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A FEASIBILITY STUDY ON CONSUMER
FINANCE COMPANIES

by

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CHAPTER I

INTRODUCTION

Aim of the Thesis

The credit sale market in Istanbul has many deficiencies with regard to the financial structure of the retail firms occupying the market. The credit mechanism is far from satisfying the consumer and the retailer firms. The retailers in Istanbul have many financial problems that may only be solved by the re-organization of the market.

The aim of this thesis is to show the financial problems of the re-tailers and to determine the interests charged on the credits extended to the consumers. The proposal for the solution of the prevailing problems in the credit market is the foundation of consumer finance companies. A feasibility study is made on consumer finance companies, which proves that at present there is need for the introduction of these foundations into the credit sale market.

This research is made only for the credit sales in Istanbul, and it is aimed at being a preliminary research on this field, where very little study has been carried up to now.

Methodology

1. Interviews with managers of retail stores:

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Several interviews were made with the managers of different retail stores in Istanbul. The managers were questioned about the general credit policy in that particular firm and, when possible, about the financial structure of the firm. It was quite hard to receive definite answers about the financial aspects of the firm. The managers of credit sale retail stores in Istanbul seemed to suspect anyone who inquired about the financial structure of their firms. Connections were needed to get an appointment with a manager for an interview. In absence of connections it was almost impossible to make an interview and those that were possible were not satisfactory.

Information about the financial structure of the firms was obtained through indirect questions. They did not want to give definite answers to direct questions like "How do you finance your company?".

The representative household durables, prices of which were obtained are refrigerators, washing-machines, vacuum-cleaners, kitchen stoves, televisions and sewing machines.

2. Interviews with bank directors:

Two bank directors were interviewed about the availability of short and long-term credit for the retailers. The information about the discounting procedure and the short-term credit against collateral was also obtained during the interviews with the bank directors.

3. Investigation of pertinent literature:

It has been observed that very little study has been carried up to now. Only a paper prepared by the State Planning Organization on the proposal of

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sales finance companies as a remedy against the non-availability of credit for the retailers, could be obtained.

There is no sampling principle that can be applicable to this research. The firms interviewed were the only available alternatives.

The analysis on the financial structure of the retailer firms required some assumptions owing to the lack of information. The assumptions were made with a pessimistic approach. The analysis on the stock levels of receivables and payables of the retailer firms is an example of these pessimistic assumptions.

Although the essence of centralized organizations for the collection of instalments and for the investigation of prospective consumers in the credit sale market are not overlooked; the facts about the foundation of these organizations are not handled in this thesis.

There may be errors of precision in this thesis, caused by lack of information. For example, the arithmetic mean for the interests charged on the credits extended to consumers was found to be 39 percent. Calculating the weighted geometric mean would certainly be more meaningful but the data on the percentage of sales of respective household durables in Istanbul cannot be collected.

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CHAPTER II

DESCRIPTION OF THE PRESENT STATE - EVALUATION OF THE RETAIL STORES IN ISTANBUL

The instalment sale retail stores in Istanbul can be evaluated from the following aspects:

1. Price
2. Credit term
3. Down payment
4. Discounts
5. The variety of items on sale

1. Pricing: The difference between the cash and credit sale prices is the important point to consider in analyzing pricing at retail credit sale stores.

First, there should be a differentiation made between sales as an agent and independent sales. Retail firms engaged in the credit sale of household durables are an agent of a manufacturing firm in the sale of some items. These items are usually refrigerators and washing machines. Some of manufacturers of refrigerators and washing machines also produce vacuum cleaners and other products. For example, Arçelik besides refrigerators and washing machines also produces vacuum cleaners.

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Siemens, Electrolux and Crosley follow this example too. Singer produces sewing machines. Hoover manufacturers gas-ranges and vacuum cleaners besides washing machines.

In the sales of these products as agents firms stick to the general instalment policies of the manufacturing firms. The instalment plans for these products are usually shown in booklets published by the manufacturing firms. Instalment plans of Arçelik, AEG and Ambra refrigerators, Arçelik and AEG washing machines and Singer sewing machines are given as examples in the Appendix to show the general credit policy of these manufacturing firms. In sum the pricing of products sold by retailers as agents of manufacturing firms is done by the manufacturers. To give a few examples of agents, İlme Ticaret and Sönmezer Ticaret are agents of Arçelik, Mutlu Ticaret and Fetiş are agents of AEG and Üçken Kollektif is an agent of Ambra. Acarsoy, however, sells Acarsoy refrigerators and washing machines, the rest of its sales are independent.

The only firm that does not abide by the general credit rules of the manufacturing firms stated above is Acarsoy. In Acarsoy stores Arçelik refrigerators are sold under different terms.

The most obvious price difference among retailer firms in independent sale of products is in the sale of televisions. Grundig televisions are sold for T.L. 4400 at Üçken Kollektif and Odeon on credit but their cash prices are T.L. 3800 at Odeon and T.L. 3970 at Üçken. Telefunken tele-

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visions are sold for T.L. 5500 in winter and T.L. 5000 in summer at İlme Ticaret. The reason for this unstability in television prices is directly related to the Turkish workers employed in West Germany. As some of the workers come back to Turkey they bring in televisions with them and summer is the season in which there are many returns from Germany, thus lowering the price of televisions. The difference of cash prices among firms may be due to different purchasing prices from the workers returning from Germany.

Some firms have a fixed policy in determining the markup between the credit sale and cash prices. For example, İlme Ticaret always adds 10 percent on the cash price to arrive at the credit sale price on the independent sale of household durables. A difference of 10 percent is found to be lower than what other firms add, however, this is also in line with the policy of İlme Ticaret on credit terms. Terms are short; they vary between 6 and 8 months, therefore, relatively low credit sale prices are to be expected.

There are other price differences in credit sales that can be observed from Table 1. For example, Hoovermatic washing machine is sold for T.L. 4275 at Mutlu Ticaret and Üçken Kollektif while the price is T.L. 4500 at Sönmezer Ticaret. But this is again related to the credit terms. The credit term for the first price is 15 months whereas at Sönmezer the term is 17 months. Lokewise Junker gas-range with 4 burners is sold for TL. 1725 at İlme Ticaret for 8 monthly payments, for T.L. 1750

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at Mutlu Ticaret for 10 monthly payments, and for T.L. 1850 at Sönmezer Ticaret for 17 monthly payments. As it can be seen the prices increase in line with credit terms as they get longer.

Acarsoy uses flexible prices. There are different prices for different credit terms, and since there is no set down payment policy the firm prefers using flexible prices to be adjusted in accordance with the down payment and the paying capacity of the customers which determines the monthly instalments and the credit term.

2. Credit Terms: Credit terms show some variation in the independent sale of household durables. Some of the firms have a tendency to extend relatively short term credits charging lower prices while others prefer the other way, i.e., longer terms and higher prices. İlme Ticaret has a fixed policy of extending credit between 6 to 8 months. Mutlu Ticaret extends credit between 6 and 15 months; 10 months is the most frequently used credit term. The existence of terms less than 10 months is due to a policy of the firm of keeping the monthly instalments paid at a minimum level of T.L. 100. The terms will be so adjusted that a purchaser will pay at least T.L. 100 to Mutlu Ticaret for a monthly instalment. Üçken Kollektif has the same principle. The credit terms are of medium length. Acarsoy extends credits as long as 24 months for Acarsoy products. Terms for other products are similar, they vary around 20 months and their actual size depends on the down payment. Instalments may be less than T.L. 100. Arçelik refrigerators which are sold on credit for a maximum of 17 months by other

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firms are sold for 24 months for competitive purposes.

Credit terms at Sönmezer Ticaret are usually in excess of 10 months. They vary between 8 and 17 months. For example, Hoovermatic washing machines are sold for 17 months, Junker gas-ranges (four burners) for 17 months, Nilfiks vacuum-cleaners for 11 months. These are some items that are sold for longer credit terms compared to other retailer firms. To illustrate, at Fetiş the terms are respectively 15, 10, and 10 months.

3. Down Payments: Concerning down-payments there are two alternatives for retailer firms. A firm may either have stipulated down-payments that it will demand for every purchase or the firm will leave the customer free in determining the amount of down-payment he wishes to make. A predetermined down-payment may be either low or high.

İlme Ticaret and Acarsoy have chosen the first alternative and do not force the customer to pay a fixed down-payment. But there is a difference between the practises of these two firms. At İlme Ticaret although not predetermined, a customer has to pay some downpayment, whereas at Acarsoy, the majority of credit sales is without any downpayment.

Mutlu Ticaret and Fetiş are examples of firms that charge fixed downpayments to the customer. Again there is a difference between the two firms. At Mutlu Ticaret downpayments are lower than at Fetiş. To illustrate, Junker gas-range (4 burners) is sold with a downpayment of T.L. 250 at Mutlu as compared to T.L. 325 at Fetiş. Fetiş charges higher downpayments in comparison to other firms too. A Nilfiks vacuum cleaner can

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be purchased by paying a down payment of T.L. 200 at Sönmezer whereas one has to pay T.L. 400 at Fetiş.

Üçken Kollektif operates with a mixed policy. Some items have predetermined down payments and some do not. Most of the independent sales are made with no fixed down payment stipulated and the customer is given the option.

4. Discounts: Firms have a common policy concerning discounts. Since there is a need for cash in the credit sale market usually any firm will grant a sales discount to a customer who purchases a product for cash. Agreeing to pay the debt of a credit purchase in less than the required period also gets a discount as a reward for quick payment. The manager of İlme Ticaret stated that he made sales discounts as much as 5 percent for cash sales.

5. The Variety of Items on Sale: This thesis only considers six types of household durables which are all on sale at almost all of the retailers. There are exceptions to this; for example, televisions are not available at Sönmezer Ticaret. On the other hand, there are some firms where even women's shoes are available besides the six types of household durables in consideration. Household furniture and chandeliers are the most common articles that are sold at firms engaged primarily in the credit sale of household durables. İlme and Fetiş sell household furniture and chandeliers. Fetiş and Acarsoy sell a very wide range of goods. To give some examples of the goods available at these two firms we can

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name ice-cream preservers, type-writers, cameras, toast machines, violins, electric organs, hair-dryers, motor-boats, and bicycles that are available at Acarsoy and children's toys, all types of kitchen and glass-ware, carpets, leather products, men's and women's clothing that are sold at Fetiş.

There are some firms which use the firm name as distributor's brands and sell some household durables under these names. Acarsoy refrigerators, washing machines, vacuum cleaners and radios and Üçken sewing machines are examples of this. Acarsoy products are manufactured by AEG, Philips and Electrolux manufacturers.

