

Full Length Research Paper

Recovery period, inventories, sales growth cycles and companies' profitability: Empirical evidence of Iran

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The current study reviews the effects of recovery period demands and inventories going through periods of circulation of profitability of companies listed in Tehran Stock Exchange from 2005 to 2010. In this research, an efficiency asset synonymous with profitability is considered. The findings of the study show that between these two variables related to corporate profitability there is reversed relation. The study also focuses on impact of sales growth on corporate profits, because increasing sale affects receivable accounts and inventory.

Key words: Recovery period demands (AR), inventories turnover (INV), sales growth (SGROW), return of assets (ROA).

INTRODUCTION

Success in of any society is a prerequisite for economic success and prosperity in the management of large community pool. At least it is expected that the manufacturing community should be active and effective in the economic. Lack of profitability is a patent sign of the so-called economic broadcasting (Solano and Teruel, 2004). Modern financial management theory is based on the assumption that the primary purpose of company is to maximize the common stock price or shareholders' wealth. To maximize profits or an annual goal at the end, a short-term goal is to maximize profit and introduce a specific period. But to maximize shareholders' wealth is primarily a long-term goal (Salehi, 2008). Most long-term financial issues and decisions of companies such as investment, capital structure, profit sharing or assessment companies are focus and short-term investments in companies current assets or sources of their financing with less than a year maturity that the main of the balancesheet items to devote less attention have been (Solano and Teruel, 2004). The most involved in

organization are current assets and liabilities whose capital management is part of the capital budgeting considered and is in the short-term financial planning of companies.

In fact, capital management includes determining of size, composition of resources and capital expenditure, for the shareholders' wealth to increase (Salehi, 2009). Payments are capital assets that are invested; if the current debts of the company assets are deducted, net capital is obtained and the liquidity criterion means short-term cash requirements for the estimated liabilities of the company. Capital management in the form of effective short-term planning is needed to respond to changes in conditions and forecasts (Smith, 1980). Current assets major items include cash, funds, inventory, and accounts receivables, which are the efficient response to the ongoing operational environmental changes in the company. Capital management, operational range - financial assets and the adequacy of current risk and liability involve appropriate policies for managing assets and

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liabilities in order to increase the benefits of current capital management.

Accounts balance, which is about operating capital, is very sensitive; all accounts are influenced by any change in environment factors of organizations. Capital management operation should predict the possible balance in changes in environment factors by interim planning. Other things which can influence profitability of companies are: making decision about the amount of required inventory, granting credit to buyers, or receiving credit from raw material suppliers (Deloof, 2003).

Research problem

Presently, one of the basic problems of financial management is managing types of assets and current liabilities. Most people who are involved in industries know it, but they often want external organization solution to solve it. In other words, they believe that the solution is granting loan as well cheap and enough facilities to companies (Namazi and Salehi, 2010).

In fact, important reason for cash shortage is the distance and gap between input and output flow in companies. Companies do not usually have this shortage in a whole year, but they only experience it in given period of time; and these periods are not the same in different companies. So bank facility is not a unique recourse of liquidation shortage and there are other solutions too (Salehi and Bashirimanesh, 2011). Resolving this problem is required to optimize operating capital of companies. It is required to eliminate money market defects (Deloof, 2003).

Research objective

An overview of financial statement of small and medium companies showed that they have less steady assets than large companies. This is because they lack enough financial power for investing and prefer that most of their assets are current.

As current assets send debt from important part of normal and small companies' balance sheets (Salehi and Ghorbani, 2011), this research checks the effects of capital management operation on profitability of companies listed on Tehran Stock Exchange (TSE). The major purpose is to present solution to the managers of companies, which involves increasing companies' value by investing in their receivable accounts and inventory or increasing companies' profitability by controlling change in cash period. This research surveys the effect of sales improvement on companies' profitability, because increasing sale affects debtors' accounts and inventory. If the operating capital management performance of these companies is false, these companies would be unable to pay their debts and obligations on time.

THEORETICAL ISSUES

The theoretical issues of the study are as follows.

Accounts receivable nature

Accounts receivable are open accounts which companies can present to other companies or people. So, account receivable is one of the current asset accounts which show the company's demands, and is obtained from selling goods or presenting services in normal flow of business activities. Account receivable plays important role in business activities of most companies.

