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Market value analysis of entrepreneurs' microcredit and personal loans

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This paper compares the market value of microcredit and personal loans to entrepreneurs. Based on primary data collected on a database of loans for entrepreneurs in Brazil, this work used the model of Blattber and Deighton (1996) – a marketing strategy model that applies financial evaluation techniques and clients statistics, with the purpose of optimizing the processes of acquisition, retention and capitalization of clients. Results show that traditional personal loan has a lower value compared to the micro-credit operation, even though microcredit clients have a history of informality, low income and lack of credit history.

Key words: Micro credit; client value; entrepreneurs; developing countries

INTRODUCTION

This study aims to analyse the market value of credit to micro-entrepreneurs, comparing two possibilities of credit: productive micro-credit and traditional personal loans. This comparison was performed applying the model of Blattberg and Deighton (1996). According to this model, marketing strategy should be based on management guided by the client's value, that is, by the financial return that clients provide to the company throughout the time they keep a commercial relationship. The result of this research may be used as an investment reference for financial institutions and its policies to stimulate microcredit.

In summary, the intent article is organized in order to present microcredit and , first, the theory and hypothesis, followed by the applied research methodology, results analysis and conclusion.

Microcredit and Entrepreneurship

When entrepreneurs need credit for their operations, they can ask for micro-credit or for traditional personal loan. Micro-credit is a recent form of loan, and therefore, its use is still limited and the market value it creates is still unknown to many financial institutions. This work compares the market value of micro-credit and personal loans to micro entrepreneurs in Brazil.

Microcredit can be defined as is the extension of very small loans to those in poverty designed to spur entrepreneurship as pointed by Parente (2002). In fact, the enterprising activity, embodied in the productive microcredit concession, presents a potential for innovation in management and market adaptation, especially for small businesses segments with low concentration of productive and commercial activities (Schumpeter, 1961; Cavalcante, 2002; Lucas, 1988), because these are responsible for economic changes by developing new markets, strengthening free entrepreneurship, absorbing workforce and investing in peripheral regions (Feldmann and Audretsch, 1999).

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In that sense, the oriented productive microcredit aims at supplying the demand for financing from small production units (Bacen, 2004). It is, therefore, a method to foment the economic performance represented by small businesses, whether formal or informal (Khandler, 1995).

Microcredit is also part of a social policy, since it generates a considerable improvement in the quality of life of those who use it. However, although Brazil has a wide demand for productive microcredit (Christen, 2001), only 2% of it has been fulfilled (Brusky and Fortuna, 2002). Among the reasons indicated for such unbalance is the resistance of traditional financial institutions to expand their activities to reach beyond ordinary takers, since the low-income segments do not have the guaranties normally deemed acceptable (Rocha, 2001; Dichter, 2002). Therefore, traditional financial institutions try to channel their investments towards operations where an opportunity for return and financial sustainability (Sales, 2005) can be dimensioned with a reasonable degree of accuracy.

The situation is further aggravated when taken into consideration two additional elements: a subjective one; and another, objective one. There are uncertainties arising from the lack of information on the credit behavior of low-income segments without a credit history, thus generating the phenomenon of adverse selection (Akerlof, 1970). In second place, there is a lack of objective studies that measure the risks of loans to low-income takers, especially due to the absence of data.

The importance of micro-credit for emerging markets, such as Brazil, cannot be denied. Many authors consider the MSE's a unique and interesting study field fortified by the fact that its establishment and growth, although the structural downsides, deserve a deeper comphreension (MSE's are defined by SEBRAE-Brazil as an enterprise with a single operator, less than 20 employees and required seed of capital of not more than BRL 75,000). Data from SEBRAE (2009) – an agency that supports micro and small entrepreneurs in Brazil - shows that its relevance can be stated by its recent years evolution. In 2000, the Small and Micro Enterprises (SMEs) were about 4.1 million enterprises, or one to each forty two households; in 2004, 5 million, or one to each thirty six households; in 2010 is expected that this number will grow to 6.8 million, or one to each twenty nine households (Magalhães, Crnkovic and Moretti, 2010).

It is not necessary a deep thought to realize the social impact of such numbers, that translates into a higher level if compared to international benchmarks that present Brazil as a leader. SEBRAE projected that, in 2015, there will be 8.8 million entrepreneurs, or one entrepreneur to each twenty four households.