Financing the Enterprise

The household durables are produced by the manufacturing firms and these firms sell their products to the retailers through their general distributors. The manufacturer's sales to the distributors, are on credit basis. 65 - 95 percent of the sales are on credit repayable in instalments up to 9 months.¹

The distributors sell to the retailers about one half for cash and one half on credit, repayable within 14 months.²

The selling terms of the retailers have been observed.

¹An unpublished paper by the SPO, "Proposal for Creation of Sales Finance Companies.

²Ibid.

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Manufacturers prefer to sell to the retailers through their general distributors because this releases a heavy marketing burden from them. Also as mentioned above the distributors play a financing role and reduce the financing burden on the manufacturers. The retailers receive credit from the distributors in the form of open credit or they give their notes to the distributors as collateral in order to cover the credit they receive. Usually notes which mature in periods longer than 3 or 4 months are deposited with the distributor and the shorter term notes are held by the retailer who also does the collecting. Every month, notes which become short term are replaced by longer term notes. This method constitutes the major part of financing of the retailers since intermediate term bank credit is not readily available for retailers. Even if available it will not be on continuous basis or the bank will not provide the sufficient funds needed by the retailers.

The result of the interviews with the retailers show that only Acarsoy resorts to bank credit on a considerable extent. The rest of the retailers which are not sound financially prefer distributor's credit which is on a continuous basis but because of the shortage of liquid funds keep their purchases at a fixed level and do not possess the chance of expanding.

Another result that was observed after the interviews was that the distributor's credit depended highly on the connections of the retailers with the distributor, the distributor may extend longer term credits to the

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retailers than the usual credit terms. During the interviews with the manager of Mutlu Ticaret, he claimed that his firm gets longer terms than the other retailers can get. This definitely gives him competitive advantages over the other firms.

The connections may lead to the consigned sales of some items by the retailers. This seems to be the most preferred method since the ownership does not pass to the retailer, the retailer does not tie any capital to the inventory. After the good is sold to the consumer, the repayment to the former owner of the good is also in instalments. The reason the words, "former owner of the good" are used instead of the "distributor" is because the original vendor for this item does not necessarily have to be the distributor. Many cases show that retailers practice selling by acquiring goods from other retailers on consignment.

When a retailer resorts to bank credit for the financing of the enterprise there are two alternatives available. These are:

1. Receiving credit from the bank against collateral;
2. discounting the notes at the bank.

As observed both of these alternatives constitute short term bank credits. The procedures for obtaining the above mentioned credits are as follows:

1. These loans are called "credits with two signatures," because besides the signature of the debtor, the signature of a guarantor is also sought for. The debtor deposits his notes in the bank as collateral. There

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is a requirement as to the terms of these notes. They must not be due in more than six months; but upon permission from the general office of the bank this term may be extended to eight months, which is to the advantage of the debtor. The debtor gets 75 percent of the total of these notes in cash and 25 percent of the total is kept at the bank as a "reserve for bad debts." A yearly interest of $10\frac{1}{2}$ percent is charged on the 75 percent that has been drawn and also "bank transaction tax" of 20 percent is added on the interest charged. The tax is applied to the amount of interest and both are deducted from the loan.

A yearly rate of 2 percent commission and postage expenses of T.L. 3 per each note are deducted from the 25 percent kept in the bank and bank transactions tax of 20 percent is charged on the forementioned amounts and likewise deducted from the 25 percent of the loan. Six or eight months later the debtor draws that part of the 25 percent that has not been defaulted by his debtors. The part that has not been paid by the customers of the debtor is deducted from the 25 percent.

The bank makes an investigation about the notes that exceed T.L. 5000 before accepting them as safe collateral.

2. Discounting the notes at the bank is done with a yearly interest rate of $10\frac{1}{2}$ percent. Postage expenses of T.L. 3 for each note is deducted from the net amount. Twenty percent bank transactions tax is charged on the total of interest charged and postage expenses ^{are} and also

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deducted from the net amount.

The debtor guarantees that if the notes are not paid by the customers, he undertakes the payment of the payment of defaulted notes. If there are any due notes defaulted, the bank sends a "protest" to the concerned parties, the debtor and his customer who has defaulted his payment, within the legally accepted periods and if the due amount is not paid by the debtor or the defaulter within the permitted periods of time, the bank takes legal action against both parties.

The requirement about the terms of the discounted notes is that they should not exceed three months. With special permission this term can be extended to four months.

The actual interest charged for credit against collateral is calculated to be 18.4 percent and the interests charged for discounted notes is for 3 month notes 14.8 percent and for 4 month notes 14.1 percent. The calculations are in the Appendix.

Selling Methods

The primary aim of a credit sale retailer firm in a sale is to realize as much cash as possible from that individual sale. Yet, this aim conflicts in most cases with the consumers' desires. A consumer seeks for low down payments and low monthly payments provided by intermediate credit terms. An intermediate credit term is defined as being more than one year and less than five years.³ This is what is expected from the

³P. Hunt, C. M. Williams, G. Donaldson. Basic Business Finance.

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consumers by the firms. Therefore, when a prospective customer walks into a firm and inquires about the price and credit terms offered for a 10.2 cu.ft. Arçelik refrigerator, the response will be T.L. 3890, T.L. 320 down payment, balance payable in 17 monthly instalments of T.L. 210. This proves that the retailers are aware of the consumers' desires.

Although the consumer notices the difference between the cash and credit sale price--T.L. 3050 v.s. T.L. 3890--he is more interested in the immediate disbursement he will make at the moment of possession of the refrigerator, which happens to be only T.L. 320 in this case. The price increases by T.L. 840 as compared to a cash purchase but the customers of the credit retail stores are those who cannot afford large cash disbursements at once and who prefer low monthly instalments dispersed in an intermediate term. As expected the majority of the sales are on intermediate credit bases with low down payments.⁴

The general principle prevailing among the retailers in marketing, is direct contact with the consumer. They prefer the consumer to come to the store and make the payment for a previously bought item, in person. They believe that if the consumer comes to the store, he may recall his household needs and on observing the novelties at the store may decide to buy a new household durable. The experiences of the managers who have

(Irwin Inc.: Homewood, Illinois).

⁴Interviews with managers of İlme Ticaret and Mutlu Ticaret.

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been interviewed verify the above mentioned fact.

The various promotion techniques of the retailer firms may be classified as follows:

1. Cash discounts and extension of terms;
2. advertising;
3. using salesmen;
4. searching for prospective customers.

These promotion techniques will be explained below:

1. Cash discounts are almost always made in credit sale retail stores. The manager of İlme Ticaret stated that on cash sales they make a 5 percent reduction from the cash price. Competition is not the only reason that causes this procedure. The need for cash is considerable, so the firms are obliged to offer such advantages as discounts to the customers.

Another method the retailers employ to attract consumers is to extend the credit term upon receiving larger down payments than the stipulated amount. This method is practiced by İlme Ticaret and likewise caused by the same reasons stated above.

A method which is opposite to the above mentioned one is employed at Mutlu Ticaret. It is charging less than the stipulated down payment and adding the reduced amount in equal portions on the monthly instalments. At Mutlu Ticaret, Ambra refrigerators are sold on 20-21 monthly instal-

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ments. This is an important point because Ambra has a predetermined instalment plan which allows the refrigerator to be sold on a maximum of 19 months credit. The manager of Mutlu Ticaret stated that a reason for these sales on longer credit-terms is that by offering these advantages to the customers, on the sales of Ambra refrigerators, the firm tries to increase the Ambra sales and as a reward for this the firm gets better terms from the Ambra general distributor. At Mutlu Ticaret, prices and down payments may be reduced according to the customer. If he is an old customer with good credit-rating he may benefit from such advantage.⁵

A generally accepted principle among the retailers is not forcing the consumer to pay a stipulated amount as down payment. İme Ticaret, Üçken Ticaret, and Acarsoy do not have any stable down payment policies in accordance with this principle. They give the customer liberty in paying any amount he wishes to pay. Acarsoy can afford to sacrifice down payments completely for the sake of competition. Arçelik refrigerators are sold on 24-months credit with no down payment at Acarsoy. Acarsoy is the only firm in Istanbul which does not abide by the general credit policy of Arçelik.

2. Only Acarsoy and Yirmibeşoğlu resort to advertising of their firms. Other firms interviewed do not advertise their firms. However, there is not much need for advertising the firm because the manufacturer

⁵ Interview with the manager of Mutlu Ticaret.

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firms are advertising their products to a very large extent. The firms take advantage of the advertising of the brands of products they sell, made by the manufacturing firms. Almost all brands of household durables are being advertised by means of press, radio, and cinema at present. Only a firm which offers very different prices and terms may feel the need for advertising.

3. Salesmen are used by retail stores engaged in credit sale of items that are transportable in briefcases, like watches and jewelry. Engin Ticaret uses salesmen for the credit sale of watches, jewelry, and books. This is not a method employed by vendors of household durables.

4. The last method defined above as searching for prospective customers is gathering information about various events. For example, the wedding dates of couples to be married, or of wedding anniversaries of married couples are obtained and the husbands are called up or visited to remind them of the fact that the retailer firm is at their service for any presents for the wives.

Engin Ticaret calls up the flat owners of newly finished buildings in order to sell chandeliers.

Instalment Instruments and Sale Procedures

For the credit sales of retailers two kinds of notes are used:

1. Promissory notes;
2. Ordinary title deeds.

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The descriptions are as follows:

1. Promissory notes may be deposited at banks as collateral and also can be discounted or drafted. The collection for the promissory notes that are due may be done by a bank upon the request of the firm. The bank will demand service charges for this collection. Promissory notes, payable, collections of which are carried out by banks, when defaulted, are "protested" by the bank.

As observed, the collection of promissory notes that are submitted to a bank for collection, is at some cost whether they are paid or not. However, promissory notes are safer in avoiding risk because the act of being "protested" by a bank can be much more effective than legal action, especially on customers who themselves operate with banks.

2. Ordinary title deeds are only used for sales that are not in excess of two or three thousand Turkish Liras. It is simply an agreement between the retail firm and the customer and does not concern any other parties, e.g., banks. These deeds are not accepted by banks as collateral and may not be discounted. Only legal action can be taken against signers of title deeds who default their payments. Therefore, there will be lawyer expenses for the collection of bad debts arising from title deeds.

When a customer expresses his wish to buy an expensive item from the store on credit, in most firms, he does not get the possession of the good on the same day and is not asked to pay anything. At Mutlu Ticaret the prospective customer is asked to give the name and address of some

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people who can witness for his paying capacity. If the recommendations are positive, the customer can buy the item after getting two acquaintances sign a paper guaranteeing his payments. In the meantime he signs the promissory note. Only after these procedures are completed can he possess the good. Mutlu Ticaret and Üçken Ticaret require two guaranters whereas Engin Ticaret and İlme Ticaret are satisfied with one.

