

**Long term housing loans to low and medium income
households**

in Bosnia and Hercegovina

**The experience of developing an appropriate credit
technology**

Presentation by Michaela Erhard

Session: Open Session B

Thursday, September 30th, 1999, afternoon

Long term housing loans to low and medium income households in Bosnia and Hercegovina

The experience of developing an appropriate credit technology

Introduction

This paper is based on the experience of developing a credit technology for long-term housing loans to low and medium income households in the frame of the Housing and Construction Loan Programme (HCLP) of the European Union in Bosnia and Hercegovina (BiH). It is intended to describe the cause, the purpose and the effect of the most relevant elements of the credit technology applied in the above mentioned context. It must be stressed that the paper does not aim to draw a complete picture of the credit technology. It merely concentrates on the responses to the most critical questions which were raised during the development of the technology.

It is shown that due to similarities in the economic and legal environment it has been possible to fall back upon the core elements of a credit technology for micro entrepreneurs in Less Developed Countries (LDCs) as a fundament for the housing loan technology (section 1). The major challenge, however, has been to supplement these core elements with techniques to deal with the specific features of the housing loans: the long maturity and the consumptive use of the credit (section 2). These two techniques, the assessment of the long-term payment capacity (section 3.1.) and a financial incentive scheme (section 3.2.), are critically discussed. The implications of the transaction cost intensive technology on the profitability of long-term housing loan are investigated (section 3.3.).

1. The suitability of elements of a micro credit technology for housing loans in BiH

In industrialised countries housing loans technologies are strongly based on risk securing by taking mortgages. Furthermore, the credit applicant's capacity and willingness of repayment can be assessed with simple and cost minimising procedures by verifying reliable documentation and the applicants track record in financial institutions.

In BiH the application of such technologies in the context of the HCLP is not feasible for three reasons:

Absence of good collateral: Although real estate can be mortgaged, there are severe practical problems that reduce the value of mortgages as a collateral. There is a new legislation of mortgages but judicial procedures are slow. The enforcement of the collateral may take years. However, the main obstacle in this context is the underdevelopment of the real estate market. The absence of 'real' market prices makes it difficult to determine the current value of real estate and almost impossible to anticipate its further development. One can not assume that it will be possible to sell the mortgaged object at a price which equals at least the outstanding debt.

Informality and instability of income: In many cases documentation on income (salary statements, financial statements et cetera) is either not existent or manipulated for reasons of tax evasion or nepotism. A large percentage of the currently formally employed will have to seek other income sources within the next years because the public sector is reducing its labour force and the international organisations are leaving. Private sector employment is low and fluctuates due to the political and macroeconomic instability of the region. A large part of the population lives on temporary jobs in the informal sector.

Lack of information on borrowers: Due to a lack of confidence in banks the largest part of the public does not have current or saving accounts. Since the financial intermediaries have only limited refinancing possibilities they mainly offer short term credits to medium and large enterprises, which often are related with the bank. Therefore, financial institutions do not dispose of track records of the low- and medium income sectors of the population.

The existence of such problematic specifics is nothing new. These problems are similar to problems encountered in lending to micro entrepreneurs in LDCs. The credit technologies developed for solving these problems can serve as a blueprint for designing a housing loan credit technology for the HCLP. The centrepiece of one of these technologies is **the substitution of collateral by a profound risk evaluation**¹. The risk evaluation bases the credit on a sound appraisal of the borrower's willingness and capacity to repay. A cash-flow analysis is the core of this appraisal. It considers the incomes and

¹ For a more detailed description of the credit technology, see:
Luso Financial Systems (1998): LFS Small Credit Technology, online at:
<http://www.luso-consult.de/lfs/services/credit.htm>

expenses of all household members. The required information is gathered and/ or verified by visiting the house and business of the loan applicant and cross-checking with other sources of information like neighbours, employers, suppliers etc. In spite of the lack of reliable documented information and of track records in financial institutions this technique enables the financial institution to have a clear impression of borrower's capacity and willingness to repay the loan.