Most large companies present a particular credit period to suitable and old customers. Most credit sales are maintained by using account receivable. This means that any credit evidence is not exchanged for distinguishing debt with customer (Brennan et al., 1988). The only evidences shown in the sales include buying order paper, goods transportation factor and probably customer statement. Open accounts utilization causes a rapid transaction in credit sales.

Account receivable utilization goals

Any utilization of financial resource of companies should be used to maximize the present value. Utilization of cash in accounts receivable parts is not exceptional to this rule. To prove this theory, the basic goals of receivable accounts utilization can be identified as:

1. Having more sales: Companies which sell their goods on credit usually have large-scale sales than the companies which deal on cash conditions. Most customers do not prepare to pay cash when they purchase; rather they prefer their bills be sent to their accountancy unit, where the financial matters are centralized and investigated, until action is taken to write raw check. This is done for them to have check batch.
2. Increase benefits: The main goals of increasing benefits are to earn more sales in order to gain more benefits; this will become true when contribution margin or gross profits gained by credit sales politics are not more than costs. If a company could not earn more money by selling on credit, it will be better that it sells on cash.
3. Combating rival companies: To avoid combating issue, most companies plan their credit sales by the action of their rival companies. This is a normal way in marketing. It is to be mentioned that credit policy in different industries is completely different.

Management of receivables accounts

The best way to have a good managing receivables

account is to investigate credit policy, getting the companies' demand. In this field, facts have tight relations. Credit policy, on one hand, involves with choosing benefits gained by more sales due to credit sales and on the other hand, is involved with the cost of keeping account of receivables accounts and the lost gained by burned demands.

The beginning of receivables account management is an end to inventory management. When the receivables management mission is finished, cash management will begin. By transferring goods to the costumers, receivables account starts, and by getting money from costumers, receivables account management finishes.

Account receivables management is planning, guiding and supervising all facts that affect level, amount and quality of receivables accounts (DeLoof, 2003). When a company sells goods, it can get its payment by cash or account. The start of receivables accounts is when company gives on credits to its costumers, so they can pay money after some times. Companies affect quality and quantity of receivables accounts into two ways:

- A. Decisions the companies make about credit sales conditions.
- B. Decisions companies make about credit sales to actual and juristically persons.

When companies make decision, they plan the level of receivables accounts, which is the first decision (A); but what happens and the quality of receivables accounts are related to the second decision (B).

Factors affecting receivables accounts

Three main factors determine the level of receivables accounts:

1. Credit sales level: The first main factor affecting the amount of receivables accounts is the level of credit sales of the company. Since trading conditions in most industries are similar, normally a company with a higher level of sales has more amounts of receivables accounts.
2. Credit policy: Credit policy of a company will determine the amount of risks that the company will take. A company with a flexible credit policy will have a higher recycling compared to a company with restricted policy.
3. Credit duration: Level of receivables accounts in a company has relation with credit period. If a company doubles its credit period it can have a 100% increase in its receivables accounts (Brennan et al., 1988).

Inventories

Goods inventories can be defined as the amount of goods kept for sales. Thus inventory is an important factor for earning a particular level of sales. The goods

may be durable, not cheap or expensive.

The work inventory flow during the construction increases by reducing production time. A way to improve this period is improving engineering techniques in order to accelerate production flow. The other way is initial buying instead of producing when the work inventory is reduced during the construction.

Amount of inventory made is related to coordination of production and sales. The financial manager can support sales with more risk by changing the sales conditions or selling on credit to customers. Therefore, products will be recorded in offices as inventory or receivable accounts. In some cases, many institutions prefer to sale their goods and make them nearer to cash (Blinder and Mancini, 1991).

Advantages of inventory maintenance

A company will be able to separate the steps of buying, producing and selling by inventory maintenance. If the company does not want to maintain raw material or produce enough goods, purchase is made only when production is predicted based on immediate sales. In case of being out of stock, when the contract is signed by the customer, the company cannot deliver the goods immediately. Inventory can be used to create suitable conditions for production and to do sales activities well.