Üçken Ticaret does not accept doctors and lawyers as guaranters. Likewise, all retail firms prefer businessmen or government employees as guaranters. It may seem strange that the guarantee of a doctor is rejected, although that of a government employee, probably from a lower income, will be valid. However, the retailers are only interested with the fact whether the guaranter has and does not have a stable monthly income. The manager of Üçken Ticaret claimed that, as far as payments were concerned, doctors and lawyers were not quite trustworthy. This may be due to the fact that their monthly incomes can show large variations.

Yet, all stores are not this strict on guaranteeing. For example, Engin Ticaret gets as lenient as accepting the guarantee of a husband as the only guarantee for his wife who has bought an item. As a principle, İlme Ticaret and Engin Ticaret do not seek for a second guarantee.

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CHAPTER III

CALCULATION OF THE RATES OF RETURN

In this Chapter, the method of calculation of rates of return related to the instalment sale of each household durable is presented.

A credit offered by a company to its customers can be considered as a loan made by the company on which it receives an interest. The amount of interest charged by the company can be found by the use of the rate of return method and the annuity tables.

If the amount of loan is A_0 T.L. and the monthly instalments are A_1 T.L., then the cash flow resulting from this loan will be as follows:

Table 1

Period	0	1	2	3	...	n
Cash flow	$-A_0$	A_1	A_2	A_3	...	A_n

Since the present value of the future payments by the consumer must be to him the same as the value of the loan he received, the rate of interest of this loan is that which equates the present value of the cash flow given above to zero. Thus,

$$0 = -A_0 + \frac{A_1}{(1+p)} + \frac{A_2}{(1+p)^2} + \frac{A_3}{(1+p)^3} + \dots + \frac{A_n}{(1+p)^n}$$

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Since the monthly instalments are of equal amounts, the above equation becomes:

$$0 = -A_0 + A_1 a \overline{n}|p$$

rearranging the terms, we get:

$$a \overline{n}|p = \frac{A_0}{A_1}$$

The cash price (P) and the credit sale price (P_1) are given for the particular instalment. The down payment (D) and the numbers of monthly payments (n) and the amount of monthly instalment (A_1) are also known. The principle of the argument is that the consumer gets a loan of ($P_1 - D$) from the company. The credit extended to the consumer is P_1 , the cash sale price, and P_1 is the amount the consumer pays back, determining the interest he pays to the company. Since he pays some amount of down payment at the moment of purchase, the actual credit extended to the consumer becomes ($P - D$).

To illustrate, let us take the credit sale of an AEG refrigerator (Model 275 E, 10 cu.ft.). The down payment is T.L. 2000, the monthly payment is T.L. 92 for 15 months. The cash sale price is T.L. 3100 and the credit sale price is T.L. 3380.

So,

$$P = 3100 \quad P_1 = 3380$$

$$D = 2000 \quad n = 15$$

To the consumer, the loan he gets is,

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$$3100 - 2000 = 1100 \text{ T.L.}$$

$$\text{so } A_0 = 1100$$

Therefore, we can say that the consumer gets a loan of T.L. 1100 in period 0 and makes 15 monthly payments of T.L. 92 each to pay the loan.

Period	0	1	2	3	...	15
Amount	1100	-92	-92	-92	...	-92

The annuity for this loan is

$$a_{\overline{15}|p} = \frac{1100}{92} = 11.9$$

The rate of return giving an annuity of 11.9 for 15 periods is found to be $p_m = 2.9$ percent from the annuity tables.¹ This is the monthly figure. To convert this to the yearly figure:

$$P_y = (1 + p_m)^{12} - 1 \quad p_y = 40.5$$

using the four-figure logarithm tables.

In some firms there is no down payment policy. So the down payments and the monthly instalments vary in these firms from sale to sale. In these cases amounts of down payments are based on assumptions in order to calculate the rate of return. The assumptions are in accordance with the general down payment policies of other firms in the market.

¹Bierman, H. Jr., and Smidt, S. The Capital Budgeting Decision, Table B (Macmillan Co: New York), 2nd Edition, 1966, p. 390.

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Table 2

The symbols used in the calculations

- P = Price (cash sale) in T.L.
 P_1 = Price (credit sale) in T.L.
 D = Down payment in T.L.
 n = number of instalments (months)
 A_1 = amount of instalments in T.L.

Table 3

AEG Refrigerator (Model 275 E) 10 cu.ft.
Interest Rates (as %)^a

n	Down Payment					
	217	500	750	1000	1500	2000
17	40.5	40.5	40.5	40.5	40.5	40.5
15	40.5	40.5	40.5	40.5	40.5	40.5
12	40.5	40.5	40.5	40.5	40.5	40.5
9	42.4	42.4	42.4	42.4	42.4	42.4
6	44.0	42.4	42.4	42.4	42.4	42.4
3	no sale	44.0	44.0	44.0	44.0	44.0

^aThe credit sale price, the cash price and the amount of monthly instalment are shown in the instalment plans of AEG, Arçelik and Ambra; therefore, for the calculation of interest rates of those products these figures are not given in the calculations but the plans are given in the Appendix, showing these figures.

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Table 4

Arçelik Refrigerator (Tip B-2900) 10.2 cu.ft.
Interest Rates (as %)

n	Down Payments					
	320	500	750	1000	1500	2000
17	45.6	45.6	45.6	45.6	45.6	45.6
15	45.6	45.6	45.6	45.6	45.6	45.6
12	45.6	45.6	45.6	45.6	45.6	45.6
9	45.6	45.6	45.6	45.6	45.6	45.6
6	47.2	47.2	47.2	47.2	47.2	47.2
3	49.3	49.3	49.3	49.3	49.3	49.3

Table 5

Arçelik Washing Machine
Interest Rates (as %)

n	Down Payments					
	215	500	750	1000	1500	2000
17	37.4	35.9	35.9	37.4	37.4	37.4
15	37.4	35.9	35.9	37.4	37.4	37.4
12	37.4	37.4	37.4	37.4	35.9	35.9
9	37.4	37.4	37.4	37.4	39.0	39.0
6	39.0	37.4	37.4	39.0	39.0	39.0
3	39.0	39.0	39.0	39.0	39.0	39.0

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Table 6

AEG Washing Machine (Lavalux)

Interest Rates (as %)

n	Down Payment					
	200	500	700	1000	1500	2000
17	40.5	40.5	40.5	42.4	40.5	40.5
15	42.4	40.5	40.5	40.5	42.4	42.4
12	42.4	42.4	42.4	42.4	40.5	40.5
9	42.4	42.4	42.4	42.4	44.0	45.6
6	44.0	44.0	42.4	42.4	44.0	45.6
3	no sale	44.0	44.0	44.0	47.2	42.4

Table 7

Ambra Refrigerator 9 cu.ft.

Interest Rates (in %)

n	Down Payment			
	195	500	1000	1500
19	32.9	32.9	32.9	31.1
15	34.4	32.9	31.1	29.6
10	32.9	32.9	32.9	29.6
5	40.5	37.4	34.4	31.1

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Table 9 (Cont'd)

Tip 191491 P = 1120
D = 135 P₁ = 1435
n = 20 A₁ = 65
 interest rate = 39.0 %

Tip 191471 P = 1190
D = 140 P₁ = 1540
n = 20 A₁ = 70
 interest rate = 40.5 %

The terms and the rates of return of the credit sales at different firms independently (not as an agent) are given in the following pages. The name of the firm where the product is being sold is given after the brand name.

Refrigerators

Acarsoy (7 cu.ft.) - Acarsoy

P = 2800 P₁ = 3400
D = 150 n = 16
A₁ = 203 n = 22
A₁ = 148

24.7% interest rate \leq 34.4 %

Acarsoy (8.5 cu.ft.) - Acarsoy

P = 3100 P₁ = 3750
D = 150 n = 17
A₁ = 212 n = 24
A₁ = 160

20.7% interest rate \leq 31.1 %

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Acarsoy (9.5 cu.ft.) - Acarsoy

$$\begin{array}{ll} P = 3500 & P_1 = 4000 \\ D = 150 & n = 17 \\ A_1 = 226 & n = 24 \\ A_1 = 160 & \end{array}$$

13.9% interest rate \leq 20.7%

Acarsoy (10.5 cu.ft.) - Acarsoy

$$\begin{array}{ll} P = 3600 & P_1 = 4400 \\ D = 175 & n = 17 \\ A_1 = 249 & n = 24 \\ A_1 = 176 & \end{array}$$

22.0% interest rate \leq 32.9%

Acarsoy (11.5 cu.ft.) - Acarsoy

$$\begin{array}{ll} P = 3850 & P_1 = 4500 \\ D = 200 & n = 17 \\ A_1 = 253 & n = 24 \\ A_1 = 180 & \end{array}$$

18.1% interest rate \leq 24.7%

Ambra (9.5 cu.ft.) - Acarsoy

$$\begin{array}{ll} P = 3000 & P_1 = 4000 \\ D = 150 & n = 20 \\ A_1 = 198 & \end{array}$$

interest rate = 14.39%

Ambra (11.5 cu.ft.) - Acarsoy

$$\begin{array}{ll} P = 3500 & P_1 = 4300 \\ D = 250 & n = 20 \\ A_1 = 208 & \end{array}$$

interest rate = 29.6%

Norge (9 cu.ft.) - Acarsoy

$$\begin{array}{ll} P = 3350 & P_1 = 4000 \\ D = 150 & n = 20 \\ A_1 = 193 & \end{array}$$

interest rate = 24.7%

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Norge (11.5 cu.ft.) - Acarsoy

$$P = 3750$$

$$D = 250$$

$$A_1 = 200$$

$$P_1 = 4250$$

$$n = 20$$

$$\text{interest rate} = 16.4\%$$

Washing Machines

Acarsoy (with dryer) - Acarsoy

$$P = 3300$$

$$D = 150$$

$$A_1 = 180$$

$$P_1 = 3750$$

$$n = 20$$

$$\text{interest rate} = 16.4\%$$

Philips - Mutlu Ticaret

$$P = 2575$$

$$D = 200$$

$$A_1 = 176$$

$$P_1 = 3192$$

$$n = 17$$

$$\text{interest rate} = 37.4\%$$

Hoovermatic - Mutlu Ticaret

$$P = 3325$$

$$D = 375$$

$$A_1 = 260$$

$$P_1 = 4275$$

$$n = 15$$

$$\text{interest rate} = 54.3\%$$

Ambra (Nova) - Üçken Kollektif

$$P = 3000$$

$$D = 190$$

$$A_1 = 190$$

$$P_1 = 3420$$

$$n = 17$$

$$\text{interest rate} = 20.7\%$$

Ambra (Diomatic) - Üçken Kollektif

$$P = 3350$$

$$D = 228$$

$$A_1 = 216$$

$$P_1 = 3900$$

$$n = 17$$

$$\text{interest rate} = 24.7\%$$

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Hoover - Üçken Kollektif
P = 2650 P₁ = 32000
D = 200 n = 15
A₁ = 200
interest rate = 35.9 %