A projection performed by another international report that monitors entrepreneur activities ranks Brazil in the 129th place among 183 countries. That ranking shows

the difficult level of doing business in those countries. Under specific aspects, such as tax payments, Brazil is ranked 150th; difficult to employ: 138th, to open a business: 126th and to close a business: 131th. It is evident that those positions do make, in all aspects, the life of the Brazilian entrepreneur much harder. Such Brazil cost, composed by high taxes and complex bureaucracy, needs to follow the efforts from the financial system to downscale credit in the last years (IFC, 2010).

As Kyereboah-Coleman and Osei (2008) states that microcredit's potential levels of financial profitability are currently not completely understood by the regular commercial banks.

Hence, any microcredit sector development only will occur if profitability reach market accepted levels. Thus, financial institutions should aim to fully address the market value, financial returns and profitability in lending to micro-enterpreneurs. Could productive microcredit lending be more attractive than a regular personal loan ?

First, we collected and analyzed data on microcredit operations for entrepreneurs, calculating the market value of these operations according to Blattberg and Deighton (1996). Then, this result was compared to the client's value of a conventional credit concession operation, with similar socioeconomic and geographic profile. Concerning microcredit, the sample for the study was obtained from three important microcredit operations in Brazil. In the case of conventional credit, the sample originated from the three largest financial institutions in the country.

As previously mentioned, the result of this research may be used as an investment reference for financial institutions and its policies to stimulate microcredit. It is known that microcredit generates a favorable environment to increase the demand for financial services, due to the immediate and direct increase of revenues arising thereof, as well as for its indirect benefits. Therefore, despite the (supposed) low profitability of the operation itself, the long-term economic results could compensate the short-term costs. Another important reason for measuring the value of the client in these credit segments is to generate a "mix" of financial products that adequately fulfill the potential demand for credits.

THEORY AND HYPOTHESIS

Microcredit literature review

For Wolfensohn (2005), former president of the World Bank, microcredit may be understood as the offer of financial services to people normally excluded from the traditional financial system. The term "excluded" stands for those people with lower income, few assets, and scarce or no access to the traditional credit mechanisms.

According to Sen (1988), "microcredit is one of the economic tools that help to reduce the risks and the volatility of income because it provides a basis to consolidate physical and financial assets". The author also stresses that "the focus of microcredit is the development of small entrepreneurs and owners of small production units".

Microcredit institutions play a very important role because they are able to ensure the survival and growth of such micro businesses, constituting, in the majority of times the only source of credit for these businesses (Cavalcante, 2002). Yunus (2000) posits that "through microcredit, we allow economic and social development with the change in the economic status of the population that lives on the fringe of society".

Since it represents a potential support for the diversification of sources of income and acquisition of assets (Parente, 2002; Robinson, 2001; Toscano, 2001), microcredit provides for poor families the perspective of reducing the risk that they become even poorer and remain below the poverty line (Barnes, 2001; Wright, 1999; Rhyne and Christen, 2000). Lucas (1988) formalizes this idea, claiming that microcredit represents a relevant economic contribution for the development of small production units, once the smaller an enterprise is, the greater will be the contribution of capital injection for its marginal productivity.

Brazilian experience

The Brazilian Central Bank (2004) defines microfinance as "the rendering of adequate and sustainable financial services for the low-income population, traditionally excluded from the traditional financial system, with the use of differentiated products, processes and management". Regarding a microcredit institution, it is defined by the same source as: "The one that in the context of microfinance, is dedicated to granting small-value credit and is differentiated from the remaining types of loan essentially due to the methodology used, quite different from the one adopted for traditional credit operations. It is commonly understood as the microfinance sector's main activity due to the importance it has, in view of public policies, to surpass poverty, to generate jobs and income"(Brazilian Central Bank, p .6, 2004).

Thus, productive microcredit is characterized by a personalized credit analysis and different from the traditional models of credit scoring used for credit operations to consumers. The procedure for the concession of microcredit involves trained personnel that must execute a socioeconomic survey, be competent in offering guidance on planning the businesses and defining the credit and management needs for the enterprise's development. Such functions and activities are materialized in the role of the microcredit loan officer.

The microcredit loan officer contact with the final taker of resources is maintained during the contract period, looking for a better utilization and application of resources, as well as the growth and sustainability of the economic activity. Therefore, credit's value and conditions are defined after the evaluation of the activity and of the indebtedness capacity of the final taker of resources is made, through a close interaction with the taker.

The Brazilian Central Bank defines oriented productive microcredit as a credit directed to entrepreneurs who own production units with less than 5 employees and an annual income below BRL 250 thousand (Brazilian Central Bank, 2004), becoming, thus, this article's object of study.

