

"Acces to microcredit and continuity of indebtedness dynamics in rural Mexico: combining economic anthropology with econometrics"

Abstract

This article aims at studying the interactions that are taking place between microfinance and households' indebtedness strategies. The strict opposition between two financial sectors is neither pertinent nor operational. Boundaries between the various forms of indebtedness are hazy.

An anthropological approach reveals a complex cash management, not only at the household level but, more globally, at the level of the social network. Thus microfinance borrowers continue to mix the various modalities of obtaining liquidity and thus participate in maintaining the "debt chain" system, with any actual substitution therefore being very limited in scope.

These results are confirmed by a statistical and econometrical analysis proving that access to microcredit is neither at odds with indebtedness within the social network, nor brings about any reduction in liquidity supply to the social network.

Key words: Indebtedness, social network, microfinance, Mexico

Since its emergence some thirty years ago, microfinance can be compared to the image of a bus and its passengers: research has been principally focused on the comprehension of the mechanics of microfinance (especially contractual innovations), whilst taking little interest in actual changes in the lives of clients (Hospes and Lont, 2004).

One might add that impact studies are focused on the changes in the living conditions of the programme beneficiaries, and mostly fail to analyse the processes governing the effective implementation of these services and their appropriation by beneficiaries. Astute empirical observations now show that its impact is governed by complex mechanisms that require an understanding of the meaning of economic acts from the point of view of the local populations. From this perspective, without neglecting the economic dimension of individual practices, special attention must be given to the nature of the composition of the various social groups in question, taking into account questions of personal status, the diversity of social and economic institutions, and the personal strategies applied within these various spheres, which make it possible to respond to uncertainty (Weber, 2007).

In the light of microfinance's stated objective of liberating the poor from their dependency on pre-existing financial relationships, as well as from so-called *informal* financial relations, in this study we investigated such potential individual customization of the act of indebtedness.

By placing the provision of financial services within a clear institutional framework, microfinance schemes purport to counter two types of exchanges and to thus to break away from debt and credit practices prevalent within social networks, including those qualified as *informal*. Thus a seemingly more economically attractive exogenous offer, in

this context the microfinance scheme, is meant to threaten pre-existing “informal” financial strategies and links.

An anthropological approach leads to the conclusion that the strict opposition between two financial sectors is neither pertinent nor operational. Boundaries between the various forms of indebtedness are hazy: credit and debt relationships in all their variety are both socially and economically interdependent, and a continuum exists with respect to these forms of indebtedness and the extent to which they are more or less commercially oriented. Our results indicate that financial offers from microfinance schemes will not so much substitute as insert themselves alongside the pre-existing money circulation practices prevailing in our case study.

This hypothesis is supported by how, in practice, microfinance is appropriated in many different ways: various elements highlight this continuity and the way in which various sources of indebtedness intermingle. Thus, the anthropological approach shows that microfinance borrowers continue to mix the various modalities of obtaining liquidity and thus participate in maintaining the “debt chain” system, with any actual substitution therefore being very limited in scope. These qualitative results are confirmed by a statistical and econometrical analysis proving that access to microcredit is neither at odds with indebtedness within the social circle, nor brings about any reduction in liquidity supply to the social circle.

Our research reveals that the insertion of microcredit is part of a complex management of liquidity, not only at the household level but, more globally, at the level of the social network. Such a result justifies taking a double approach, the only one capable of identifying these collective practices.

I. Context and research methodology

To analyze the informal financial practices of indigeneous Mexican families and the role of microfinance in these dynamics we rely on a combination of survey data from 319 households and in-depth (80 households) with a follow-up in time or on field observations. The data collection process has favored an iterative approach: in a first step, the qualitative approach has proved useful for understanding the diversity of debt sources. This first phase helped designing a questionnaire adapted to the context studied (formulation of questions, categories used, etc.) to extend the investigation to a larger sample. The villages studied are located in rural areas of the Oaxaca state in southern Mexico. The population relies on agricultural production: crop (coffee) and for food production (corn, beans). International migration is intensive in mixteca (Santa Cruz Mixtepec) but lower in the villages of the Sierra Sur (San Agustin Loxicha, Santa Catarina and San Baltazar Loxicha Loxicha).

II. The multiple role of debt in villages in Southern Mexico

In the Mexican villages studied, modalities and forms of debt are very diverse. Beyond the social dimension of debt, indebtedness within the social network is used to meet unexpected expenses (health problems, deaths, etc.) or exceptional expenses (such

as organizing a festive occasion, emigration, etc.) and secondly to bridge a temporary shortfall of income in relation to expenses. The various borrowing sources available include forward sales (*fiado*) and short-term, interest-free minor loans from one's close social circle (*favor*). More substantial loans with interest can be obtained from within one's social circle or even from a professional lender. As this is an agricultural context, collective forms such as the *tanda* (*rosca*) are not as frequently used as in urban and peri-urban milieu. Our estimate indicates that informal borrowing makes up an average of 30% of household revenue (liability), with the median situated at approximately 20% (Morvant-Roux, 2006).