Hoovermatic - Üçken Kollektif
P = 3325 P₁ = 4275
D = 375 n = 15
A₁ = 260
interest rate = 54.3 %

Hoover - Fetiş
P = 2650 P₁ = 3200
D = 200 n = 15
A₁ = 200
interest rate = 35.9 %

Hoovermatic - Sönmezer Ticaret
P = 3325 P₁ = 4500
D = 250 n = 17
A₁ = 250
interest rate = 57.8 %

Hoovermatic - Sönmezer Ticaret
P = 3325 P₁ = 4275
D = 375 n = 15
A₁ = 260
interest rate = 54.3 %

Hoover - Sönmezer Ticaret
P = 2550 P₁ = 3160
D = 360 n = 14
A₁ = 200
interest rate = 51.0 %

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Kitchen Stoves

Hoover (4 burners) - İlme Ticaret

$$\begin{aligned}P &= 1250 \\D &= 250 \\A_1 &= 141\end{aligned}$$

$$\begin{aligned}P_1 &= 1375 \\n &= 8\end{aligned}$$

interest rate = 39.0%

Hoover (3 burners) - İlme Ticaret

$$\begin{aligned}P &= 800 \\D &= 100 \\A_1 &= 98\end{aligned}$$

$$\begin{aligned}P_1 &= 880 \\n &= 8\end{aligned}$$

interest rate = 35.9%

Junker (4 burners) - İlme Ticaret

$$\begin{aligned}P &= 1550 \\D &= 255 \\A_1 &= 181\end{aligned}$$

$$\begin{aligned}P_1 &= 1705 \\n &= 8\end{aligned}$$

interest rate = 35.9%

Junker (3 burners) - İlme Ticaret

$$\begin{aligned}P &= 850 \\D &= 135 \\A_1 &= 100\end{aligned}$$

$$\begin{aligned}P_1 &= 935 \\n &= 8\end{aligned}$$

interest rate = 35.9%

Hoover (4 burners) - Mutlu Ticaret

$$\begin{aligned}P &= 1300 \\D &= 200 \\A_1 &= 125\end{aligned}$$

$$\begin{aligned}P_1 &= 1450 \\n &= 10\end{aligned}$$

interest rate = 29.6%

Junker (4 burners) - Mutlu Ticaret

$$\begin{aligned}P &= 1560 \\D &= 250 \\A_1 &= 150\end{aligned}$$

$$\begin{aligned}P_1 &= 1750 \\n &= 10\end{aligned}$$

interest rate = 34.4%

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Junker (4 burners) - Odeon

$$\begin{array}{ll} P = 1575 & P_1 = 1750 \\ D = 250 & n = 10 \\ A_1 = 150 & \end{array}$$

interest rate = 34.4%

Junker (4 burners) - Fetiş

$$\begin{array}{ll} P = 1575 & P_1 = 1725 \\ D = 325 & n = 10 \\ A_1 = 140 & \end{array}$$

interest rate = 28.2%

Junker (4 burners) - Sönmezer Ticaret

$$\begin{array}{ll} P = 1550 & P_1 = 1850 \\ D = 150 & n = 17 \\ A_1 = 100 & \end{array}$$

interest rate = 29.6%

Junker (4 burners) - Beko

$$\begin{array}{ll} P = 1550 & P_1 = 1750 \\ D = 250 & n = 10 \\ A_1 = 150 & \end{array}$$

interest rate = 37.4%

Televisions

Standard - İlme Ticaret

$$\begin{array}{ll} P = 3500 & P_1 = 3850 \\ D = 350 & n = 8 \\ A_1 = 438 & \end{array}$$

interest rate = 32.9%

Telefunken - İlme Ticaret

$$\begin{array}{ll} P = 5500 & P_1 = 6050 \\ D = 750 & n = 8 \\ A_1 = 663 & \end{array}$$

interest rate = 34.4%

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Grundig - Üçken Kollektif

$$\begin{aligned}P &= 3970 \\D &= 600 \\A_1 &= 380\end{aligned}$$

$$\begin{aligned}P_1 &= 4400 \\n &= 10\end{aligned}$$

interest rate = 31.1 %

Tonberg - Üçken Kollektif

$$\begin{aligned}P &= 3375 \\D &= 450 \\A_1 &= 350\end{aligned}$$

$$\begin{aligned}P_1 &= 3950 \\n &= 10\end{aligned}$$

interest rate = 49.3 %

Grundig - Odeon

$$\begin{aligned}P &= 3800 \\D &= 600 \\A_1 &= 380\end{aligned}$$

$$\begin{aligned}P_1 &= 4400 \\n &= 10\end{aligned}$$

interest rate = 47.2 %

Vacuum Cleaners

Arçelik - İlme Ticaret

$$\begin{aligned}P &= 1200 \\D &= 200 \\A_1 &= 71\end{aligned}$$

$$\begin{aligned}P_1 &= 1400 \\n &= 17\end{aligned}$$

interest rate = 29.6 %

Electrolux - Mutlu Ticaret

$$\begin{aligned}P &= 1400 \\D &= 180 \\A_1 &= 140\end{aligned}$$

$$\begin{aligned}P_1 &= 1580 \\n &= 10\end{aligned}$$

interest rate = 29.6 %

Philips - Mutlu Ticaret

$$\begin{aligned}P &= 625 \\D &= 100 \\A_1 &= 98\end{aligned}$$

$$\begin{aligned}P_1 &= 680 \\n &= 6\end{aligned}$$

interest rate = 47.2 %

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Siemens - Mutlu Ticaret

$$P = 1800$$

$$D = 150$$

$$A_1 = 200$$

$$P_1 = 1950$$

$$n = 9$$

$$\text{interest rate} = 23.4\%$$

Siemens - Üçken Kollektif

$$P = 1800$$

$$D = 200$$

$$A_1 = 180$$

$$P_1 = 2000$$

$$n = 10$$

$$\text{interest rate} = 29.6\%$$

Nilfiks - Üçken Kollektif

$$P = 1800$$

$$D = 150$$

$$A_1 = 180$$

$$P_1 = 1950$$

$$n = 10$$

$$\text{interest rate} = 24.7\%$$

Hoover - Üçken Kollektif

$$P = 1985$$

$$D = 335$$

$$A_1 = 200$$

$$P_1 = 2335$$

$$n = 10$$

$$\text{interest rate} = 52.6\%$$

Nilfiks - Fetiş

$$P = 1800$$

$$D = 400$$

$$A_1 = 160$$

$$P_1 = 2000$$

$$n = 10$$

$$\text{interest rate} = 35.9\%$$

Crosley - Fetiş

$$P = 975$$

$$D = 250$$

$$A_1 = 100$$

$$P_1 = 1250$$

$$n = 10$$

$$\text{interest rate} = 101\%$$

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Hoover - Fetiş
P = 1985 P₁ = 2335
D = 325 n = 10
A₁ = 200
interest rate = 51.0 %

Arçelik - Sönmezer Ticaret
P = 1200 P₁ = 1400
D = 200 n = 8
A₁ = 150
interest rate = 63.5 %

Nilfiks - Sönmezer Ticaret
P = 1800 P₁ = 2000
D = 200 n = 11
A₁ = 175
interest rate = 45.6 %

Sewing Machines

Zetina - İlme Ticaret
P = 800 P₁ = 880
D = 80 n = 8
A₁ = 100
interest rate = 32.9 %

Zetina - İlme Ticaret
P = 950 P₁ = 1050
D = 150 n = 8
A₁ = 113
interest rate = 32.9 %

Numan-Köhler - İlme Ticaret
P = 800 P₁ = 880
D = 80 n¹ = 8
A₁ = 133
interest rate = 32.9 %

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Numan-Köhler - İlme Ticaret

$$P = 950$$

$$D = 150$$

$$A_1 = 113$$

$$P_1 = 1050$$

$$n = 8$$

Interest rate = 39.0 %

Üçken - Üçken Kolektif

$$P = 750$$

$$D = 75$$

$$A_1 = 75$$

$$P_1 = 825$$

$$n = 10$$

interest rate, 26.9 %

Minerva - Üçken Kolektif

$$P = 1750$$

$$D = 200$$

$$A_1 = 170$$

$$P_1 = 1900$$

$$n = 10$$

interest rate, 22.0 %

Beko - Fetiş

$$P = 640$$

$$D = 60$$

$$A_1 = 60$$

$$P_1 = 720$$

$$n = 11$$

interest rate = 29.6 %

Beko - Fetiş

$$P = 800$$

$$D = 75$$

$$A_1 = 75$$

$$P_1 = 900$$

$$n = 11$$

interest rate = 29.6 %

Minerva (lux) - Sönmezer Ticaret

$$P = 950$$

$$D = 100$$

$$A_1 = 110$$

$$P_1 = 1100$$

$$n = 10$$

interest rate = 44.0 %

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CHAPTER IV

EVALUATIONS AND CONCLUSIONS

Purpose

In this chapter, various aspects of the credit sale market are evaluated. By analyzing the financial structure of the firms in this market it is observed that the present system is far from satisfying the consumers' needs and is inefficient. The conclusion of this chapter is to show that the present credit sale system needs a re-organization.

Interest Rates

The implicit interest rates of the credit sales practiced by the firms interviewed are calculated. The arithmetic mean of interest rates for a sample of 276 products is found to be 39.0 percent, which represents a monthly interest rate of 2.8 percent. The interest rates are shown in Chapter III. The method of calculation of these interest rates is in the Appendix.

Actually, the mean interest rate is supposed to be higher than what is calculated, since the interest rates found are calculated taking the listed cash sale price as a basis. However, as already mentioned, majority of the cash sales are made with about 5 percent cash discount. So the listed cash sale prices are nominal in almost every case. The actual cash sale price after the discount is deducted should be the basis for calculation of

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the rate of return for a particular credit sale. This point can be illustrated with an example.

Junker kitchen-stoves with four burners are sold at İlme Ticaret for T.L. 1550 for cash and for T.L. 1705 for credit. The down payment is T.L. 255 and the rest of the debt is repayable in 8 months with monthly instalments of T.L. 181. The cash price is reduced to T.L. 1482.5 by a cash discount of 5 percent. If T.L. 1482.5 is taken as the basis for calculation of the rate of return, the interest rate charged on the consumer becomes 56.0 percent as compared to 35.9 percent interest charged, T.L. 1550 of listed cash sale price taken as the basis.

In the same sample of 276 products the interest rates vary between 13.9 percent and 60 percent for the credit sale of household durables. This shows a need for uniformity in the market.

