

CHAPTER 5

IMPERICAL RESULTS

5.1 INTRODUCTION

The results of equations 1 to 6 from chapter three are reported and interpreted in this chapter. Various variables were included in the models to determine the impact of interest rate ceilings on the characteristics of market structure, company size and loan services of a specific micro lender. As noted earlier the analyses are adopted from the study by Goudzwaard (1968), though modified to suit the data used in this study. Econometric Views (E-Views) computer software statistical package has been used to analyse the data. The data used is the time series covering period March 1999 to March 2000.

The results from the regressions performed have some important implications for the main conclusion of this study. These are given in the next chapter.

5.2 THE RESULTS

The results were obtained from performing the regressions in linear form. These results are evaluated according to their significance. In equation 1, the relationship between risk level and rate ceilings were tested. In the second equation, number of branches was added to test whether a positive significant correlation between interest rate and risk would still hold even if the effects of that variable were taken into account. The same procedure was also applied in equations 3 to 6. In equation 3, the relationship between size of the company and rate ceilings was tested. The relationship between number of loans extended and a rate ceiling was tested in equation 5 and in equation 6.

The results of the regression analysis using equation 1 (table 5.1) show that the interest rate has a significant positive impact on risk. Equation 2 shows that this significant

positive correlation between interest rate and risk holds even after the effects of average loan on risk have been taken into account. A probable explanation of the positive correlation between risk and interest rate is that the accommodation of higher risk borrower requires higher rates since there are greater losses and other costs of lending to, and collecting from, a riskier class of borrowers.

One of the key factors influencing the lack of supply of credit to low-income individuals and owners of small businesses is the no-recoverability of costs by micro lenders. Charging a rate of interest on credit is the main source of income for many micro lenders. It is the only way they can recover their costs in terms of financial, operating and risk. Since lenders have no control as a result of interest rate ceilings, the low ceilings will force them to reduce costs and restrict lending to better risk classes, thereby discriminating against the less creditworthy borrowers.

Table 5.1: Regulation and borrower risk

Equation	Dependent variable	Constant term	Independent variable	R-square	f-stats
1	Y_1	-1097392	$0.2X_1$ (3.08)*	0.54	9.5
2	Y_1	1746009	$0.3X_1 - 6645.5X_2$ (3.33)* (-1.14)*	0.61	5.6

t-stats in parenthesis

* Significant at 5% level

Equation 1 further shows that 54 percent of the variance in the dependent variable (arrears in debtors) is explained by the interest received (table 5.1). When number of branches is added, (equation 2) the R-square rises to 61 percent.

The effects of rate ceilings and the market structure were tested using the equations 3, 4, 5 and 6. In equations 3 and 4 in table 5.2, the market structure characteristic, which was

analysed, is the number of branches of the company. Equation 3 shows that there is a significant positive correlation between interest rate charged and the number of branches. Equation 4 demonstrates that this positive correlation between interest rate and number of branches holds even after average number of loans per branch has been taken into account. The positive correlation between interest rate charged and the number of branches implies that as lenders are allowed to charge interest rates high enough to cover their costs, the number of branches increases thereby allowing borrowers to have more options to a variety of lenders.

Equation 3 shows that the level of rate charged would affect the number of branches, hence the size of the industry. Rate ceilings tend to prevent new entries into the market, therefore preventing competition. According to economic theory, a competitive market is sufficient to prevent lenders from exercising power over pricing or earning more than a normal return. Therefore, instead of regulating interest rates, a more effective approach to ensure that the rates charged by micro lenders are appropriate is to encourage competition. This will spur innovation aimed at reducing the risks and costs associated with micro lending.

Given the dramatic increase in competition across the spectrum of consumer lending in South Africa, there is no more justification for controlling the price of credit than there is for controlling the price of the goods and services that consumers buy that credit (Jonck, 1997). This is true considering that many studies have demonstrated that competition controls price more effectively than rate ceilings. The long-term effects of binding rate ceilings are worse than the short-term effects because market entry and innovation are discouraged. A market without rate ceilings pays long-term dividends by attracting new entries that become willing to invest in serving a higher risk segment of the market.

Table 5.2: Regulation and Market Structure

Equation	Dependent variable	Constant tern	Independent variable	R-square	F-stats
3	Y_2	-1.1	$1.6X_1$ (14.57)*	0.96	212.4
4	Y_2	25	$1.8X_1$ $-0.08X_3$ (14.34)* (-2.19)*	0.97	158.8
5	Y_3	335.33	$2.45X_1$ (2.68)*	0.47	7.2
6	Y_3	329.6	$0.0001X_1$ $-5.2X_4$ (2.77)* (-2.18)*	0.68	7.7

t-stats in parenthesis

* Significant at 5% level

In equations 5 and 6 in table 4.2, the market structure that was analysed is the average number of loans per branch. This variable signifies the number of loans disbursed to consumers per branch. This can be taken as a good measure on the supply side. Equation 5 shows that there is a significant positive correlation between interest rate and the number of loans per branch. This significant positive correlation holds even after the effects of other variables taken into account in equation 6. In equation 3, 4, 5 and 6 the t-values associated with all the coefficients are significant at 5 percent level of significant.

It is probable that the level of rate charged would affect the number of loans made. Where the rate is low, lenders would reduce the number of loans, hence the supply is rationed. Therefore the consumers whom the government tries to protect will be left without any alternative to finance and will resort to “loan sharks” who are not monitored and normally charge unscrupulous interest rates.

5.3 SUMMARY

The study analysed the impact of interest rate regulation by applying simple and multiple regression techniques to the data obtained from a micro lender. In equations 1 and 2, the relationship between risk level and rate ceilings was tested. The main finding was that the interest rate has a significant positive impact on risk. If government is to aid the poor, it must either give them enough borrowing power to obtain credit within a rate ceiling structure or permit lenders to charge rates sufficient to cover the risk loss.

In equations 3 and 4, the relationship between interest rate and number of branches, which measures the size of the industry, was tested. The findings showed that there is significant positive correlation between rate charged and number of branches. In the last two equations, 5 and 6 the relationship between interest rate and the number of loans made per branch was tested. As expected the results showed positive correlation, and all the t-values associated with the coefficients are significant at a 5 percent level.