One may ask how this technology can make lending a profitable business since it obviously involves high transaction costs² and there is no reliable coverage of the default risk. Yet, there is solution to it. The use of the credit for the business may lead to an expansion of the microentrepreneur's business, higher income and further demand for credit. The entrepreneur's wish to have further access to credit enables the financial institution to operate profitably. First, because follow-up credits reduce the high transaction costs. The institution increases its level of information about a borrower with each additional operation. The processing of follow-up credits is less time-intensive and bears a smaller risk. This means that transaction costs decline relatively to the institutions portfolio. Second, since the borrower has an interest to establish a "house bank relationship" with the financial institution the threat of the intermediary to terminate the implicit long-term relationship is an effective measure to enforce the contract. Taking advantage of this incentive of the borrower in combination with a sound risk analysis and strict monitoring policies permits the intermediary to keep the arrears at a reasonable level.

Since this technology had been designed to overcome the above mentioned difficulties, it is suitable to fall back upon its basic elements as a **fundament** of the housing loan credit technology. However, the specifics of the product housing loan do have important implications which make it necessary to supplement the described technology with additional elements.

2. Specifics of housing loans in the frame of the HCLP

Housing loans in BiH are necessarily long-term loans. The average maturity of HCLP loans is 78 years. It is **the long maturity in combination with the instability of income** which leads to a very high risk potential. The borrower might be able to repay the credit at the beginning of the credit's life time but may have to cease repayment for the lack of income at a later stage, thus increasing the financial institution's portfolio in arrears.

The loans of the HCLP are supposed to finance private consumption, i.e. the borrower himself inhabits the object the credit was granted for. In contrast to loans for micro entrepreneurs the purely consumptive use of the credit does not create additional income streams and subsequent demand for credit. On the contrary housing loans take away a substantial part of the borrowers income for a long time. For this reason the borrower will neither have additional capacity to repay nor necessarily a further need for credit. Consequently the borrower will not have to seek further contact with the institution after disbursement of the credit. Therefore a threat on part of the financial intermediary to cut the access to credit does not create an incentive for repayment as it does in the case of micro loans. Nor can the institution reduce transaction costs by follow-up credits.

On the basis of these considerations three questions must be raised:

1. Which method could be applied to assess the development of the payment capacity in the course of the time despite the instability of income?
2. How can incentives be created which would influence the borrower's repayment behaviour?
3. Can the technology presented make housing loans a profitable business despite the high transaction cost involved?

3. Possible solutions

3.1. Assessing the long-term payment capacity

The above mentioned retrospective cash-flow analysis which serves to appraise the current payment capacity of the borrower consists of an evaluation of all incomes and expenses of the household.

² For the purpose of this paper costs arising from the client selection, the information gathering, the evaluation of the application, credit decision and disbursement and monitoring are specified as transaction costs. Risk cost are not included.

Since the future **income** is the uncertain value the retrospective evaluation of income has to be supplemented by two prospective elements which give a clear impression of the development of the household's income situation during the life time of the credit:

- The assessment of the capacity of income generation
After having quantified and verified all current incomes of the household their stability and frequency is analysed. At the same time the so- called capacity of income generation of all household members is assessed by analysing which income could generate the person in the future considering his education, working experience, age, health and adaptability to changing economic circumstances. The basic considerations are: How likely is the person to loose his current source of income and what income may he generate in the worst case?
- Analysis of the development of the structure of the household
The question is who is probably going to stay or to leave because of for example marriage, birth, moving, illness or death.

According to the risk they present some incomes are levied with a risk-deduction or not included at all in the cash-flow analysis.

The assessment of the **expenses** of the household is the next step. A purely retrospective analysis evaluates in detail the household's expenses. The analysis differentiates and quantifies exactly the expenses for food, utility services, health, clothing and the like. There is a strong argument that such a detailed evaluation is not adequate for housing loans because in the long run the total expenses of the household may change in amount and composition. For a prediction of expenses during the lifetime of the loan it would be only necessary to estimate the household's expenses on the basis of factors like the generally observed living standard and structural changes of the household. This reasoning is very true but the detailed evaluation enriches the analyses with more information than just a quantity. The evaluator gets a clear impression of the financial habits and of the capacity of financial management of the family which are a strong indicators for the willingness to pay. Additionally, the anonymous factor 'living standard' gets well defined. This is important because the experience shows that the current living standard has to be seen as a benchmark for the future development of expenses.