It has been estimated that, in 2004, there were around 16,4 million micro-businesses in the country according to the criteria established by the Brazilian Central Bank (IBGE, 1999). Among the totality of micro-businesses, the potential demand for loans reaches 8,2 million micro-companies (Christen, 2001), equivalent to approximately BRL 11,3 billion (Mezerra, 2002). However, microcredit's penetration in Brazil corresponds to only 2% of the forecasted demand (Brusky and Fortuna, 2002), constituting something like 245 thousand clients, corresponding to around BRL 250 million (Brazilian Central Bank, 2004).

Despite the first Brazilian experience of productive microcredit having been the UNO Project in the State of Pernambuco, in 1973 (Moura and Durkin, 2003), the sector only achieved greater development in the 90's thanks to the monetary stability brought by Plano Real (Real Plan). Anyway, oriented productive microcredit in Brazil has experienced a relatively slow growth rate (Dichter, 2002; Gallagher, Dudley, Araújo, Correa, Fortuna and Botelho, 2002). With the exception of Banco do Nordeste, which covers 60% of the microcredit granted in the country (Goldmark, Pockross and Vechina, 2000), no other institution has been able to achieve relevant scales (Moura and Durkin, 2003). Given the resistance of traditional financial institutions to expand their activities into this market, the offer remains concentrated in the hands of institutions that operate locally and without great scales such as NGOs (Non-Government Organizations).

For microcredit institutions, therefore, reducing imperfections of access to credit and creating structural changes in the way capital is distributed to the population are the challenges ahead (Brusky and Fortuna, 2002; Buett, 2002; Grant, 1999).

Micro credit and entrepreneurship

The entrepreneurship definitions are broad and follow the different parameters from the paradigm and epistemology that generate each definition. The term entrepreneur has its origin in the french entrepreneur, word that refers to

Table 1. Entrepreneurs and Population Perception of Business Environment in Brazil

	Entrepreneurs		Total Population
	Beginners	**Established**	
Sentences		Ratio (%)	
Know someone that has started a business in the last two years	54.2	49.3	35.6
Consider that, in Brazil, most of the people evaluate starting a business as a desirable career option	70.2	69.3	80.3
Consider that, in Brazil, those that achieve success with a new business have status and respect from the society	68.3	66.2	79.4
Consider that, in Brazil, often see successful new business cases in the media	73.3	74.4	78.3

Source: Moretti and Crnkovic (2010, p. 8)

those that endeavor. For Marshal and Marshal (1920), it is the one that through its own activities, combines production factors – labor, capital (and information) in a way that produces an outcome of products and services, and, increases the total wealth or the material welfare of the society. Schumpeter (1961) had associated the innovation issue, capable of the creative destruction, or to find new business opportunities.

In Brazil, the process of opening its economy since 1990, revealed the backwardness of the country in the issue of lack of competitiveness in many areas. Henceforth, the sectors, public and private sectors had to change. To understand how the evolution of this process was, the report "Entrepreneurship in Brazil" (Bosma and Levie, 2010) is a useful tool, the sample is collected in hundreds of countries allowing comparisons between the results of their research. The scheme proposed as the basis of analysis of the GEM (Global Entrepreneurship Monitor) shows that the third scenario affects fundamentals of entrepreneurship: attitudes, activities and aspirations.

Entrepreneurial attitudes are those expressed in the form of opinions and perceptions that society develops over the phenomenon; this is the status that the entrepreneur occupies in the community. Furthermore, they becomes much stronger when there is a perception of opportunity to develop a new actvity. As for entrepreneurial activity it shows the number of individuals involved in the creation of new businesses, the types of sectors involved, innovation applied in new supplies. It is more a process than an event and it is greatly influenced by incentive policies. Besides, entrepreneurial aspiration shows the qualitative nature of the projects, reflecting the degree of involvement of each one with the activity, and the degree of ambition and daring her employees (Moretti and Crnkovic, 2010)

According to Moretti and Crncovic (2010), applying the model of GEM, it is also possible to analyze the business conditions that affect the three elements discussed above. Those are: financial support, government policies and programs, education and training, research and development, infrastructure, professional market access and entry barriers, access to physical infrastructure and finally the cultural and social standards. The Table 1 shows that the population recognizes the best business conditions in which the country finds itself. However, still being a country with a strong social inequality, entrepreneurial activity presents evidence that the choice is through necessity.