This variability causes the consumers who cannot calculate the rate of return on the instalment sales, to pay high interest rates, in some cases. The interest rates are not being controlled by any authority. It is doubtful that the financial authorities are able to calculate the rate of return on the instalment sales or at least bother to. In a situation like this, the consumers are expected to make a rational selection for the instalment plan they choose. What is more, the consumers are being misled by the difference between the cash price and the credit price and are being attracted by low differences between the two prices. In that case they end up by paying high interest rates willingly--in a way. It is quite possible for a

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consumer to buy a Nilfiks vacuum cleaner from Fetiş by paying 35.9 per-
cent interest while another consumer can obtain exactly the same vacuum
cleaner from Üçken Ticaret by paying 24.7 percent interest. The calcu-
lations are shown below:

Nilfiks vacuum cleaner purchased at Fetiş:

P = cash price = T.L. 1800, D = down payment = T.L. 400

A_0 = actual loan granted to the consumer = $1800 - 400$ = T.L. 1400

P_1 = instalment sale price = T.L. 2000

n = credit term = 10 months

A_1 = monthly instalment = $\frac{2000 - 400}{10}$ = T.L. 160

$$a_{\overline{10}|p} = \frac{A_0}{A_1} = \frac{1400}{160} = 8.71$$

From the annuity tables for 10 periods this figure gives 2.6 percent month-
ly interest. Converted to yearly interest rate we get 35.9 percent inter-
est as the rate of return.

Table 11

Nilfiks vacuum cleaner purchased at Üçken Kollektif

P = T.L. 1800

D = T.L. 200

A_0 = T.L. 1600

P_1 = T.L. 2000

n = 10 months

A_1 = T.L. 180

(Cont. d on the next page)

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$$a \overline{10} p = \frac{A_0}{A_1} \cdot \frac{1600}{180} = 9.02$$

$$P_m = 1.9 \text{ percent} \quad P_y = 24.7 \text{ percent}$$

The interest rates charged on the products of Arçelik, AEG and Singer show an unexpected pattern. As the credit term increases the interest rates related to individual instalment sales decrease. For example, an AEG refrigerator, Model 275 E (10 cu.ft.) may be purchased with a down payment of T.L. 500 and with monthly instalments of T.L. 196 for 17 months, or with monthly instalments of T.L. 921 for 3 months. The rate of return for the 17-month credit sale is calculated to be 40.5 percent whereas for the 3 month-credit sale it is calculated as 44.0 percent. These rates of return calculated represent the interest rates charged on the consumers, on these particular instalment sales.

The interest rates charged, on the contrary, are expected to be increasing as the terms increase. So, for a short term credit extended, a lower interest rate should be charged, and for an intermediate term credit extended a higher interest rate should be charged. This would be rational from the firm's point of view. As instalment terms get longer the risk for bad debts increase and the rational analyst would expect the firm to charge a higher interest rate on a longer credit term which would include a risk premium.

This practise can also be criticized as being unfair to the customer. A customer who finds a short term credit purchase of 3 months and monthly

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payments of T.L. 921 with a down payment of T.L. 500 suitable for his budget and paying capacity ends up by paying 3.5 percent more interest than a 17-months credit purchase as the case is in the purchase of 10 cu.ft. AEG refrigerator Model 275 E. The company gets 44 percent return from the first sale and 40.5 percent return from the second.

The firm benefits from the above sale both by collecting the outstanding debt in three months and by strengthening its liquidity position. The consumer should be charged a low interest rate as a reward for his will to accept short credit terms. However, this practise often shows its effects not in favor of the firms since the majority of the sales are represented by long-term credits and this causes the firms both to sell on lower interests and to suffer shortages of cash. Instalment plans should be designed in a manner as to benefit both the firm and the consumer; such that the firm should be able to benefit from risk premiums for intermediate term credits and the customer should pay lower rates on short terms.

One reason for this practise could be the expense of renewal of debt. The firm could prefer to extend a loan of 17-months to a loan of 3 months. In the latter, the amount is collected in 3 months from the consumer (debtor) and then there may be the danger of not being able to find another creditor. A loan of 3 months must be renewed 6 times to be compared with a loan of 17 months which guarantees a return for 17 months. In short, for short-term loans there may arise related opportunity costs whereas an intermediate term loan guarantees returns for a longer period of time.

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However, this may not be the reason for the higher interest rates charged on short term credits, because under the existing conditions in the market, a lender will have no problem in renewing a loan. The possibility of an opportunity cost to arise, for a creditor, under the present market conditions, is almost non-existent.

The managers of the firms try to persuade the customers to purchase household durables on short terms by telling them that if they buy on a 3 month instalment basis they will pay less interest than on an intermediate term credit. Thus, they try to avoid risk and to collect more cash. If the financial capacity of the customer is strong enough to afford such a short-term purchase, it is not hard to convince him that a short-term purchase is more inexpensive than intermediate term. This point will be explained by an example. For simplicity the two alternatives described above are taken.

Cash price = T.L. 3100

Down payment = T.L. 500

Price for 3 month instalment = T.L. 3263

Price for 17 month instalment = T.L. 3812

Instalment margin for 3 month instalment = T.L. 163

Instalment margin for 17 month instalment = T.L. 712

Percentage markup on the 3 month instalment = $\frac{163}{3100} = 5.26$ percent

Percentage markup on the 17 month instalment = $\frac{712}{3100} = 21.97$ "

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The consumer unaware of the rate of return method will believe that he is actually paying less interest if he purchases on a 3 month instalment basis.

Actually firms take advantage of the consumers since consumers do not have access to the capital markets both as a debtor or as a creditor. The consumer prefers a 3 month credit purchase of an item to a 17 month credit purchase of the same item because the consumer does not have an alternative investment opportunity with the money he saves by paying less instalments for seventeen months. The present value incremental analysis shows that the consumer benefits by exhausting the debt in 3 months rather than 17 months, discounting the future cash flows with the interest rate the consumer would get on investment in bonds, which is 12 percent.

The credit sale of an AEG refrigerator (Model 275 E, 10 cu.ft.) is taken as an example. The refrigerator is sold with a down payment of T.L. 500, instalments being T.L. 196 for 17 months and 921 T.L. for 3 months. The assumption is that the consumer can afford both purchases.

Table 12

period	0	1	2	3	4	5 17
a ₁	-500	-196	-196	-196	-196	-196	-196
a ₂	-500	-921	-921	-921			
a ₂ - a ₁	0	-725	-725	-725	+196	+196	+196

Discount rate = 12 % monthly discount rate = 1 %

(Cont'd on p. 44)

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Table 12 - (Cont'd)

Present value of T.L.196/month from period 4 to 17

$$196 \times 13.00370 = 2548.72 \text{ (Table B)}$$

Present value of 2548.72 at period 4

$$2548.72 \times 0.960980 = 2449.26$$

Present value of T.L.725/month from period 1 to 3

$$725 \times 2.94099 = 2132.22$$

Therefore, the consumer by purchasing with a 3 month instalment plan makes a profit of $2449.26 - 2132.22 = \text{T.L. } 317.04$. Although the interest charged on the 3 month purchase is higher than that of the 17 month instalment sale, the consumer is better off exhausting the debt in 3 months, since he has no investment alternatives with the savings he would make by purchasing on a 17 month credit.

Ambra refrigerators are also sold on instalment plans. Their instalment plan, however, is a little different from Arçelik and AEG. Instead of $6 \times 6 = 36$ alternatives they offer are $4 \times 4 = 16$, and the credit terms are different. They consist of respectively 5, 10, 15 and 19 months. Ambra offers credit repayable in 19 months in order to be able to compete with firms like AEG and Arçelik. The maximum credit offered by the latter firms is 17 months.

The interest rates charged on every alternative seem to lack any

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pattern. Rates vary between 29.6 percent and 37.4 percent. For the five month credit sale of Ambra refrigerators (9 cu.ft.), with T.L. 500 down payment, the rate of return to the company is 37.4 percent. For the nineteen month credit sale of the same size refrigerator, for the same amount of down payment the rate of return is 32.9 percent. The same irrationality evaluated above is observed again. This trait of decreasing interest rates with increasing credit terms is seen in all instalment plans in the market. Singer sewing machines is another example of the same practise.

Among the firms engaged in the credit sale of household durables the lowest rates of return are observed at Acarsoy. Acarsoy refrigerators can be given as an example. The reason for these low rates of return is that the instalment markups are relatively low. An Acarsoy refrigerator of 8.5 cu.ft. is sold for T.L. 3100 for cash and for T.L. 3750 for credit. The markup is 21 percent as compared to the down payment which is quite low or non-existent and the credit term which is as long as 24 months. The firm practices a high level of self-financing by equity.

Risk

Losses in retail sales on credit are described as not exceeding 1 percent, but the rate might increase as less stable buyers, such as new arrivals in cities, are given credit.¹

¹Unpublished paper by the SPO, "Proposal for Creation of Sales Finance Companies."

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There is no organization that has been formed, as of now, to facilitate the debt collection. The retailers have to deal with the defaulting payers individually and on their own.

The managers of retailer firms state that there is a strong tendency among the customers towards not to pay the notes when due. At least about one third of the customers will not pay before they receive a warning letter which more or less threatens the customer with legal action and reminds him of the contract provisions. In most of the title-deed contracts it is stated that in case of default of payment, legal action will be taken by the firm.

A great majority of the receivers of the warning letters will react by paying their monthly instalments that are due.

It is quite simple to avoid the results of legal action in case of default of payment of a title-deed contract. All the property of a person that can be confiscated by court in return for the unpaid debts can be found to be belonging to that person's wife by a previous court decision. In cases like this suit will go on for a long time and the collection of the debt, if ever possible, will not be worth the lawyer expenses of the firm.

There are people who earn their living by purchasing household durables from retail stores on credit. They are usually people with either no income or with fixed income earners whose salaries are being confiscated, in any case with nothing much to lose. They pay the down payment, obtain the good from the store and sell it on discount for cash to another

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store. They constitute one type of consumer that the firm managers are scared of. Their debts cannot be collected from them since legally they do not possess any properties or any income.

Another type of purchase that will harm the firms is caused by consumers who pretend as they have a higher paying capacity than they actually do, in order to benefit from sales discounts. In order to explain this point an example will be given.

A Siemens vacuum-cleaner costs T.L. 1800 cash and T.L. 1950 for credit. It is sold on an instalment basis of 9 months with a down payment of T.L. 150 at Mutlu Ticaret. The rate of return to the company on the credit sale is calculated to be 23.4 percent. If a customer claims that he can repay the debt in 6 instalments rather than 9, he will get at least T.L. 50 reduction from the instalment sale price as a reward for his quick paying, which will bring the rate of return to the firm down to 20.7 percent.² If he does this just to benefit from sales discounts and cannot financially afford paying the debt in 6 instalments in reality, this will harm the firm. Even if the collection can be realized by way of legal action or after several warnings it will either cost lawyer expenses or further decrease of rate of return.