Ultimately, all incomes with a promising future are summed up and the expenses deducted to appraise the capacity to repay. It must be stressed, that the final decision on approval or amount should not only depend on a strict quantitative but more on a qualitative analysis because of the still remaining uncertainty regarding the evolution of incomes and expenses. In every days lending practice this means for example even if there is a positive assessment of the willingness to pay and the current numbers are in favour of a credit approval a credit may be denied because of a negative appreciation of the household's future situation.

3.2. Repayment incentive schemes

In addition to mortgages and guarantors for housing loans a long lasting financial incentive scheme should be applied as a substitute to the financial repayment incentive of having further access to credit. The **basic mechanism** is constructed as follows:

On top of the nominal interest rate the borrower is charged an extra interest, a so-called compliance fee, on the outstanding loan amount. The monthly annuity to be paid is calculated on the basis of the nominal interest rate plus the extra interest. The accumulated fees are held in a saving account in favour of the borrower. In case of punctual repayment the borrower will regain the savings, in the opposite case the savings will be seized by the financial institution. The wish not to loose the savings creates an incentive for punctual compliance on part of the borrower.

There are different ways of designing the arrangement. The following design may send clearer signals than others. After every 12 month the borrower's punctuality of repayment will be checked. The punctuality can be assessed by the average overdue day's per instalment (accumulated overdue days/ quantity of instalments) and a maximum quantity of overdue days per instalment.

A certain value of the ratio and the maximum needs to be defined as the benchmark for punctual repayment, for example a maximum of 5 overdue days per instalment and a maximum of 15 days per instalment. If the ratio equals at a maximum 5, the 12 Th. instalment to pay will be partly settled, for example by 25 % of the in a year's time accumulated savings. The rest of the savings stays in the saving account and is finally used to settle the last instalments of the credit.

This system has significant **advantages**. In the positive case, the punctual client sees his correct behaviour rewarded once every year. In comparison to the long maturity of the credit this is a short period of time. The borrower will be regularly reminded of the advantages of punctual repayment. In the opposite case, if the client fails in one year only that year's accumulated savings are seized by the institution. In the following year the client is given another chance. Thus, even if the borrower fails once, he has the chance to obtain the benefits of correct behaviour in the next round. Since a failure in one round does not lead to the loss of all future savings, the incentive for repayment remains throughout the whole lifetime of the credit.

Apart from the incentive creation this scheme does have two further advantages for the financial institution:

In case of a borrower's failure the intermediary will be partly compensated for its extra expenses arising from the default like increased monitoring efforts et cetera. It must be stressed, that it can not be a compensation for the loss of the credit because the individual saving amounts are too small due to the low fee charged. Needless to say, that the fee needs to be small in order to not financially overload the borrower.

Additionally, the accumulated financial resources of all accounts can be used by the institution as a short-term source of refinancing, thus representing an additional source of income, especially when possibilities of refinancing are scarce.

However, the scheme does also have a few significant **disadvantages** which necessarily must be considered when deciding on the implementation of the scheme:

First of all, charging the fee means forcing savings from the public. From the point of view of financial systems development this is a critical issue, especially if savings are not deposited in financial institutions due to a lack of confidence. In my personal opinion, this is a strong argument why the saving account should be interest-bearing with a higher rate than the market rate to make up for the obligation. Secondly, the fee represents an extra monthly financial burden for the borrower which can be problematic when the capacity of repayment is low. The monthly instalments are higher than without the fee. Depending on the repayment capacity it may not be of significance. Yet, it may cause a prolongation of the maturity of the credit which is undesired because the default risk increases with the maturity. In the extreme case it may even lead to the denial of the credit because given a maximum maturity the monthly capacity of repayment is too small to cover the higher monthly instalment.

Finally, charging the fee may not be possible because of the banking legislation for example due to interest rate ceilings, the prohibition of extra fees in general or certain legal restrictions concerning the disposal of saving accounts.

In order to mitigate the negative side effects, the fee charged must correspond to the overall prevailing payment capacity. The purpose of the fee is merely incentive creation. Charging a very high fee will have an adverse effect because borrowers will only accept with resistance an additional burden which is being received as unfair treatment.

