) and low returns on the borrower’s investment (Gonzalez, 2008). 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.

To sum up, figure 2 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 etc. 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.
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. 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).

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 MFI clients.

While this argument has come true in certain cases the downsides of competition have been given little attention. In fact, competition impacts the incentive structures for borrowers and lending institutions. It increases asymmetric information by making information sharing more difficult (McIntosh & 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 over-lend, particularly if new market entrants are aggressive and pay less attention to repayment capacity. Hellmann, Murdock, and Stiglitz (2000) provide theoretical support for these concerns, showing that competition increases moral hazard and incites lenders to gamble. They claim that the competition reduces franchise values (i.e. 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 and concludes that MFIs can successfully manage the risks of a competitive environment. According to the empirical findings of Vogelgesang (2003), 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 it triggers a deterioration of repayment behaviour.

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 should be careful in considering the effects that competition might have on microfinance customers. It may well represent the major institutional factor to influence 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 consumption smoothening, but 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. 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 consumptive purposes (Brett, 2006). A microloan generally flows into the borrower’s household and is in most cases dedicated to different household expenses, including consumptive 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.
Also, loan use is often influenced by norm-following behaviour and external decision makers so that it is not fully at the discretion of the borrower (Holvoet, 2005). Furthermore, in a detailed longitudinal study of financial diaries of poor households in developing markets, Collins (2008) finds that even distinguishing which loans are used for productive or consumptive 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 studies to prove that positive impact is in fact attributed to microfinance (Banerjee, Duflo, Glennerster, & Kinnan, 2009; Garikipati, 2008; Imai & Anim, 2010; Karlan & Zinman, 2009; Montgomery & Weiss, 2011; 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 comprehensive 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 & 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 consumptive 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. Microloans for consumptive purposes do bear risks, but they can
also have positive social impact and to many poor borrowers are more important than investment loans. 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 specific need. A differentiation by loan terms for example might incentivize 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. 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 e.g., Stearns (1991)). It incites MFI s 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 spill-over effects of a certain level of delinquency on non-delinquent borrowers (Krishnaswamy, 2007; Stearns, 1991). 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., 2009). 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. While testing their hypothesis only in a low delinquency environment, Field & 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 wide-spread 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. According to reports in practitioner-oriented publications, 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 chicken to repay on time (Campion & Lindner, 2008). Based on the sacrifice-based definition, these are cases of over-indebtedness. In addition to impeded reschedulings, there are examples of unsuitable reschedulings, e.g. adding missed instalments to the next one instead the end of the repayment schedule. This risks over-burdening 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 not appropriate to all borrower circumstances and should be applied less sternly than in the past; or they 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 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 over-consumption 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 & Pesendorfer (2004) and Fudenberg & 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, Banerjee & 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 & Mullainathan, 2009). Banerjee & 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. Short-sightedness is therefore not a sign of stronger irrationality but of different incentives. Bertrand, Mullainathan, and Shafir (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, Chytílová, and Morduch (2009) show 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 inter-temporal 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, standardized 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 might not always promote the benefit of borrowers. This is largely due to 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 not being effective 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 human decision makers make spending decisions by means of simpler mental representations that fit their cognitive capacity. Ranyard & Craig (1995) combine the original theories of mental accounts (Thaler, 1985) and of psychological accounts (Kahneman & 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, Khandelwal, and Ramji (2008) find that clients 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. Ranyard & 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.

Finally, Collins, Morduch, Rutherford, and Ruthven (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 inter-temporal 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-indebth themselves. From a customer protection perspective, MFIs should aim at a balance between transparency and understandability, providing an easy 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 spill-over 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. Borrowers count as over-indebted if they are suffering from unacceptable sacrifices to repay, taking their subjective knowledge about future prospects and the implications of different types of debt into account. In a review of influence factors in the microfinance literature as well as the interdisciplinary consumer finance literature, this paper provides an unprecedented overview of over-indebtedness causes and highlights the interacting factors and responsibilities behind the over-indebtedness phenomenon. Lenders are shown 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.

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 the 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, testing the transferability of over-indebtedness drivers from the consumer finance literature to the microfinance context. Empirical research should quantify and confirm 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.
### FIGURE 3: DIMENSIONS OF OBJECTIVE OVER-INDEBTEDNESS MEASUREMENTS

<table>
<thead>
<tr>
<th>Type of choice</th>
<th>Dimension of choice</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measures</strong></td>
<td></td>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>Unit of measurement</td>
<td>Absolute amounts¹</td>
<td>Ratios (relative amounts)</td>
</tr>
<tr>
<td>Parameters</td>
<td>Stock data</td>
<td>Cash flow data</td>
</tr>
<tr>
<td>Level of differentiation</td>
<td>Fixed thresholds</td>
<td>Flexible thresholds⁴</td>
</tr>
</tbody>
</table>

**Components**

<table>
<thead>
<tr>
<th>Types of expenses</th>
<th>Debt expenses</th>
<th>Debt + fixed expenses</th>
<th>All expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of products</td>
<td>Installment debt⁶</td>
<td>Revolving debt</td>
<td>Mortgage + Non-credit debt</td>
</tr>
<tr>
<td>Types of obligations</td>
<td>Repayments + Interest</td>
<td>Interest only</td>
<td></td>
</tr>
<tr>
<td>Types of income</td>
<td>Gross Income</td>
<td>Disposable income</td>
<td>Above minimum existence level</td>
</tr>
</tbody>
</table>

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

### FIGURE 4: CHARACTERISTICS OF THE NEW OVER-INDEBTEDNESS DEFINITION

<table>
<thead>
<tr>
<th>Type of choice</th>
<th>Dimension of choice</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Purpose</strong></td>
<td></td>
<td><strong>Scientific lens</strong></td>
</tr>
<tr>
<td><strong>Fraction</strong></td>
<td>Definition</td>
<td>Indicator</td>
</tr>
<tr>
<td><strong>Reference unit</strong></td>
<td>Individual</td>
<td>Household</td>
</tr>
</tbody>
</table>

**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 |
| **Rate of the borrower** | Innocent | Unintended | Deliberate¹ |
| **Level of sacrifice** | To minimum existence level | More than expected | Liquidity buffer² | No sacrifice |

1. E.g. Single default or fraud
2. E.g. inability to meet unexpected expenses
References


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 In addition to the crises 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 consumptive 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 As they are often subject to discussion, figure 3 in the Appendix provides an overview of the different dimensions of quantitative over-indebtedness measurements.

5 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.
6 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.

7 See Figure 4 in the Appendix for the categories applied in this definition of over-indebtedness. The most suitable definitional categories for this paper’s approach are highlighted in blue.

8 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.

9 Banerjee & 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.

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

11 See Schicks, 2007 for the effects of competition between profitable and subsidized MFIs.

12 To avoid the limitation of spot indicators, series of regular household surveys including indebtedness indicators would be desirable.