The macroeconomic stability pursued by Brazil since 1994 showed results enabling more enterprises to overcome the initial barrier and to have longer sustainability. Figure 1 shows the weight of consumption in new entrepreneurial activities.

Most importantly, however, is the growth opportunity for enterprises to the detriment of those who throw it out of necessity. The latter did not reveal an entrepreneurial culture. Figure 2 shows the current situation.

Client value model

The Client Value Method is a marketing strategy model that applies financial evaluation techniques and statistics to the data bank containing information about clients, with the purpose of optimizing the processes of acquisition, retention and capitalization of clients. The model considers the client a financial asset, which the company must evaluate, manage and maximize (Blattberg, et al., 2001). Under this point of view, the financial value of a client is the company's main performance indicator (Boyett and Boyett, 2003).

Each client represents a certain value for the company and initiatives must be taken based on this information (Kumar et al., 2004). Between the mid 1990's and start of the years 2000, a group of researchers (Rust et al., 2000; Blattberg et al., 2001) proposed a model of marketing strategy based on management guided by the client's value, that is, by the financial return that clients provide to the company throughout the time they keep a commercial relationship with it (Rust et al., 2000). Thus, as clients are considered financial assets, the long-term objective of the company must be to maximize the profitability of its assets, that is, of its client base. The model relies on four pillars, according to Blattberg et al. (2001): Creation of
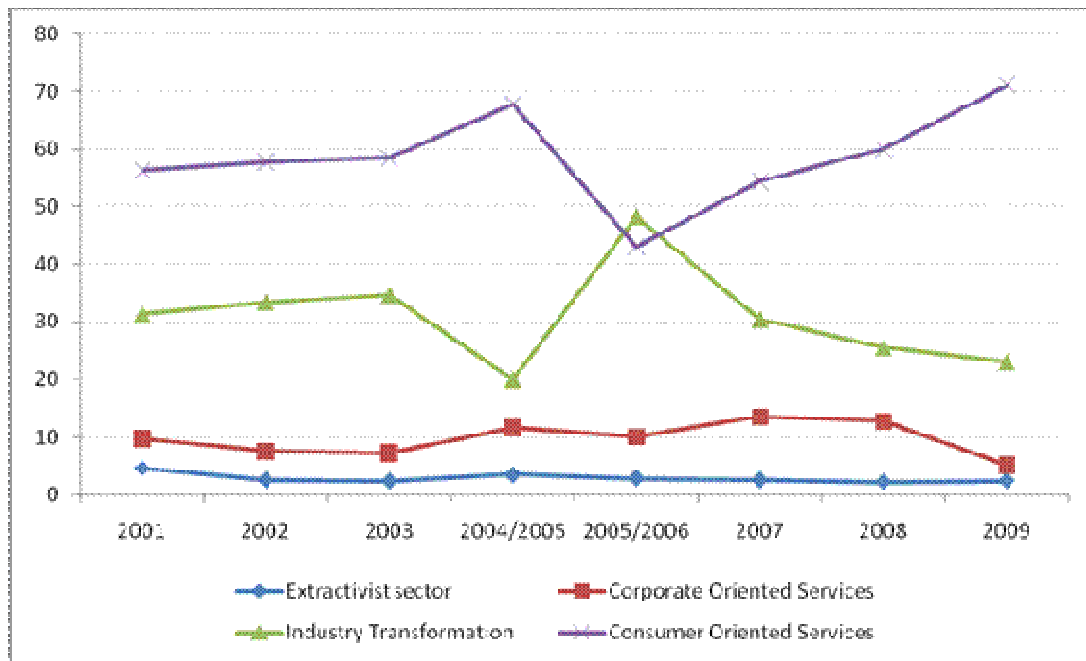
Figure 1. The share of consumption in new entrepreneurial activities (Entrepreneurship in Brazil – 2009 Report GEM, 2010) Sources: Moretti and Crnkovic (2010, p.8)
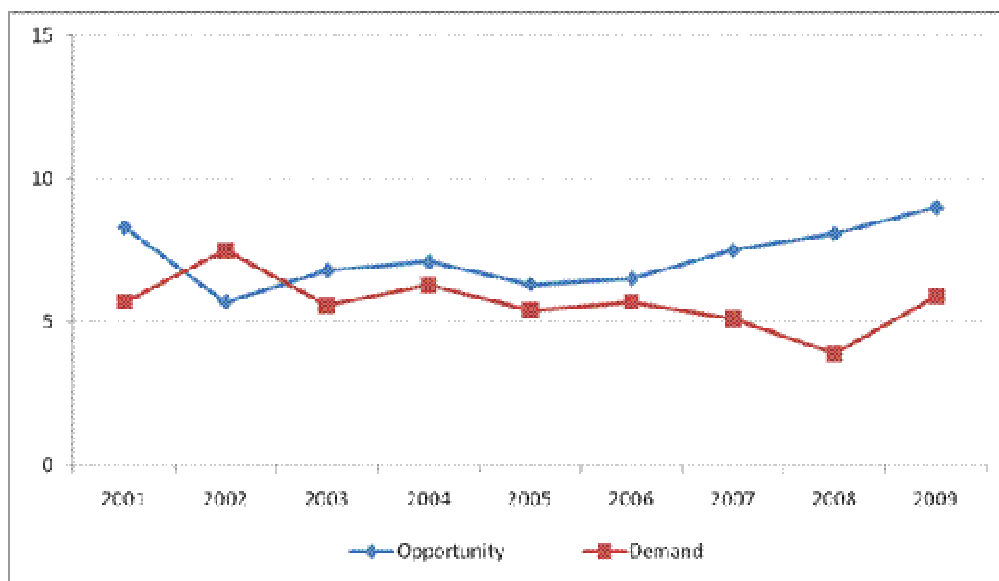