3.3. Long-term housing loans and high transaction costs

As pointed out before in housing loans it is not possible to increase the profitability by reducing transaction costs with follow-up credits as in the case of micro loans. Additionally, one could assume that the transaction costs of housing loans should be even greater than in the case of micro loans because the housing loan requires an evaluation of the long term income generation capacity of borrowers as well as more monitoring affords due to the long maturity. Still, despite the transaction cost intensive technology housing loans can be profitable, because **the influence of transaction costs on the profitability³ is subdued by the long maturity of the loans⁴**. The following simple considerations can illustrate the statement:

Let's assume that after the building-up phase of the portfolio a bank can maintain a **portfolio** of 240 credits⁵ of 10.000 DM with a maturity of 1 year. Under the assumption that the disbursement of credits is equally distributed throughout the time the average outstanding portfolio will be 1.200.000 DM.

³ For a more detailed presentation of the relation between transaction costs and maturity, see: Zattler, B.A.(1997): Institutionalistische Theorie der Entwicklungsfinanzierung, p. 166-169, Berlin.

⁴ Needless to mention, that in comparison to micro loans the profitability of housing loans is also enhanced by the fact that the credit amount of housing loans are higher than of micro loans.

⁵ The Monitoring of a 12-month-credit corresponds to 20 % of total transaction costs.

Leaving aside costs which result from default the yearly income from interest will be 120.000 DM when having a spread of 10 %.

	Short-term loans	Long-term loans
	Maturity: 1 year	Maturity: 7 years
Spread:	10 %	10 %
Outstanding quantity of loans:	240	764
Average loan amount:	10.000 DM	10.000 DM
Average outstanding portfolio:	1.200.000 DM	3.730.000 DM
Yearly income from interest:	120.000 DM	373.000 DM

If the institution can not cover the expenses with the income, it will either have to apply a less transaction cost intense technology or to rise the spread or the loan amount or **the maturity**⁶. If the maturity for example is 7 years the institution can, assuming the same technology and productivity, maintain 764⁷ credits. This leads to an average outstanding portfolio of approximately 3.730.000 DM with a corresponding interest income of 373.000 DM. Since the maintenance of a portfolio of 764 long-term credits involves the same expenses for transaction costs like of a portfolio of 240 short-term credits, the institution increases its profitability significantly by rising the maturity.

Under these conditions, the longer the credit the less significant are the overall transaction costs in relation to the interest income because the capital keeps on bearing interest for a long time without the need for the cost intensive evaluation of a new credit application. For this reason, under profitability aspects, the higher absolute transaction costs of long-term housing loans as compared to short term loans are counterbalanced by the positive effects of the longer maturity on the interest income.

The real important determinant of profitability in long-term loans is the default risk because of the positive correlation of the default risk with the maturity, especially in such an uncertain environment like in BiH. However, the default risk of the housing loans in BiH can be reduced by a profound risk evaluation and a continued monitoring, which necessarily is transaction cost intense. Bearing this in mind, it is convincing that in order to secure the long term interest generation of housing loans a financial institution needs to accept the high transaction costs the technology presented involves.

Conclusions

In this paper the relevant difficulties arising in the context of housing loans in BiH have been presented. It was proposed to mitigate the risks by a credit technology which is based on a profound risk evaluation with prospective evaluation techniques. It has been suggested to include an additional element, the compliance fee, for incentive creation; compliance fee or whatever). It was concluded that the transaction cost intense technology proposed will not endanger the profitability of a long-term housing loan portfolio, in particular because of the positive effects of longer maturities on the interest income generated.

Still, there are many open questions which can only be answered in time by empirical investigation. Firstly, it has to be analysed how effectively the prospective evaluation can predict the stability and development of certain income sources. Secondly, we do not know how strong the incentive created by the compliance fee will be and whether it can be an equal substitute to the incentives created by a house bank relationship. Thirdly, only an empirical evaluation of a 'mature' housing loan portfolio will give certainty about the relation of transaction costs, risk costs, maturity and profitability.

⁶ Abstracting for a moment from the positive correlation of maturity and default risk.

⁷ Assuming that the every year's monitoring costs equal 20 % of the total transaction costs of year 1 of the credit's life time.