All of these debt practices have in common that the act of indebtedness is not limited to an immediate economic function. It rather reflects a historical construction of the conditions of economic and social reproduction within these villages (Zanotelli, 2004). We can illustrate this through the observation of two major types of “coincidence” which illustrate financial practices observed in our study. Firstly, these practices reveal a close relationship between two distinct facets of one and the same reality: savings and loans. The second “coincidence” refers to the fact that an individual simultaneously can occupy the role of *creditor* and *debtor*.

1. The coincidence of savings and loans

When the researcher enquired about the risk of theft when lending substantial amounts of money, don Graciano replied: “*let them rob if they want to; all they'll find is letters [of credit, emphasis added], and they will be doing me a service by recovering them*”. Don Graciano's reflection stresses the fact that he keeps no cash at home; the cash surplus available to him or even his savings have in fact been transformed into loans to other people.

One might object that lending to others constitutes one of the lucrative commercial activities of this person and that therefore it is natural that all her/his money be invested in this manner. Whilst this would be true, it should be noted that what don Graciano described echoes practices observed among most of the people we met.

Besides savings made through the purchase of animals such as turkeys, chickens or cows, cash savings are not hoarded, but are most often lent to other people that need to borrow money. The recurring argument made is that money cannot be held onto if it is kept at home within a hand's reach, available for the slightest expense, which might not even be indispensable. Thus, when I broached the question of monetary savings, many women told me that there was nothing at home; that their savings had been lent to others: “*I have no money in the house; we lend it*” [San Baltazar Loxicha, woman, 25 years]. In a type of coercion which makes it possible for one group of people not to spend their money (and to thus affirm their social distinction), and to provide a source of cash for the expenses of others, the rationale of the circulation of wealth underlying this practice applies to all forms of surplus -monetary or in kind- and whatever its origin.

- a) Diversity of means used for the practice of “savings-loan”

The savings-loan thus takes the form of the loan of commodities such as corn, enabling it to be stored outside one's home and "virtually", so to speak¹, to be retrieved in times of real need. This strategy also takes the form of loans of bricks for constructing a house² or even loans of lime, etc. All "wealth", in whatever form, is liable to be the basis for loans if it is of no immediate use to the owner³. Animals are also lent, especially those playing a central role in the organisation of social events related to the life cycle. The practice of loaning turkeys⁴, for example, is very widespread in the region where we conducted our research. Women play a central role in these practices (Morvant, 2004). The object lent has to be returned identically (in form and quantity). On the other hand, when animals (pigs, turkeys, etc.) are lent for breeding to another woman, the terms involve receiving one or more of the resulting offspring. The offspring is then equally divided between the two women.

b) Diversity of the origin of the surplus

The question of the origin of the surplus does not appear to be an obstacle to this practice of savings-loans. This strategy is in fact also adopted by people originating from the community but who are now living outside it, especially those who have emigrated to the United States. A portion of money received in the form of private transfers is in fact lent to the migrant's neighbours, relatives or immediate family, and the latter takes on the role of intermediary. It should be stressed that this intermediary role most often is held by the migrant's mother. The rules for assigning the money received are drawn up with the migrant. Generally, a part of the sum supplements the income used by the mother of the family for various household expenses. Another portion is lent on a more or less long-term basis to people from the social network and serves as the savings of the migrant. The amounts lent through these transfers are high, and the rate of interest is generally lower than that practiced elsewhere: between 3% and 5% per month (instead of 10%).

As Zanutelli (2004) suggests with regard to debt circulation in general, it is probable that the insertion of money from outside the village, or even an appropriation of this money in terms of locally shared social values, functions thanks to the loan of money coming from migration. At this stage it would be worthwhile to reassess the commonalities between the availability of cash from lucrative loan practices and a family lending others the little money they have had great difficulty accumulating. Why in fact

¹ In the sense that the commodities consumed or goods used subsequently are not those which had been loaned.

² This strategy was recounted to us by a woman who had purchased bricks when she had liquidity, but without enough to carry out construction. She had, therefore, loaned these bricks in the hope of getting back the quantity loaned when she would be fully able to carry out the construction.

³ All the more so if the commodity in question is perishable and can, therefore, not be stored or kept for a long period.