Figure 2. Comparison between Developments by Opportunity and Necessity (Entrepreneurship in Brazil – 2009 Report GEM, 2010); Source: Moretti and Crnkovic (2010, p.9)

metrics and marketing strategies based on clients' life cycle; Development of quantitative models from clients longitudinal database; Quantification of the financial return that the client provides to the company throughout its life cycle; Optimization of marketing investments in the acquisition, retention and capitalization of clients.

The quantitative model proposed by Blattberg, et al (2001) is especially applied to companies that have a

longitudinal data bank of their clients, which is the case of financial institutions. These companies develop their relationship with clients by means of a contract, which is formally started and terminated. In other words, the start of the client's life cycle of with the company, as well as its termination, is well defined.

Besides, the operation's characteristic allows the constitution of a data bank with cadastral and behavioral information of the client. Given such ease, the industry may develop techniques that stimulate the use of information.

There are three important elements to calculate client value: average retention rate, survival analysis and frequency and value analysis. These methodologies are discussed as follows.

Clients' value for a company is the total of the client's consumption values throughout its consumption life within that company (Rust, et al., 2000). In other words, we should perceive this value not only in terms of the current profitability this client provides, but also in relation to the liquid flow discounted from the contribution the company might receive from such client throughout its entire useful consumption life. This sum is equal to the total value of the company's clients, and is defined as (Rust, et al., 2000):

$$VC_s = ML_s \times e_s.$$

Clients' retention

The main objective of any marketing strategy must be to attract, fulfill and retain clients that are part of its target public (Best, 2000). Clients' retention, as well as clients' acquisition, is not a definition that may be formulated in a simple manner.

Blattberg et al. (2001) define that clients' retention for products with a short acquisition cycle must be obtained by means of the quantification of the number of clients that might continue to acquire the company's product or service during subsequent periods. The retention rate of oriented productive microcredit clients will be obtained through the analysis of the number of clients that have renewed their contracts after paying off their previous commitment:

$$r_t = \frac{c_t}{C_t},$$

In which: r_t is the retention rate of period t; c_t is the number of retained clients, that is, the number of clients that have renewed their contracts in period t; C_t is the number of clients whose contractual bond ends in the period of analysis and, consequently, may acquire a new contract at that time.

Average retention of a cohort of clients

Blattberg et al. (2001) suggest the use of the concept of cohort, which is defined as the set of clients acquired during the same period, as for example, same year or month. The average retention rate of a cohort of clients may be obtained through the following equation:

$$\overline{r_T} = \frac{\sum_{t=1}^{T} r_t}{T},$$

In which: rt is the average retention rate until observation period T; T is the number of periods observed.

Life expectancy using the average retention rate

The retention rate has a strong impact on the company's result. In the short term, this may be observed, for example, through the result obtained from clients retained due to the reduction of losses provoked by the cancellation of the link with clients and through a reduction in expenses with the acquisition of clients. Besides, it may also be observed an effect in the long term, since an increase in the retention rate leads to an increase in the life expectancy of clients from the point of view of the company, since the expectancy is raised for the period in which the client will keep a commercial relationship with the company.