Changes of address of customers is another reason for not paying. A customer after changing his address, not receiving the warnings, faces only his own conscience in paying his debt. For this reason, if college

²The calculation is shown in the Appendix.

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students coming from outside of Istanbul attending a school in this town, desire to make a purchase on credit, they are required to find a guaranter, preferably a relative, from the permanent habitants of Istanbul.

Although the guaranteers do their best to investigate about a consumer before the sale of an item on credit and require the signatures of one or two guaranteers, there may still be non-payers in some instances. Relying upon the guaranteers may not always be a wise method. A common principle of the firms is to reject the guarantees of doctors and lawyers, because they are known as having highly variable monthly incomes. Since fixed monthly incomes are primarily sought for, a government employee will be preferred to a doctor or a lawyer both as a buyer and as a guaranter. However, it has been observed that there have been cases where monthly salaries of the employees have already been confiscated by other parties.

There should be more elaborate investigations made about the individual customers. The maximum yearly amount that can be spent on investigation can be equal to the yearly lawyer expenses. A careful investigation makes sure that the debt will be repaid, however, a legal action does not always favor the firm.

The interest rates should increase with increasing credit terms including the risk premium in order to compensate for prospective bad debts. At present, majority of the sales are on long-term and on relatively low rates of return, hence the risk of bad debts are relatively high.

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In order to avoid risky sales, for debts over a stipulated amount, for example, those in excess of T.L. 2000, the purchasers are made to sign promissory notes. The advantage of using promissory notes as credit instruments is that the collection of the debts represented by these promissory notes may be carried out by banks upon the request of the firm. If a payable note is defaulted, the consumer who has defaulted receives a notice from the bank and in most cases, the consumer on finding out that the bank is engaged in the collection of the debt ends up by paying it. If there is no response to the notice sent by the bank, the note payable is "protested" by the bank and the name of the debtor is given to the Central Bank. However, the collection of the debts by banks is in return for service charges.

There are two methods for the collection of a debt that has been defaulted.

1. Legal action;
2. Bank protest.

Both methods are disapproved by the managers of retailer firms. They disapprove of legal action mainly because of the lawyer expenses related to it and also because they are tiring and time consuming.

The managers although they are aware of the fact that if the collection is made by the bank, it will be more effective, for two reasons are hesitant to deposit their receivables at banks for collection.

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1. To avoid the bank service charges.
2. Not to lose contact with the customer.

If the collection of the debts is carried out by the bank, the customer will make the payments to the bank and will not have to visit the firm again. The retailers want their customers to visit their store once a month for payment purposes so that they will use that particular firm when a household need arises.

FINANCIAL STRUCTURE OF THE FIRMS

The credit retailers have the common problem of shortage of cash. This problem is arising because, for competitive purposes firms are obliged to follow a very lenient down payment policy. It is constantly being advertised on the radio that Acarsoy is selling Acarsoy refrigerators for a credit term of 24 months with no down payment. This condition forces smaller firms, in order to stay in business, to give the consumer liberty in naming the amount of down payment he wishes to pay.

There is another reason for shortage of cash. For competitive purposes credit terms are being extended, forcing the financial capacity of the firm, making the debt collections harder. The payments are being made in small amounts spread over a long period, for example, 17 months and risk for bad debts is increasing.

As a remedy for this problem, the fundamental principles, in order

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to avoid a shortage of cash for a credit sale retailer, can be classified as follows:

1. More down payments;
2. shorter collection periods (higher instalments);
3. increasing interests for increasing credit terms to include risk premiums;
4. attractive cash discounts for cash sales;
5. discounts for quick payments.

As observed these remedies are quite contrary to the consumers' desires. A consumer desires low down payments and low monthly payments. If the retailers try to satisfy the consumers, they will go under heavy financial burdens because of lack of equity financing. So as a result the retailers cannot afford to satisfy the consumer with regard to consumers' desires. Consumer finance companies could accomplish a better result in satisfying the consumers by offering them credit on attractive terms and would go under no financial burden owing to high level of equity financing.

As already mentioned some of the fundamental principles classified above cannot be attached to in order to be able to compete with stronger firms which can grant more attractive credit terms. Acarsoy is a firm which can resort to bank credit and therefore has a definite advantage over the majority of the firms that operate with distributor's credit.

The firms should offer cash discounts on the credit prices of items sold, in order to receive more down payments. An example is given to

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illustrate this fact.

1. Maximum down payment that competition permits;
2. low price difference between cash and credit sale prices;
3. shorter credit terms (8-12 months may be suggested).

These ways of action can improve the liquidity of a firm if carried on for a while although it will curtail the rate of return to the firm.

The firms are usually agents for some product or products and other products they sell independently. For the products they sell as an agent the firms are obliged to abide by the general instalment plans prepared by the manufacturing firms. The credit terms for household durables sold this way varies between 3 and 19 months. The retailer firm is free to use any instalment plan it wishes, for products which it sells independently. Interviews show that for this type of sales, credit terms change between 6 and 20 months.

The products which the retailers sell as agents, are purchased from the general distributors as half on cash basis and half repayable in 14 months. However, for products sold independently terms change from product to product. Manufacturers of brands that are not as well-known as brands like Arçelik, AEG, Singer, or Philips give more advantageous terms to the retailers.

An analysis is made in order to find the monthly stock level of notes receivable and notes payable for every T.L. 1000 of sale during one year.

The terms of credit for sales are assumed to be 10 percent down

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payment and 17 instalments. The terms of credit for purchases are assumed to be 50 percent down payment and 14 instalments. The instalment markup is taken as 20 percent. So the cash price for a T.L. 1000 credit sale is taken as T.L. 833. The price of purchasing from the general distributor is assumed to be T.L. 744 which leaves a profit margin of 12 percent to the firm. Twelve percent profit in the retail sales of household durables working with electricity is accepted as a minimum profit margin for tax purposes. Even if the retailer firm adds a margin less than 12 percent the income tax authorities will still assume it to be 12 percent.

The results are as follows: (for T.L. 1000 of yearly sale)

Stock level of notes receivable: T.L. 677

Stock level of notes payable: T.L. 234³

As observed, the assumptions about the terms of sales and purchases are made with a pessimistic approach in order to be loyal to the convention of conservatism in accounting. In reality the credit sale terms will not be as long as 17 months for a firm on the average and purchasing terms will require less than 50 percent of the sum as a down payment. These pessimistic assumptions increase the actual size of the stock level for notes receivable and decrease that of notes payable.

The result under the existing assumptions show that there is a need

³ Calculations are shown in the Appendix.

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for a high level of equity financing. Below the need for equity financing as a percentage of sales is calculated:

$$677 - 234 = 443$$

$$443 / 1000 = 44.3 \text{ percent}$$

This signifies that about 56 percent of the financing of sales in a retailer is done by means of notes payable and 44 percent of the sales require to be financed by equity, paid-in capital and retained earnings. In yearly sales of T.L. 10,000,000 a capital financing of T.L. 4,000,000 is required. This proves that retailers are under heavy financial burdens. The foundation of organized consumer finance companies financed by equity and bonds will release the firms from the heavy burden they have to carry.

These figures also point out the shortage of cash the retailers are suffering at present. The receivables to sales ratio is about 68 percent and the average collection is done in 248 days which represents an average outstanding credit of more than 8 months.

Relations with the Bank

The firms as a general principle do not resort to bank credit. They find it too expensive.⁴

There are two alternatives for a retailer engaged in credit sales with regard to bank credit. The retailers have notes receivables in their portfolio which they can deposit in banks as collateral to cover the credit

⁴Interview with the Manager of Mutlu Ticaret.

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they receive from the bank or they can discount them at banks. Discounting notes receivable is less expensive than obtaining bank credit against collateral. The yearly interest rate related to the discounting of 91-day notes comes out to be 14.8 percent and that of 121-day notes is 14.1 percent. On the other hand the yearly interest charged on bank credit against collateral of 6 month notes is calculated to be 18.4 percent. The calculation of these three interest rates is shown in the Appendix.

Those firms which wish to convert the notes receivable in their portfolios to cash should normally prefer discounting them since this alternative is less expensive than short-term credit against collateral. However, the banks on principle require these notes to be at most 3-month notes, and with special permission the banks will accept up to 4-month notes. The 3 and 4-month notes are hard to get under the prevailing conditions in the market. The average credit outstanding was calculated as to be 8 months for the retailer firms. Notes payable in 6 months may be easier to obtain but these notes are only accepted as collateral, not for discounting. The rate of return to the bank is found too high by the managers for short-term credits against collateral.

To conclude, retailers are complaining about the high interest rates charged by the banks on short-term credit but those firms who cannot finance their sales by equity do resort to short-term credit unwillingly in order to decrease the level of equity financing required to stay in business. The percentage of the sales to be financed by equity was calculated

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to be more than 40 percent when short-term credit from the banks was excluded from the financing of the sales. By obtaining short-term credit against collateral from banks on a continuing basis a firm may keep requirement of equity financing at a minimum, but in that case there arises the need for cash in order to repay the debt within the specified period. The need for cash and the problem of shortage of cash may remain as an unsolved problem under the present structure of the credit market.

CONCLUSIONS

The undesirable traits in the retail credit sale market in Istanbul may be summed up in the following manner:

1. Interests charged on retail credit sales are varying around a mean of 39 percent. These rates are higher in the instalment plans of household durables of well-known brands like Arçelik and AEG. Compared to the marginal cost of capital of the retailer firms calculated as 19 percent, the interest charged by banks on short-term credit, the interest charged on the credits to consumers are high. The consumers should be able to receive credits with lower interests.
2. Instalment plans of products like Arçelik, AEG, Singer, etc. should be improved to benefit the retailer to a higher extent.

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The shorter term credits should have lower rates of return to the firm in order to attract more consumers. Under the present system, intermediate-term credits carry lower interests, are more attractive to the consumers and, therefore, the majority of credit sales at the retail level are represented by intermediate-term credits. This constitutes one of the reasons causing shortage of cash.

3. The credit terms should not be as high as 17, 19, or 24 months. There are firms which are financed by equity capital. These firms can afford high level of intermediate-term lending. In order to be competitive, smaller firms with less financial power are being forced to extend longer terms of credit than they can afford to. This practice impaires the liquidity of the retailer firms.
4. There is a high variability in the credit terms among firms and the public is not well informed about the different terms at different firms due to lack of communication in the market. As a result the consumer may not be expected to make a rational choice in purchasing.

CHAPTER V

A PROPOSAL

In this Chapter a proposal is made for the foundation of consumer finance companies.