⁴ The turkey occupies a central place in the ritual life of the localities where we conducted our surveys. The events of the life cycle such as marriage or the main festivals organised in the course of existence cannot take place without some turkeys being offered or killed; it is a question of prestige but the health of the family or the fertility of the married couple also depends on the sacrifice of some turkeys. The women organise themselves well in advance so that they are not unprepared. In order to do so, they rely on a well-oiled system of turkey loaning which may be spread over several years. The features of the loaned turkey are most often put down in a notebook (sex, weight...); reimbursement is carried out when the lender needs, in turn, a significant number of turkeys to organise a festival.

should one group together as “*horizontal loans*” both contractual loans, related to market logic, and loan practices arising from non-market logic?

An analysis of local perceptions of the usurious practices enables some light to be shed on this question. Let us here return to don Graciano and the analysis of his status as a professional lender as discussed by Zanutelli (2004). Prohibited by the Catholic Church from the Spanish conquest up to the nineteenth century, the loan at interest is liable to convey a negative image of the person who exercises this activity within the Catholic population residing in the villages under study. However, such a negative image does not seem to be shared by most of those interviewed by Francesco Zanutelli, nor by don Graciano himself. The logic of profit making seems to be hidden behind the crucial nature of the service rendered. For don Graciano, as for those who sought loans from him, his commercial activity is perceived as the rendering of a service and is so much the better appreciated if the person does not belong to don Graciano’s close social network (neighbourhood, godfather/godmother, kinship). On the other hand, in the case of those who belong to a more distant social network, a third person will most often play the role of go-between between the lender (professional or otherwise) and the person who seeks to borrow.

Those whose practices we have observed qualify this activity as “*favor*” (favour), which carries positive connotations. The use of the term “favour” is not restricted to the loan at interest; it is the term used when one seeks financial help from another person. So far as the person who seeks the help is concerned, this is not a neutral label. There is no doubt that this fact makes it possible to twist the other’s person’s arm by indicating the crucial nature of the service rendered and promoting the action and, hence, the dominant position of one person in relation to the other.

In conclusion to this section, it should be noted that once a person has some cash that she/he is not going to use in the short to medium term, there is a pressure on her/him to lend it to others who do have immediate need for it. There is therefore an intimate connection between savings and credit.

Thus the *institution of debt* (or set of permanently established rules constraining personal behaviour although constructed on the basis of these very behaviours) seeks to establish a sort of “collective management” of individual surpluses of cash or of any “useful” goods. We have seen that this management is spontaneously achieved within close social networks, but financial flows may also affect more distant social relationships. Such an outcome relates to Olivier Favereau’s analysis of African economies, where he suggests that *domestic* liquidity corresponds to the maintenance of a network of community relations which, via solidarity, organise liquidity “*on the basis of a possession of resources that is no longer individual but collective*” (1995:186).

2. Creditor /debtor identity

There is evidence of such an identity when looking at “chains of indebtedness”⁵ which characterise the populations’ financial practices, regardless of their level of wealth⁶. In the light of our case study, Francesco Zanutelli’s analysis (2004) seems to

⁵ “Cadenas de endeudamiento” (Zanutelli, 2004).

⁶ Of course, the quantity and frequency of financial ties would be higher.

only partially uncover the reality of this phenomenon. In fact, Zanotelli stresses that a household uses various debt modalities at the same time. Since one group of people enables another to cope with their repayments, we observe a network of debts that sheds light on the mode of reproduction of the local economy under consideration⁷. This strategy may, for instance, be schematically illustrated by the fact that person A borrows from B to reimburse C and D. Research by Villarreal's team also highlights such processes (Villarreal, 2000: 70).

This may be further illustrated by what one woman confided to us: “*When in need, I borrow from a lady who has some [money, emphasis added], and I withdraw [that is to say, borrow, emphasis added] from another to reimburse the person who lent me the money*” [Woman of 53 years, widow].

Zanotelli [2004] thus stresses that 25% of the households in his sample declare themselves as being in debt from three credit sources: 37.5% from two sources and 25% from a single source. Our data confirms these results:

Table 1 Number of simultaneously active loans

| | San Agustin Loxicha | Santa Cruz Mixtepec |
|------------------------------|----------------------------|----------------------------|
| 1 single active loan | 65% | 70% |
| 2 active loans | 24% | 20% |
| 3 active loans | 10% | 10% |
| More than three active loans | 1% | - |

Source: Morvant-Roux (2006)

In the case of those with several simultaneously active loans, our data shows that these mostly fall under distinct categories of cash sources. We can divide the various sources of the loans into two major categories:

- So-called interpersonal, or private, loans: these cover financial practices established primarily between two individuals. This includes credit sale (*fiado*), loans at or without interest intervening within networks of neighbourhood, kinship, godfather/godmother or even loans within an employment relationship.
- So-called collective or public loans: these cover loans which cause several individuals to intervene in the form of an association or through the mediation of a group of borrowers. These include government loans, those which cover coffee producers or participants at a *tanda* (tontine or Rosca), neighbourhood banks or even microbank associates, loans approved by the Mexican credit union or by other banking institutions.