To understand the formula, let's suppose that half of the clients renew its commercial relationship with the company. Presuming 1-year contracts, then that a client, in average, remains with the company for 2 years. If 100% of clients renewed their contracts, the company would always have clients.

Having this idea in mind, we may calculate the average life expectancy of a client as being the inverse of 1 minus clients' average retention rate (Best, 2000):

$$e_s = \frac{1}{1 - \overline{r_T}},$$

Where: e_s is the life expectancy for the average of clients in cohort s, from the point of view of the commercial relationship.

Net financial contribution margin (M_L)

The financial contribution margin represents the difference between financial revenues exclusively derived from the main unit of a respective business and from the direct expenses of the same:

$$ML_s = RF_s - D_s,$$

In which: ML_s is the financial contribution margin for the average of clients in cohort s; RF_s is the financial revenue for the average of clients in cohort s; D_s are the direct expenses for the average of clients in cohort s.

Hypothesis

This paper main hypothesis is that microcredit client value is greater than personal loan client value as shown bellow:

$$VCmicrocredit = ML_{microcredit} \times e_{microcredit}. \qquad >$$
$$VCloan = ML_{loan} \times e_{loan}.$$

METHODOLOGY

The current study uses data (15,000 active contracts during the period from Jan to Dec 2005) from some of the most important microcredit institutions in Brazil. In that context, Banco do Nordeste, Banco do Povo do Estado de Goiás and Unibanco Microinvest (now Itau-Unibanco) have been included. The rational behind the data collection was simple: many Brazilian microfinance institutions (exactly 15) were approached to provide data/information and those mentioned above were transparent and responsive (3 ouf of 15). However, the sample is expressive and encompassing in national terms since it contains operations from many different regions in the country.

The largest productive microcredit operation is from Banco do Nordeste, which is a Brazilian development bank, supplier of more than 70% of bank financing operations in the Northeastern region. Its microcredit program is called Crediamigo and uses solidarity groups to provide a guaranty for financing. Crediamigo's operations currently cover 5 states in that region. It has already serviced around 200 thousand entrepreneurs.

In 2003, with the purpose to offer microcredit at national level, Unibanco in partnership with IFC – International Finance Corporation, the financial arm of the World Bank, opened SCM (Sociedade de Crédito ao Empreendedor / Society for Credit to Entrepreneurs) called Unibanco Microinvest. Microinvest's share capital is composed by 82% that belongs to Unibanco, and 18% that belongs to the International Finance Corporation (IFC).

By December 31st 2010, Unibanco Microinvest (now Itau-Unibanco Microinvest) has operations in 20 Brazilian states, with approximately 103 microcredit loan officers.

The total active credit portfolio of Itau-Unibanco Microinvest reaches BRL 19 million. The current number of active clients in the same period was of approximately 18.000.

Banco do Povo do Estado de Goiás, one of the largest microcredit programs in the Country, already operates in 226 municipalities in the state of Goiás. The operation has approximately 120 credit officers. The bank has already signed, throughout 11 years, approximately 82.000 contracts with a financed volume of approximately BRL 100 million. It is important to stress that Banco do Povo de Goiás operates through an agreement between the State government, city administrations and NGOs. The Planning and Development Secretariat has created the Special Fund for Job and Income Generation (FUNGER) to invest in city administrations that, in partnership with NGOs, comprise Banco do Povo.

This data was compiled into a research database in two groups. The first group was formed by the entrepreneurs who received microcredit loans. The second group was formed by the ones who received traditional personal loans. The client has the same profile and the key variables are: monthly income, age, zip code and type of business.

Data was then analyzed using the model of Blattberg, et al (2001), previously explained in the section of theory and hypothesis.

RESULTS

This section presents the results obtained when analyzing data on the client value of microcredit clients and personal loan clients.

Value of microcredit clients: The value of microcredit clients is calculated taking into consideration: the expenses with this modality of credit (acquisition and maintenance of clients, average unitary costs per contract), financial revenues and life expectancy.

Expenses: As previously observed, productive microcredit is characterized by a strong interference of the microcredit loan officer in the credit concession process (Yunus, 2000) that is maintained during the contract period. Therefore, the acquisition and maintenance cost of clients is significantly affected by expenses with wages and social burdens of these employees. This may be illustrated by the following formula:

$$D_s = A_s + CB_s + M_s + DF_s,$$

In which: D_s is the total expense with acquisition and maintenance of clients in cohort s;
A_s is the cost derived from expenses with wages and social burdens for the acquisition and maintenance of clients in cohort s; CB_s is the cost derived from the sales channel used in the operation; M_s are the expenses with marketing campaigns for the attraction and retention of clients of cohort s; DF_s are other financial expenses.

