CHAPTER 4

ANALYSIS AND FINDINGS

4.1 INTRODUCTION

Regression and correlation analyses are the techniques used in this research. Regression is a technique used for measuring the linear association between a dependent and independent variable. Although regression and correlation are mathematically related, regression assumes the dependent (or criterion) variable, Y, is predictively linked to the independent (or predictor) variable, X (William G. Zikmund, 1984). Regression analysis attempts to predict the values of a continuous, interval-scaled dependent variables from the specific values of the independent variables. For example, the amount of external funds required (the dependent variable) might be predicted on the basis of sales growth rates (independent variable).

This study attempts to find out how the economic variables being examined could predict the net growth rate of small firms. It could very well turn out that all the variables have some predictive values on the net growth of small firms or vice versa. The hypothesis being tested is:

H_0 : There is no relationship between the net growth rate of small firms and any of the economic factors.

H_1 : There is a relationship between the net growth rate small firms and at least one of the economic factors; that is unemployment rate, interest rate, GDP growth rate, inflation rate and tax rate.

The regression analysis is performed on a stepwise basis. The criterion variable: the net growth rate is regressed against several predictor variables: the inflation rate, the GDP growth rate, the unemployment rate, the interest rate and the company tax rate. The stepwise regression is performed so that predictor variables could enter the regression equation one at a time. It would help to

screen through all the predictors so that only those that account for most of the variation in the criterion variable could be retained (Green, Tull and Albaum, 1988).

4.2 REGRESSION ANALYSIS

The summary results of the regression are contained in Table 3. As can be interpreted from Table 3, 63.2% (adjusted R square) of the net growth in small firms could be explained by variations in the GDP Growth rate and the company tax rate. The other variables: interest rate and the inflation rate are found to be not significant at the 0.05 significance level. They do not have significant predictive value on the net growth of small firms.

From the analyses, the relationship could be written as:

Net growth = 19.5 + 0.5 GDP growth – 0.4 company tax rate   **OR**

$$Y \quad = 19.5 + 0.5\,X_1 \; - 0.4\,X_2$$

Table 3: Results of Correlation Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.688	.474	.426	2.6577
2	.833	.694	.632	2.1267

a Predictors: (Constant), GDP
b Predictors: (Constant), GDP, TAX

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.887	1	69.887	9.895	.009
	Residual	77.696	11	7.063		
	Total	147.583	12			
2	Regression	102.352	2	51.176	11.315	.003
	Residual	45.231	10	4.523		
	Total	147.583	12			

a Predictors: (Constant), GDP
b Predictors: (Constant), GDP, TAX
c Dependent Variable: NETGROWT

Coefficients

Model		Unstandardize Coefficient	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	5.89	1.303		4.523	.001
	GDP	.47	.152	.688	3.146	.009
2	(Constant)	19.47	5.174		3.763	.004
	GDP	.53	.123	.761	4.294	.002
	TAX	-.40	.152	-.475	-2.679	.023

a Dependent Variable: NETGROWT

From Table 4, the *Pearson correlation analyses* shows that the net growth of small firms is positively correlated to the GDP growth rate (a positive correlation of 0.69). This may be because during a period of economic boom, income level rise, increased income enables households to consume more, so demand eventually goes up, increase demand creates business opportunities to create supply to meet the ever rising demand. During this time, more would enter the market to seize opportunity of the buoyant market than to exit, so the net result is a net growth in small firms.

High interest rate regime was implemented in the years 1986, 1991 and 1998 when there was inflation. High interest rates increase cost of capital. So, it may explain the negative correlation between interest rates and net growth of small firms. However, this negative correlation is not strong, $r = -0.46$ (correlation is < 0.5).

From analyses, inflation does not bear any correlation with net growth of small firms (correlation = 0.006, close to zero). It may be due to the relatively stable rate of inflation during the period under study and higher than inflation GDP growth rate, creating a positive real GDP growth.

Company tax has a weak negative correlation with net growth of firms. The reduction of company tax has been a very gradual exercise. Should the tax reduction be more steep and drastic, a stronger correlation may be observed, based on the belief that company tax reduces realizable income.

Correlations

		NETGROWT	INTEREST	GDP	INFLATIO	TAX
NETGROWT	Pearson Correlation	1.000	-.459	.688	.006	-.359
	Sig. (2-tailed)	.	.115	.009	.984	.229
	N	13	13	13	13	13
INTERES	Pearson Correlation	-.459	1.000	-.809	.550	-.259
	Sig. (2-tailed)	.115	.	.001	.052	.393
	N	13	13	13	13	13
GDP	Pearson Correlation	.688	-.809	1.000	-.396	.153
	Sig. (2-tailed)	.009	.001	.	.180	.619
	N	13	13	13	13	13
INFLATIO	Pearson Correlation	.006	.550	-.396	1.000	-.552
	Sig. (2-tailed)	.984	.052	.180	.	.051
	N	13	13	13	13	13
TAX	Pearson Correlation	-.359	-.259	.153	-.552	1.000
	Sig. (2-tailed)	.229	.393	.619	.051	.
	N	13	13	13	13	13
	N	13	13	13	13	13

** Correlation is significant at the 0.01 level (2-tailed).