Our empirical data from the village of San Agustin Loxicha and Santa Cruz Mixtepec shows that if one only takes into consideration the subsample of those who have more than two simultaneously active loans, 64% approached two sources from distinct categories.

In our context, however, it seems essential to go a step beyond Zanotelli's analysis.

Beyond the fact that households or individuals juggle several loans simultaneously, it is also common to find that an individual simultaneously occupies the role of *creditor* and *debtor*. The dual nature of the position each indebted person occupies may be

⁷ His work is located in the villages of the Jalisco state, Mexico.

summarised as follows: person A seeks a loan from B to reimburse C while, at the same time, A is indebted to D. This chain does not imply any equivalence of the amounts however, which may be totally different.

This phenomenon illustrates the important role of debt practices and their weight in the day-to-day economy of the village, whilst also reflecting the key role of “debt circulation” as a functional mechanism in the local economy.

Our statistical data, taken from a survey of 80 households at San Baltazar Loxicha, highlights that each person simultaneously assumes the position of “offerer” and “requester” of liquidity through loans, in which context we shall highlight three main modalities. What emerges is that among the 65% of those who affirm having applied for one or more loans at interest over the period under consideration (the past twelve months), 45% (or 28% of the total sample) also lent money at interest to other people. As for loans of small sums with no interest (category 2 of the table), of the 61.3% who had applied such a loan once or more in the period under consideration, 80% had also lent money in this form, which amounts to 49% of the sample.

Table 2 Offer and loan application within the social network

| Type of loan | Total= 80 households | | MFI Clients | | Non clients | |
|---|----------------------|-------|-------------|-------|-------------|-------|
| | Application | Offer | Application | Offer | Application | Offer |
| 1. Large sums, with interest, medium term (2 or more months) | 65% | 40% | 70.5% | 40.9% | 61.1% | 38.9% |
| 2. Small sums without interest, short term: neighbourhood, family | 61.3% | 66.3% | 61.4% | 65.9% | 61.1% | 66.7% |
| 3. Credit sale/purchase: grocery store | 88% | - | 90.9% | - | 86.1% | - |

Source: Morvant-Roux [2006]

Such dual positioning is also observed in better off households, as with those who receive large sums in the form of private transfers from migrants (Morvant-Roux, 2006).

We can demonstrate, in the context of our study, that each household is thus at the centre of multiple flows of monetary income and is also located within relatively large circles of relationships which are but many intricate webs of debts.

Both the identities described above constitute central features of the debt institution in the context studied. This has a dual economic and social function at individual and collective levels (Guérin, 2000). Moreover, the phenomenon of debt resides on pre-existing social mindsets, social relationships, which it in turn transforms and to whose evolution it contributes. Lastly, it should be emphasised that debt circulation and its ongoing reproduction ensure the socio-economic functioning of the village. As a whole, therefore, indebtedness simultaneously represents a *double interdependence*: social and economic.

We will continue to address these empirical elements and to highlight their methodological implications.

III) Empirical implications and quantitative validation

The implementation of the MFI brings about an individualisation of debt practices by positioning itself as an intermediary entrusted with the collection of savings and the extension of credit.

Literature dealing with the interactions between formal financial market and informal finance at first placed much importance on the theoretical and empirical analysis of the evolution of the conditions under which an informal lender (*moneylender*) extends credit subsequent to the development of a formal offer with divergent features (Bell, 1990; Kochar, 1991).

Research has subsequently addressed changes in household loan requests as brought about by the development of the formal sector (as especially illustrated by the deployment of numerous microfinance schemes, in the majority of contexts). Will the latter abandon the informal sector and prefer to resort to the formal sector?

1) Theoretical explanations for the coexistence of the two financial sectors

Despite frequently high differentials in interest rates, formal and informal financial sectors continue to coexist. Of the theoretical contributions to address such coexistence, two major approaches have emerged: the “residual” approach and the approach whereby the most effective cost of borrowing is thought to be used (Boucher *et al.*, 2007).