Considering that it is very difficult to evaluate expenses per client, it will be presumed an average expense with

Table 2. Average unitary costs/contract

Costs/ Variable Expenses	
Wage and social burdens	BRL 120.00
Sales Channel	BRL 60.00
Marketing campaigns	BRL 10.00
Financial expenses	BRL 150.00
Acquisition/maintenance of clients	BRL 340.00

Source: Managerial and Financial Reports – mentioned institutions

Table 3. Average financial revenues/contract

Average Variable Revenues	
Loans	BRL 1,400.00
Credit Opening Fee	BRL 80.00
Average Financed Value	BRL 1,480.00
Average Term of Loans (installments)	11 months
Month's Interest Rate	5,2 % p.m.
Credit Losses[5]	2,0 %
Discount Rate[6]	1,9 % p.m.
Discounted Financial Revenue per Contract	BRL 425.00

Source: Financial Balance – Mentioned Institutions

the clients of cohort s for the calculation of the financial contribution margin:

$$\overline{D_s} = \frac{D_s}{n},$$

In which: $\overline{D_s}$ is the average unitary expense with the acquisition and maintenance of clients in cohort s; n is the number of clients in cohort s.

It is important to stress that all expenses calculations have been weighted according to the weight of each institution in function of the total number of active clients in the month of March 2006. The average unitary acquisition and maintenance cost of clients for oriented productive microcredit institutions is BRL340.00 (See table 2).

Financial revenues

To calculate the financial revenues from clients it has been considered the average value of loans and the average term of contracts for cohorts under analysis (See table 3).

Life expectancy

During the period of analysis of productive microcredit operations, they presented an average retention rate of 69% (figures provided by the institutions), which indicates that the client might renew its contract 3.2 times:

$$e_s = \frac{1}{1-0,69} = 3,22$$

Client value

It is now possible to estimate the client's value considering their financial contribution margin and their life expectancy: (425 – 340).3,22 = 280,50

Value of traditional personal loan clients

In order to calculate the value of traditional personal loan clients, we used the financial contribution margin already calculated, which was available on the reports of the financial institutions investigated. So, differently from the microcredit data, for this group of entrepreneurs we already had the financial contribution margin, which takes into consideration the expenses and financial revenues of these contracts. The data will be presented in aggregated fashion, without mentioning the specific costs and revenues of each institution. A total of 2.495.353 contracts of personal loans have been analyzed in the period from January to July 2005, which constituted the total sum of personal loan product contracts in the institutions. Transactions were effected in the same

Table 4. Financial Contribution Margin/contract

Revenues/ Variable Expenses	
Loans	BRL 300.00
Effective Monthly Interest Rate	14%
Losses Rate	15%
Discount Rate	1,9%
Contribution Margin	BRL 92.00

Source: Companies' balance – 12/2005

Table 5. Comparative chart of operations

Variable	Microcredit	Conventional Credit
Average Financed Value	BRL 1,480.00	BRL 298.21
Effective Monthly Interest Rate	5,3%	14%
Credit Losses	2,0%	15%
Financial contribution margin	BRL 85.00	BRL 92.00
Average retention rate	69%	15%
Life Expectancy	3,22 contracts	1,17 contracts
Client Value	BRL 280.50	BRL 108.02

Source: Companies

geographic regions where the other microcredit institutions operate and with clients with of a similar socioeconomic profile, as mentioned previously: similar monthly income, age, zip code and type of business.

Financial Contribution Margin (expenses and revenues)

 The contribution margin of a client is of BRL 92.00, according companies' balance (12/2005) (See Table 4).

Life expectancy

During the period of analysis, personal loan operations presented an average retention rate of 15%, which indicates that the client might renew its contract 1.2 times:

$$e_s = \frac{1}{1 - 0,15} = 1,17.$$

Client value

It is now possible to estimate the client's value directly:

$$VC_s = ML_s \times e_s = 91,82 \times 1,17 = 108,02.$$

RESULTS ANALYSIS AND DISCUSSION

In the current section, we compare the results obtained from each operation. The table below lists the main variables of analysis between an oriented productive microcredit operation and a conventional credit operation.