After the evaluation and analysis of the present situation in the credit market, it is to be concluded that the instalment credit market needs a radical re-organization.

To summarize the financial deficiencies of the credit sale market at present:

1. Interest rates: There is a great extent of variability among the interest rates in the credit sale market. The range is found to be between 13.9 percent and 60 percent from a sample of 276. Also the interests charged to the consumers are too high compared to the cost of capital of the individual retailer firms. The arithmetic mean of the sample is calculated as 39 percent. The marginal cost of capital of the retailer firms is 18 - 19 percent, which is the interest charged on short-term bank credit against receivables as collateral.

In sum the interest rates are non-uniform and high. This makes the instalment credit to the consumer expensive. With the foundation of consumer finance companies, the consumer could be granted credit with a lower interest rate.

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2. Long-term credit: For the present there is no long-term credit available for the retailers. The retailers cannot afford long-term bank credit. Most of the retailers are not eligible for long-term bank credit since some time in their past they are protested by banks for defaulting payments.

The retailers are obtaining intermediate-term credit from the general distributors. They are obtaining goods from the distributors on a basis of half of the sum paid in cash and half payable in 14 months.¹

3. Short-term credit: Short-term bank credit is always available for retailers in form of discounting of notes or short-term credits against notes receivable as collateral. The yearly interest charged for the former is calculated to be between 14 and 15 percent and for the latter between 18 and 19 percent. The former although more inexpensive is harder to get since the banks require the notes to be payable within a maximum of three months. (This term can be extended to four months with special permission.) However, as already mentioned, the terms for promissory notes in the portfolios of the retailers vary between 6 and 24 months.

Likewise in order to obtain short-term credit against collateral, the notes are required to be payable within a maximum of six months. Six month notes are not available and an interest rate of 18 - 19 percent charged for this type of loans is expensive for the retailers.²

¹An unpublished paper by the SPO, "Proposal for creation of Sales Finance Companies."

²Concluded from an interview with the manager of Mutlu Ticaret.

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4. Equity financing: The calculation for determining the average stock levels in Chapter IV had given these results: Average stock level for notes receivable is T.L. 676.6 and for notes payable is T.L. 233.7 for yearly sales of T.L. 1000. This necessitates an equity financing of T.L. 442.9 for every T.L. 1000 of sale. The calculation is as follows:

$$\text{T.L. } 676.6 - \text{T.L. } 233.7 = \text{T.L. } 442.9$$

This means that more than 40 percent of the sales have to be financed by retailer's capital. This puts the retailer under a heavy financial burden, and also proves that the credit system in the credit sales market is not working properly. Leaving 40 percent of the financing to the retailer is expecting too much from him. For a yearly sales of T.L. 10,000,000 (gross) a retailer must use T.L. 4,000,000 of capital. This figure may not be very precise, but it is enough to show the financial burden on the retailer.

5. Inflationary tendencies: The abundance of notes receivable in the portfolios of retailers may not have inflationary effects at present, but in future they might. The credit outstanding in Turkey at the retail level was roughly estimated by the State Planning Organization as to be 600 million T.L. The yearly growth figure is T.L. 150,000,000. This means a yearly growth of T.L. 150,000,000 in notes receivable.

Lack of long-term credit and the expensiveness of short-term credit as said before requires about 40 percent equity financing by the retailers. This requirement, in the long-run, may drive many retail firms

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out of business and this, of course, will add the required financial burden on to the distributors and manufacturers when the retailers are obliged to be driven out of business.

6. Conclusion: To save the credit sale market from its present situation and to release the retailer firms from their financial burdens consumer credit companies should be founded.

In this case the individual consumers are to be financed by the consumer finance companies and so the consumers will be able to purchase the household durables from the retailer firms on cash. This will improve the liquidity of retailer firms to a great extent. Instead of an excessive amount of notes receivable the retailer firms will have more cash.

The consumer finance corporation should specialize in financing instalment credit. They would not be allowed to accept deposits and not be considered as banks but would have to attract funds by issuing bonds within the limitations of the Turkish Commercial Code by borrowing from investors against medium term notes secured by collateral. The proposed finance company would be able to issue bonds, which is limited by law to the amount of the capital, but there are no limitations on borrowing from investors in other forms. However, the major part of the funds should be attracted by bonds and the rest, if necessary, should be obtained by notes payable. The going interest rate for industrial bonds is 12 percent, and this amount of interest or, to make the bonds more attractive, a little in excess of this amount, for example, 15 percent will be less than the

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interest rate required to make borrowings from individuals.

The aim of the company will be to encourage the consumers to borrow from its funds. In order to encourage the consumers the credit-terms have to be competitive with those of the retailer firms. Otherwise the consumers, instead of borrowing from the finance company, will continue resorting to retailer's credit. Since the arithmetic mean was calculated to be 39.0 percent from a sample of 276 and interest rates charged to Arçelik and AEG products are more than 40 percent in the instalment plans for these products, the interest rates charged by the consumer finance company must be less than these amounts. We can assume it to be 25 percent.

In order to be able to attract funds from investors, the finance company will issue bonds carrying 15 percent interest. The marginal cost of capital for the company will be 15 percent, but considering the tax savings which will be realized by the interest expenses this amount will in reality be less than 15 percent. Assuming 30 percent income tax, the marginal cost of capital will be 70 percent of 15 percent, i.e., 10 1/2 percent.

The retailer firms charge 39 percent interest, on the average, on the loans extended to the consumer. Their marginal cost of capital is 18-19 percent, which is the interest charged on short-term bank credit against collateral. This gives a difference of 21 percent.

The finance company will charge 25 percent on the loans extended to the consumer and the marginal cost of capital will be 10 1/2 percent.

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The difference is $14\frac{1}{2}$ percent which leaves a smaller profit margin to the company in comparison with the retailer firms.

In determining the stock levels of receivables and payables for the finance company for yearly sales of every T.L. 1000, the bonds are assumed to be issued for 5 years. At the end of every fifth year a new issue of bonds is made. So the stock level for bonds payable becomes T.L. 1000. This is only if bonds are limited to the amount of the capital, supposing equity capital is T.L. 1000. If the consumer finance company is founded as an investment corporation, the bonds are not limited to any amount.

The loans extended to the consumers are assumed to be repayable in 12 months with no down payment. The amount that the consumer will receive in cash for a loan of T.L. 1000 repayable in 12 months is T.L. 886.3 after 25 percent yearly interest is deducted. The stock level for receivables for a yearly loan of T.L. 1000 is calculated to be T.L. 551. The calculations are shown in detail in Appendix IX and X.

A projected balance sheet for the consumer finance can be prepared as follows, assuming fixed assets are 10 percent of the total of equity and debt, assuming also that the company occupies a building on lease and does not have any depreciation. The bonds and capital are assumed to be T.L. 5,000,000 each.

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Balance Sheet, 31/12/1970

Cash and other liquid assets	T.L. 250,000	Bonds payable	5,000,000
Fixed assets	1,000,000	Capital	5,000,000
Notes receivable	8,750,000		

Since 25 percent interest is charged on notes receivable, the yearly interest revenue, which constitutes the income for the period, is T.L. 2,187,500. The interest expenses will be 15 percent of T.L. 5,000,000, bonds payable. Therefore, the net income for the period, before taxes will be

$$\begin{array}{r} 2,187,500 \\ \underline{750,000} \\ 1,437,500 \text{ T.L.} \end{array}$$

We can find the return on investment as follows:

$$\frac{1,437,500}{5,000,000} \times 100 = 28.75 \text{ percent}$$

The case will be as mentioned above only if issue of bonds is limited to amount of the capital. If this restriction is not valid as it will in the case of an investment corporation, the income will increase and so will the return on investment.

In accordance with the provisions of Turkish Commercial Code the finance company will be financed by equity and bonds payable in equal shares, since amount of bonds issued is limited to amount of the capital. However, in order to expand, the company can always resort to individual

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investors' lending on notes payable to any unlimited amount.

Retailer firms cannot afford offering the terms to the consumer that can be offered by the finance companies because this will cause an increase in the receivables portfolio, and since this increase in the receivables cannot be compensated with an increase in notes payable, by getting more advantageous terms from the distributors, will result in greater need for equity financing.

By offering high interest rates the finance companies would attract funds which presently remain outside the organized credit market. The competition of the finance company with the banks would be only marginal because for reasons of security, liquidity and convenience the average private investor will consider bank deposits as a category of financial asset quite different from the notes offered by finance companies.

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APPENDIX I

Arçelik Refrigerator Type B-2900 10.2 cu.ft.

INSTALMENT PLAN

CASH PRICE = T.L. 3050

Down Payment	320 T.L.		500 T.L.		750 T.L.	
n in Months	Price	Monthly Payment	Price	Monthly Payment	Price	Monthly Payment
17	3890	210	3835	196	3760	177
15	3800	232	3750	216	3680	195
12	3660	278	3620	260	3560	234
9	3520	355	3490	332	3440	298
6	3380	510	3355	475	3325	429
3	3240	973	3225	908	3210	820

Down Payment	1000 T.L.		1500 T.L.		2000 T.L.	
n in Months	Price	Monthly Payment	Price	Monthly Payment	Price	Monthly Payment
17	3680	157	3530	119	3375	80
15	3610	174	3475	131	3340	89
12	3505	208	3395	157	3285	107
9	3400	266	3315	201	3230	136
6	3295	382	3235	289	3175	195
3	3190	730	3160	553	3120	373

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APPENDIX II

AEG Refrigerator (Model 275 E - 10 cu.ft.)