In the first approach, a residual role is assigned to the informal sector insofar as it only constitutes the “receptacle” of applications remaining unfulfilled by the formal sector (“spillover demand”) (Hoff and Stiglitz, 1990; Conning, 1999). The second approach takes the continued existence of the informal sector to be far from residual but rather as resulting from a rational arbitration on the part of borrowers in favour of the informal sector. The underlying hypothesis postulates that borrowers are able to discriminate between different borrowing sources in terms of the actual cost of borrowing and in terms of risk evaluation (Guirking, 2008). As such costs prove weaker in the context of the informal sector, it is towards this that the applicant first turns.

In the face of these theoretical models, there are a great variety of empirical studies which seek to decide in favour of one or the other explanatory model.

The empirical results turn out as contrasting and indeed challenge the assumption of there being a segmentation of financial markets⁸. Our hypothesis is that these two theoretical approaches *a priori* exclude the validity of any mode of distinction other than the economic and accounting criteria of these monetary and financial relationships, namely from the point of view of their contractual or functional specificities. Individuals who borrow (and also those who save and lend) are supposed to carry out a rational calculation “*in mechanical time*” (Servet (dir.), 1995: 281). The choice is individual and based on “rational” criteria such as interest rates and transaction costs; this choice is defined “*in an individual relationship with time*”. Yet in these contexts, as we have demonstrated in the context of the rural villages of Mexico, the act of indebtedness or of lending takes on a dimension which surpasses the individual and encompasses group relationships.

⁸ For an exhaustive review of the literature see Morvant-Roux (2006) page 256 ff.

Moreover, the anthropological approach and the results to which it leads suggest that the strict opposition between two financial sectors is not valid. The boundaries between the various forms of indebtedness are hazy: the diverse debt/credit connections represent an interdependence that is both social and economic, and reveal a continuum between all of the more or less commercial forms of indebtedness. These results lead us to the hypothesis that the financial offer procured by the microfinance scheme will not be substituted so much as insert itself alongside the wealth circulation practices prevalent in the context studied.

We shall back up this hypothesis with an analysis of the modalities of appropriation of the microfinance scheme in various contexts, including the formation of solidarity groups, prevalent reimbursement strategies and collective forms of microloan management. All of these illustrate the existence of such a continuum and the inter-connections between the various sources of indebtedness. The econometrical analysis goes on to confirm the absence of any kind of rupture with the past.

2) Limitations of the segmented approach to credit markets: the case of rural Mexico

The microfinance institution analysed is located in villages in the mountainous regions of the Oaxaca state, which has a strong dependence on agricultural activity, either food production (corn, bean) or crop production (coffee). In these villages, the range of financial services offered covers credit, savings, cheque cashing and money transfer products.

The approach adopted by microbanks (microbancos) for microcredit services is largely inspired by the *Grameen Bank* model: the credit is aimed at a group of 4 to 7 persons, and the various members act as surety for one other. No collateral or prior savings are required. In contrast, unlike the case of the *Grameen Bank*, all the borrowers have access to microcredit at the same time and have to reimburse on identical terms. Moreover, the MFI's objective to reduce information asymmetries involves the implementation of incentive mechanisms, and an increase in amounts lent over the course of the credit cycles (*progressive lending*), alongside a relatively standardised offer: at the time of the study, solidarity group lending had only one product. Borrowers capable of providing collateral have access to individual loans.

a) Access and continuity of access to the microfinance scheme: the role of the social network

If one examines the circumstances surrounding the formation of solidarity groups or even the relationships between members before the formation of the group, it emerges that information of the needs of individuals in the network motivates the initiator of the group to suggest an alliance to obtain microcredit. Such information is obtained by "interknowledge" and through pre-existing financial (debts and loans) relationships. In fact, the information which circulates within the social network authorises each member to evaluate what the other has at her/his disposal (and, therefore, the potential capacity to grant loans) and to make requests when the need to borrow arises. This information is mobilised over the course of the formation of the groups; it is also a determinant in the collective strategies established. The aim is not to waste the financial offer but, on the

contrary, to make sure it best corresponds to the diversity of needs within the solidarity group in question.

The groups are therefore in many cases composed more or less in direct reflection of the pre-existing financial relationships between borrowers of the group and, particularly, with the person who initiated the formation of the group who is in most cases the lender that people would come to in order to ask for a loan.

Other studies have shown evidence that microfinance borrowers are also those who have the most access to informal finance: in Thailand (Coleman 2006), and in Bangladesh (Matin and Sinha, 1998). Moreover, if various works have tended to show that the main contribution of microfinance is to enable an increase in the range of financial opportunities available (Guérin et al. 2007), our observations reveal that such an effect is generally only temporary: reimbursement of the microloan often marks the occasion to maintain or activate pre-existing dependency ties. Thus as an example, Emiliana, who belongs to the group initiated by Dorotea, no longer needs to ask the latter to foot her food expenses; on the other hand, to repay microloan, it has so happened that Dorotea ensured a part of the repayment over the period prior to the disbursement of the next microcredit. The mechanism of credit replication therefore ensures, as a last resort, the reimbursement of the money lent to the borrower by a third party. This strategy is risky for the borrower to whom the informal loan ensures, via on-time repayment, access to larger amounts (overindebtedness).