Table 5 shows that the client value of microcredit operations largely exceeds the value of personal loans. This leads to the rejection of our research hypothesis.

Although the nature of the loans is different, it surprises us to find an interest rate for conventional credit so different from that of microcredit, notwithstanding the fact that it may be, probably, due to the lower credit loss rate in the case of microcredit.

The microcredit client generates more value for the financial institution than the conventional client even with lower interest rates, which deviates from conventional knowledge. The key points are the highest retention rate, which affects life expectancy and much lower credit losses. If this is true, guidance to direct loans to this market may generate benefits not yet estimated. Even at the risk of an increase in the default rate, it is worth to allocate greater financial volume to the microcredit market, considering the differential in relation to traditional credit.

Additionally, as there is a tendency for the increase in productive microcredit loans takers' income, given the great marginal productivity of the business, it is natural to expect a significant increase in the demand for financial

products. This has not been added to the previous calculations, but it has significant potential for benefits.

First of all, these results contributes to reduce the lack of objective studies that measure the risks of loans to low-income and informal takers. Secondly, assuming Sales (2005) point that traditional financial institutions try to channel their investments towards operations where an opportunity for return and financial sustainability , the data provides an empirical support to potentially apply more resources into microcredit. Third, as Kyereboah-Coleman and Osei (2008) states that microcredit's potential levels of financial profitability are currently not completely understood by the regular commercial banks and this study provides an additional element to better understand this particular market. As mentionedy previously, any microcredit sector development only will occur if profitability reach market accepted levels.

Conclusions

In order to evaluate the opportunities that microcredit can offer to such enormous part of the population, a comparison among the client value from a microcredit operation with a traditional personal loan was performed applying the model of Blattberg and Deighton (1996).

The reasons underlying this study are based on the view that the scenario that presents itself to entrepreneurial activity in Brazil, in the last few years, means that companies have stopped seeing clients more as an element involved with the business model, to start treating them as a crucial component for the company's success as mentioned by Jain and Singh (2002). The client's value model offers a systematic way of identifying which clients must be the focus of the company, to evaluate the life, long-term value of these clients and to analyze the effect of different actions on the client's value for the company as pointed by Jain and Singh (2002).

The evaluation of the importance of a client is not related to a specific transaction, but to a series of potential transactions that the client might perform with the company throughout their commercial relationship as raised by Blattberg, et al. (2001). And, as an externality, the company's image is strengthened if it associates its name to businesses related to the functions and social policies of government.

The microcredit operation productive has a high-risk characteristic: the target public, owners of small production units with less than 5 employees and annual income lower than BRL 220 thousand, tends to show a greater probability of default as seem by Moura and Durkin (2003), due to lack of guaranties, credit history and proof of a formal income source. To eliminate such difficulties, which stress the issue of asymmetry of information on credit as noticed by Schonberger (2001), credit agents are used. This later one, by visiting the company, tries to minimize the factors mentioned above. However, such movement increases the operational cost

of a credit operation and raises the matter of the financial viability of this type of offer.

The current study, by analyzing a specific operation, points to some relevant factors that may be indicated, in terms of the client's value theory, on the efficacy of the productive microcredit offer. This turns evident when we compare the expectations on microcredit and personal credit renewal. The first one is directed to the more particular issues of the entrepreneur; and the second one, to credit without a specific defined destination (Renewal expectancy of 3.2 versus 1,2). Naturally, adherence to the client's needs produces a longer-lasting relationship.

Such process has shown to be, in the case of the three relevant institutions, an inductor of positive aspects for productive microcredit operations, considering the aspects involving the loss of inferior credit, greater financial margin, even with lower nominal rates, and, therefore, better returns under the point of view of the client's value.

The representativeness of the sample in terms of coverage and the historical series, and the factors derived from the analysis may become a reference for general and strategic decisions as regards entrance, extension or intensification of businesses in the oriented productive microcredit sector. It is evident that adequate proposals to the demands of a specific public may generate sustainable and attractive returns. The attraction of more banks and financial institutions into the sector may provide an increase in scale and penetration in the market of potential productive microcredit.

It is not possible yet to test the model's strength, due to lack of more consistent comparative data. Also, it is not possible to calculate the dynamic external benefits related to microcredit. It means that, during subsequent periods, the microcredit client may change of category, due to an increase in its revenues, and might demand other financial products. Now, an estimate of the average value of these services, as well as of the time required to reach such a level, is what we need to find the microcredit client's perennial liquid margin.

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