INSTALMENT PLAN

CASH PRICE = T.L. 3100

Down Payment	217 T.L.		500 T.L.		750 T.L.	
n in Months	Price	Monthly Payment	Price	Monthly Payment	Price	Monthly Payment
17	3906	217	3832	196	3759	177
15	3817	240	3740	216	3690	196
12	3685	289	3620	260	3570	235
9	3547	370	3506	334	3468	302
6	3415	533	3380	480	3354	434
3	--	--	3263	921	3246	832

Down Payment	1000 T.L.		1500 T.L.		2000 T.L.	
n in Months	Price	Monthly Payment	Price	Monthly Payment	Price	Monthly Payment
17	3686	158	3540	120	--	--
15	3625	175	3495	133	3380	92
12	3520	210	3420	160	3320	110
9	3430	270	3345	205	3269	141
6	3328	388	3276	296	3218	203
3	3232	744	3201	567	3170	390

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APPENDIX III

ARÇELIK Washing Machine

INSTALMENT PLAN

CASH PRICE = T.L. 2650

Down Payment	215 T.L.		500 T.L.		750 T.L.	
n in Months	Price	Monthly Payment	Price	Monthly Payment	Price	Monthly Payment
17	3275	180	3190	158	3135	140
15	3200	199	3130	175	3080	155
12	3095	240	3040	212	3000	188
9	2995	309	2950	272	2920	241
6	2890	446	2860	393	2840	348
3	2785	857	2770	757	2760	670

Down Payment	1000 T.L.		1500 T.L.		2000 T.L.	
n in Months	Price	Monthly Payment	Price	Monthly Payment	Price	Monthly Payment
17	3070	122	2940	85	2815	48
15	3025	135	2910	94	2800	53
12	2955	163	2860	113	2770	64
9	2885	209	2810	146	2745	83
6	2815	303	2765	211	2715	119
3	2745	582	2715	405	2685	228

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APPENDIX IV

AEG Washing Machine (Lavalux)

INSTALMENT PLAN

CASH PRICE = T.L. 2850

Down Payment	200 T.L.		500 T.L.		750 T.L.	
n in Months	Price	Monthly Payment	Price	Monthly Payment	Price	Monthly Payment
17	3600	200	3509	177	3436	158
15	3530	222	3440	196	3375	175
12	3392	266	3332	236	3282	211
9	3269	341	3218	302	3180	270
6	3140	490	3110	435	3078	388
3	--	--	2999	833	2982	744

Down Payment	1000 T.L.		1500 T.L.		2000 T.L.	
n in Months	Price	Monthly Payment	Price	Monthly Payment	Price	Monthly Payment
17	3380	140	3234	102	3088	64
15	3310	154	3195	113	3065	71
12	3232	186	3120	135	3020	85
9	3142	238	3066	174	2990	110
6	3052	342	3000	250	2948	158
3	2965	655	2940	480	2900	300

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APPENDIX V

Ambra Refrigerator (9 cu.ft.)

INSTALMENT PLAN

CASH PRICE = T.L. 2915

Down Payment	195 T.L.		500 T.L.	
n in Months	Price	Monthly Payment	Price	Monthly Payment
19	3900	195	3824	191
15	3750	237	3680	212
10	3545	335	3500	300
5	3400	641	335	570

Down Payment	1000 T.L.		1500 T.L.	
n in Months	Price	Monthly Payment	Price	Monthly Payment
19	3679	141	3533	107
15	3550	170	3435	129
10	3430	243	3340	184
5	3300	460	3250	350

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APPENDIX VI

Determining the decrease in rate of return for an item whose instalment price is reduced due to quick payment.

The product is a Siemens vacuum cleaner, sold at Mutlu Ticaret.

Price = T.L. 1800

Down payment = T.L. 150

Credit price = T.L. 1950

n = 9 months

Monthly instalment = T.L. 200

Loan = 1800 - 150 = T.L.1650

Annuity factor = $\frac{1650}{200} = 8.25$

Rate of return = 23.4 percent

If the balance is paid in 6 months instead of 9 months: The instalment price is reduced to T.L.1900.

Price = T.L. 1800

Down payment = T.L. 150

Credit price = T.L. 1900

n = 6 months

Monthly instalment = T.L.291

Loan = 1800 - 150 = T.L.1650

Annuity factor = $\frac{1650}{291} = 5.67$

Monthly rate of return¹ = 1 - 6 percent

Yearly rate of return = $(1 + 0.16)^{12} - 1 = 20.7$ percent

¹ Table B, p. 387. The Capital Budgeting Decision, H. Bierman, Jr. and S. Smidt (The Macmillan Co.: New York).

APPENDIX VII

Calculating the interest rates on short-term bank credit.

a) Interest rate for notes discounted, with maturity dates of maximum 4 months.

Assume notes worth T.L. 10,000 are discounted.

$$10.5\% \times \frac{4}{12} = 3.5\% \quad (\text{to convert the yearly legal interest rate on bank loans to a 4-month figure})$$

$$10000 \times 3.5\% = 350 \quad (\text{to calculate the amount of legal interest charged on the discounted sum})$$

$$\begin{array}{r} + 20 \\ \hline 370 \end{array} \quad (\text{postage expenses})$$

$$370 \times \frac{120}{100} = 444 \quad (\text{to add the bank transactions tax on the subtracted amount})$$

$$\begin{array}{r} 10000 \\ + 444 \\ \hline 9556 \end{array} \quad (\text{to determine the amount the customer is paid})$$

To determine the yearly rate of return

Period	0	1	2	3	4
a ₁	9556				
a ₂					10000
a ₂ - a ₁	0	= 9556 + 10000 (1 + p) ⁻⁴			
	<u>10,000</u>	= (1 + p) ⁴ = 1.045			
		(1 + p) ¹² = 1.141			

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Rate of interest = 14.1%

b) Interest rate for notes discounted, with maturity dates of maximum 3 months.

Assume notes worth T.L.10,000 are discounted.

$$10.5\% \times \frac{3}{12} = 2.625\%$$

$$10,000 \times 2.625\% = 262.5$$

$$\frac{20}{282.5}$$

$$282.5 \times \frac{120}{100} = 339$$

$$\begin{array}{r} 10,000 \\ \underline{339} \\ 9,661 \end{array}$$

Period	0	1	2	3
a_1	9661			
a_2				10,000

$$a_2 - a_1 \quad 0 = -9,661 + 10,000 (1 + p)^{-3}$$

$$\frac{10,000}{9,661} = (1 + p)^3 = 1.035$$

$$(1 + p)^{12} = 1.148$$

Rate of interest = 14.8%

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c) Interest rate for short-term bank credit against collateral.

(Notes having maximum maturity of 6 months.)

T.L. 10,000 worth notes are assumed.

Note: T.L. 7,500 is paid to the debtor after the required reductions are made and T.L. 2,500 are kept as reserve for bad debts.

$$2\% \times \frac{6}{12} = 1\% \text{ (to convert the yearly commission of } 2\% \text{ to a 6-month figure)}$$

$$10,000 \times 1\% = 100 \text{ T.L. (} 2\% \text{ commission on the sum)}$$
$$\frac{20 \text{ T.L. (postage dues)}}{120 \text{ T.L.}}$$

$$\frac{120 \times 120}{100} = \text{T.L. 144 (to add the bank transaction tax of } 20\%)$$

$$\begin{array}{r} 2500 \\ 144 \\ \hline 2356 \end{array}$$

(to determine the net amount to be paid to the debtor after 6 months, assuming no bad debts)

$$10.5\% \times \frac{6}{12} = 5.25\% \text{ (to convert the yearly legal}$$

interest rate on bank loans to a 6-month figure)

$$7,500 \times 5.25\% = \text{T.L. 394 (to calculate the amount of legal interest charged on the debt)}$$

$$\frac{394 \times 120}{100} = 473 \text{ (to add the bank transaction tax of } 20\%)$$

$$\begin{array}{r} 7,500 \\ 473 \\ \hline 7,027 \end{array}$$

(to determine the net amount to be paid to the debtor immediately)

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To determine yearly rate of return:

Period	0	2	3	4	5	6
a_1	7027					2356
a_2						10000
$a_2 - a_1 =$	-7027					+ 7644

$$0 = -7027 + 7644 (1 + p)^{-6}$$

$$7027 = \frac{7644}{(1 + p)^6}$$

$$\frac{7644}{7027} = (1 + p)^6 = 1.08878$$

$$(1 + p)^{12} = 1.184$$

Rate of interest = 18.4%

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APPENDIX VIII

Determining the stock level of receivables and payables in retailer firms:

a) Stock level of receivables for every T.L. 1000 of sales.

Assumption = 10 percent down payment and 17 monthly instalments

Total down payment on sales of T.L. 1000.

$$1000 \times 10\% = \text{T.L. 100}$$

$$\text{total sales on credit} = \text{T.L. 900}$$

$$\text{monthly sales on credit} = \frac{900}{12} = 75 \text{ T.L.}$$

$$\text{monthly instalments} = \frac{75}{17} = 4.4 \text{ T.L.}$$

months	1	2	3	4	5	6
	75	70.6	66.2	61.8	57.4	53.0
		75	70.6	66.2	61.8	57.4
			75	70.6	66.2	61.8
				75	70.6	66.2
					75	70.6
						75

The total is T.L. 676.6 for the receivables on the eighteenth month and this constitutes the stock level of receivables.

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b) Stock level of payables for every T.L. 1000 of sale assumption = 50 percent down payment and 14 monthly instalments.

Purchase price = T.L. 744 for every sale of T.L.1000.

assumption profit margin of 12 percent

credit markup of 20 percent

$$744 \times \frac{112}{100} = \text{T.L. 833 cash price}$$

$$833 \times \frac{120}{100} = \text{T.L.1000 credit price}$$

Total down payment paid:

$$744 \times 50\% = \text{T.L.372}$$

Total purchase on credit: T.L.372

$$\text{monthly purchase on credit: } \frac{372}{12} : \text{T.L.31}$$

$$\text{monthly instalments: } \frac{31}{12} = \text{T.L.2.2}$$

months	1	2	3	4	5	6
	31	28.8	26.6	24.4	22.2	20.0
		31	28.8	26.6	24.4	22.2
			31	28.8	26.6	24.4
				31	28.8	26.6
					31	28.8
						31

The total is T.L.233.7 for the payables on the fifteenth month and this determines the stock level of payables.

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APPENDIX IX

Determining the amount the consumer will receive for a loan of T.L.1000 extended by the consumer finance company, with an interest rate of 25 percent.

Assumptions: No down payment, rate of return is 25 percent.

cash price = x

Down payment = 0

credit price = T.L.1000

n = 12 months

monthly instalments: T.L.83.3

Actual loan extended to the consumer = x - 0 = x

Annuity factor = $\frac{\text{Actual loan}}{\text{monthly instalment}} = \frac{x}{83.3} = 10.64058$

From Table B, p. 387, for n = 12, r = 1.9 percent

$\left(\frac{25\%}{12} = 1.9\% \text{ monthly interest}\right)$ 8)

$$x = 10.64058 \times 83.3$$

$$x = \text{T.L.886}$$

The consumer gets TL. 886 immediately and pays T.L.1000 in 12 months to the consumer finance company with no down payment.

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APPENDIX X

Determining the stock level of receivables for a consumer finance company for credits of T.L.1000.

Assumption: No down payment and 12 monthly instalments.

$$\text{monthly credit extended} = \frac{1000}{12} = \text{T.L.83.3}$$

$$\text{monthly instalments} = \frac{83.3}{12} = \text{T.L.6.8}$$

months	1	2	3	4	5	6
	83.3	76.5	69.7	62.9	56.1	49.3
		83.3	76.5	69.7	62.9	56.1
			83.3	76.5	69.7	62.9
				83.3	76.5	69.7
					83.3	76.5

The total is T.L.550.8 for the receivables on the thirteenth month and this determines the stock level on receivables.

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