One therefore observes a temporary displacement of the pre-existing dependency ties to access to microcredit with respect to informal sources of liquidity and the social network. This result is confirmed if one analyses dependencies relating to transfers sent by migrant family members. For these families, microcredit, a priori, substitutes or complements private transfer as source of revenue for current and productive expenditure. But the substitution is only temporary because transfers from migration ensure reimbursement of money borrowed from MFIs. In such a context, access to microcredit therefore only partially reduces dependency on private transfers, and this too only for a short period.

Finally, our work reveals that, at the level of the solidarity group, fresh financial ties (internal loans) are established between members on the basis of loans granted by the MFI. This “collective management” microcredit mechanism makes it possible to adjust the financial offer coming from the microfinance institution (Morvant-Roux, 2007; Guérin and Morvant-Roux, 2008).

These strategies validate juggling between various loan sources and nullify the approach in terms of the segmentation of financial markets. We shall now demonstrate these results through an econometrical analysis.

b) Determinants of the offer and of financial application within the social network

We aimed to establish whether there was a correlation between insertion in the “informal” financial networks and access to the microfinance scheme. The analysis is based on a survey conducted on a sample of 319 households.

Table 3: Survey sample

| | MFI seniority in years | Percentage | Cumulative percentage |
|-------------|------------------------|------------|-----------------------|
| New clients | > or = 1 | 18.2 | 18.2 |
| Old clients | 2 | 44.5 | 62.7 |
| Non-clients | 0 | 37.3 | 100.0 |
| | Total | 100.0 | |

Source: Morvant-Roux (2006)

Beyond the behaviours of the households in their “application” to the social network (estimate (1): where the dependent variable expresses the borrowing behaviour of the household with respect to informal sector or social network), it was also a question of examining changes in their credit extension behaviour within the social network as created by access to the microfinance scheme (estimate (2)).

In other words, are the behaviours of those households which were microfinance scheme clients substantially different from that of other (non-client) households in terms of their application for and the extension of credit at the level of the social network, as expressed in amounts?

Two econometric estimates are carried out:

- Estimate (1) : determinants of the “amount borrowed” variable, per household, from the social network, from the informal sector;
- Estimate (2): determinants of the “amount lent” variable, per household, to the social circle, within the social network.

Variables that explain the two models give information about the type of productive activity undertaken (commerce, wage earnings or agricultural: coffee, corn); age/sex of the head of household, number of dependent children, migration, receipt of private and public transfers, income level (quartile), access to formal financial services (bank, other MFI); type of locality, and the level of impact on income over the period under consideration. The information is related to the year in which the interviewers surveyed the area.

Determinants of borrowing from the informal sector

From the results of the econometrical estimate (see table 4), it should be underlined that access to borrowing from the microfinance scheme under study or from other microfinance institutions (variables noted as DUMIMF and CODSOCNS in table 4) undoubtedly had a significantly positive influence on the amounts borrowed from the informal sector. Thus the variable which tells us if the household is a client of other microfinance institutions (DUMIMF), is significantly at 1% in each of the regressions reported on Table 4. Access to a microbank does not also seem to reduce loan applications to the social network. This information is obtained by the analysis of the estimates of the respective coefficients of variable CODSOCNS, which indicates whether or not a household is a microfinance client and variable MB, which indicates the amount of the last loan borrowed from the microbank. One observation which immediately arises

is the fact that the variable CODSOCNS is only significant in specification n°4, indicating that the presence of these two variables in one and the same specification was counter-productive. In fact, this indicates that the information carried by each of them is partially identical.

From all the specifications presented below, it becomes clear that access to the microfinance scheme under study significantly increases the amounts applied for by client households from the social network, or informal sector. Moreover, beyond the significance of being a client within the scheme, the result of our estimates is that the greater the amount borrowed from the microbank, the more a household will have the tendency to get into debt within their social network.

This result is somewhat ambivalent. The interpretation is not obvious insofar as variable MB can potentially carry two pieces of information at once: the amount borrowed and the seniority of the client (ANCIENMB). Now, if one only considers results obtained from the variable of seniority in years, which is not reported here, it turns out that the coefficient of this variable is not significant in any of the specifications. This seems to indicate that besides seniority, to which the amount borrowed is partially correlated, it is in fact, the amount of the previous loan which seems to have a positive impact on the amount borrowed by the household from the informal sector. Access to a bank (DUMBANQ) does not seem to have any significant effect on the level of informal borrowing.

Determinants of the loan offer within the social circle

From the set of results presented in table 5 below (more fully discussed in Morvant-Roux, 2006), we recall that access to the microbank (variable CODSOCNS) has a significantly positive effect on the amounts lent within the social network. A first explanation for this observation concerns the higher level of monetary income of the microbank clients, which would explain that, since they are richer, on average clients of the microbank lend larger amounts. Moreover, analysis of the use of microcredit reveals that it is liable to be utilised by the borrower to offer support to a more or less close social circle. On the other hand, seniority in years as a microbank client seems to play a significantly negative role on the amounts of money lent. This result is difficult to interpret. Can it be imputed to the bias present in the database in the sample of recent clients, given the over-representation of households living in the Mixteca (area where the transfers from migration are high)? The wealth level of this sub-sample would explain why they lend more and would also explain the negative coefficient of the seniority variable within the microfinance scheme.

On the other hand, it does not seem reasonable to envisage that this result is only due to an improvement in the living standards of these households, as reflected in the loan offers, but it is also apparent in the weaker level of borrowing within the informal sector.

Such an interpretation inconsistent for two reasons: 1) we have previously shown that borrowing behaviour (total amount borrowed over the past year) was positively correlated to access to microfinance schemes and 2) that it was also positively determined by the household's living standards. Thus an improvement in the living standards of the households over the course of time ought not to be significantly reflected in the amounts lent by them.

Finally we observe that the variable concerning the ratio of the number of dependent or supposedly inactive persons to the number of active persons in the household (RATIODEP), plays a significantly negative role on the level of loans granted by the household within the social circle. This result confirms our field observations and, more especially, information obtained over the course of the qualitative interviews we carried , according to which households with many small children are less inclined to lend money because any available liquidity does not remain unassigned for long.

Conclusion

On the whole, the appropriation of the microfinance scheme is influenced by informal financial practices, which form the basis of debt as an institution in the context studied, and this at a dual level. At a primary level, the process of the formation of groups of borrowers is a reflection of the community membership of each individual, and especially her/his place in pre-existing financial connections.

Inserted into pre-existing social rationales, the liquidity supply procured by the microfinance scheme is then collectively managed so as to better respond to the diversified needs of actors. If this new source of liquidity procures added capacity for indebtedness, whilst giving the possibility of verifying and activating a set of social relations which seem to be primary, it does not seem that it brings about total empowerment vis-à-vis the prior sources of liquidity within the social network. Hence there is no reduction but instead a displacement of dependency ties. If the amounts lent by the microfinance scheme are higher than the amounts available within the social network, the time factor often plays in favour of the family, with the social network capable of lending a lot faster than the microfinance scheme. On the other hand, the borrower often juggles, especially in times of emergency: she/he borrows from their family to reimburse the microloan and then reimburses this debt as soon as the loan from the MFI has been granted.

If microcredit rarely makes it possible to gain autonomy from pre-existing financial links, it does give the borrower the possibility of greater control over time, a factor which acts against her/him in the loan relationship (Chamoux, 1993). Analysis of such inter-connection between the various sources of liquidity is founded on a double approach. The application of economic anthropology has made it possible to reveal the processes and rationales of the indebtedness of the actors, which throws light on the quantitative results obtained through an econometrical analysis of the behaviour of a larger sample of households.

Finally, the absence of segmentation of the various sources of indebtedness results in several strong implications. Firstly, it highlights the limitations of the segmented approach with respect to financial offers and the dividing line between formal and informal offers on purely economic criteria. Moreover, this ongoing juggling highlights the limitations of particular approaches, such as considering previous rates of repayment when granting fresh loans and using these as a guarantee of borrower solvency or as surety against their potential overindebtedness.

Annexes

Table 4 Determinants of borrowing within the social network or “informal” financial sector

| Specification | (1) | (2) | (3) | (4) |
|---------------|------------------|-------------------|------------------|------------------|
| (Constant) | | | | |
| AGRIMAI5 | -.049 (-.866) | -.070 (-1.310) | | -.027 (-.476) |
| CAFE | | -.082 (-1.185) | | -.041 (-.521) |
| PROGRESA | | -.033 (-.621) | | -.043 (-.696) |
| DUM1PROG | .004 (.063) | | | |
| DUM2PROG | -.071 (-.896) | | | |
| DUM3PROG | .032 (.472) | | | |
| DUMIMF | .334 (5.129)*** | .383 (5.916)*** | .256 (5.467)*** | .255 (4.663)*** |
| DUMBANQ | -.021 (-.446) | -.040 (-.851) | .003 (.062) | .043 (.814) |
| COMMERCE | .096 (1.948)* | .083 (1.681)* | | .095 (1.674)* |
| EMPLOISA | -.002 (-.040) | -.027 (-.510) | -.038 (-.744) | -.085 (-1.424) |
| DSEXHEAD | .033 (.661) | .085 (1.597) | -.014 (-.316) | -.028 (-.537) |
| AGEHEAD2 | | | -.008 (-.162) | |
| MIGINT | -.031 (-.497) | .000 (-.007) | | -.135 (-2.038)** |
| MIGNAT | .088 (1.306) | .121 (1.936)* | | -.001 (-.013) |
| CODSOCNS | .032 (.565) | .047 (.865) | -.024 (-.480) | .159 (2.872)*** |
| EPMON | -.073 (-1.356) | -.092 (-1.760)* | -.034 (-.707) | -.013 (-.231) |
| CHOC | | .090 (1.706)* | | .004 (.078) |
| ENFTSCHA | | .099 (1.799)* | | .080 (1.296) |
| RATIODEP | -.023 (-.456) | | .010 (.210) | |
| DISTANCE | .088 (1.745)* | .095 (1.910)* | .094 (1.893)* | .080 (1.390) |
| SUPERFIC | -.069 (-1.269) | -.060 (-1.093) | -.049 (-.963) | -.024 (-.378) |
| DUM1REV | .032 (.546) | .050 (.870) | .002 (.029) | -.025 (-.383) |
| DUM2REV | .040 (.615) | .047 (.735) | .024 (.377) | .010 (.133) |
| DUM3REV | -.147 (-2.511)** | -.156 (-2.721)*** | -.143 (-2.532)** | -.146 (-2.207)** |
| LOCAL1 | | -.132 (-1.633) | | |
| LOCAL2 | .188 (2.677)*** | | .154 (2.653)*** | .332 (3.873)*** |
| LOCAL3 | .323 (2.650)*** | .382 (2.472)** | .130 (2.233)** | .237 (3.284)*** |
| MB | .611 (7.330)*** | .689 (8.275)*** | .502 (9.069)*** | |
| N | 319 | 319 | 319 | |
| ATC | 348.718 | 351.99 | 355.75 | 354.003 |
| R2 | 0.427 | 0.423 | 0.407 | 0.421 |

λ Estimates are obtained using a probit; the t statistics are given in parentheses

* Level of significance at 10%

** Level of significance at 5%

*** Level of significance at 1%

Table 5 Loans determinants in the social network or informal financial sector

| Specification | (1) | (2) |
|---------------|---------------|---------------|
| (Constant) | | |
| AAGRI | -.054 (-.799) | -.060 (-.949) |
| DUM1PROG | .073 (.901) | .072 (.952) |
| DUM2PROG | -.079 (-.767) | -.086 (-.911) |

| | | |
|----------|------------------|------------------|
| DUM3PROG | .024 (.290) | .022 (.290) |
| TPAGRI | -.046(-.708) | |
| DUMIMF | .038 (.654) | .041 (.677) |
| DUMBANQ | .023 (.243) | .017 (.211) |
| COMMERCE | .083 (1.155) | .078 (1.242) |
| EMPLOISA | -.012 (-.145) | -.022 (-.294) |
| DSEXHEAD | .024 (.431) | .020 (.357) |
| AGEHEAD2 | -.022 (-.274) | |
| MIGINT | -.047 (-.469) | -.081 (-.865) |
| MIGNAT | .041 (.488) | .041 (.562) |
| CODSOCNS | .246 (2.797)*** | .265 (3.027)*** |
| EPMON | -.009 (-.102) | -.005 (-.061) |
| CHOC | .028 (.433) | |
| ENFTSCHA | -.037 (-.473) | |
| RATIODEP | | -.099 (-1.675)* |
| DISTANCE | | -.046 (-.741) |
| SUPERFIC | | -.012 (-.156) |
| DUM1REV | .036 (.467) | .029 (.390) |
| DUM2REV | .022 (.265) | .010 (.117) |
| DUM3REV | -.148 (-1.730)** | -.155 (-1.922)** |
| LOCAL2 | .118 (1.466) | .135 (1.619) |
| LOCAL3 | -.090 (-.249) | -.128 (-.448) |
| ANCIENMB | -.168 (-1.770)* | -.196 (-2,193)* |
| AIC | 204.649 | 207.849 |
| R2 | 0.142 | 0.142 |

λ Estimates are obtained using a probit; the statistics of t are given in parentheses

* Level of significance at 10%

** Level of significance at 5%

*** Level of significance at 1%

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