Number of inventory determining factors

The basic inventories level factors determiners are amount of sale, period of time, technical nature of production flow and durability of goods compared to its spoilage.

Computer application and operation research methods can improve the inventory controlling within the framework of economic nature of companies activities. Although the diversity and complexity of these techniques made the full discussion of this study impossible, the financial manager should be prepared to use professionals who create effective methods for minimizing investment in inventories.

Checking the effects of receivable accounts management and inventory methods on firm value

The attitude implies that decision related to capital inflows in the form of general assessment is to assess receivable accounts and stock similar to the fixed assets by capital budgeting techniques. Of course, the difference between receivable accounts and inventory with other steady assets is that in steady assets evaluation of each asset can be considered separately, but in receivable accounts and inventory, their total level is considered.

Smith and Sell (1980) believe in the granting of credit to

buyers to facilitate sales of the company by different method. When demand is low, commercial credit can act as effective prices and help customers to obtain goods or control downloads of product; it also help companies to regenerate their long-term relationship with customers. However, companies that do major in investment in inventory and commercial credit can tolerate reduced profitability; so the more investment in current, the less risk and less profitability trade will experience.

Blinder and Manccini (1991) believed that inventory and account receivable are major items of current assets. According to their research, privacy and maintenance of high levels of inventory may affect production process, can reduce cost of materials provision or can make company volatile to materials price.

Petersen and Rajan (1994) studied account receivable and the high cost of business credit; they realized when companies do not have surplus of economic resources for supplying finance, financing is done by credit of materials vendors.

Shin and Soenen (1998) believe that the decision in investing on customers' account and inventory and credit receipt from material reseller has an influence on cash conversion period. They used this canon for analysis in their studies and they put good or bad effects truncation of cash conversion period on company's profitability. They analyzed the relationship between cash conversion period and profitability in the sample of companies accepted in America stock market during the period of 1974 to 1997. Their results showed that reduction of cash conversion period in a logical domain increases companies' profitability.

Deloof (2003) analyzed the sample of Belgian companies from 1992 to 1996. His result confirmed that Belgian companies can improve their profitability through reduction of account receivable recovery period and reduction of inventory period. He also found out that lower levels of benefits made by companies usually wait longer for the payment of their bills.

Garcia and Martinez (2006) analyzed the effect of operating capital on profitability ability of Spanish companies during 1996 to 2002. Their research aimed to review the relationship between management of operating capital and profit. Their result showed that there is significant relationship between operating capital and profit. So, they realized that there will be increase in benefit of companies if average collection period is reduced.

$$ROA_{i,t} = \alpha + \beta_0 AR_{i,t} + \varepsilon_{i,t}$$

$$ROA_{i,t} = \alpha + \beta_0 AR_{i,t} + \beta_1 SIZE_{i,t} + \beta_2 SGROW_{i,t} + \beta_3 DEBT_{i,t} + \varepsilon_{i,t}$$

$$ROA_{i,t} = \alpha + \beta_0 + INV_{i,t} + \beta_1 SIZE_{i,t} + \beta_2 SGROW_{i,t} + \beta_3 DEBT_{i,t} + \varepsilon_{i,t}$$

Research hypotheses

According to the objectives of the study, the following hypotheses were postulated.

H1: There is a meaningful relation between average of revenue and profitability of companies.

H2: There is a meaningful relationship between inventory turnover and profitability.

RESEARCH DATA AND VARIABLES

Quoted companies in TSE were divided into three categories according to their total assets with the following conditions:

First division: large companies whose assets are more than 1000 billion Rials (Iranian currency);

Second division: medium companies whose assets are from 500 to 1000 billion Rials.

Third division: large companies whose assets are less than 500 billion Rials.

Then following features were considered for selecting sample of companies quoted in TSE:

1. Financial period in which the companies are leading at the end of Iranian fiscal year.
2. Not involved in any investment companies, finance, mediation, holdings, leasing and banks.
3. Availability of financial statement of the companies.

Considering the defined features for sampling, 81 companies were listed in 2005.

Of these, large companies (whose assets are more than 1000 billion) were excluded; the remaining was selected; 69 companies. Required information was selected for this research including assets at the beginning and end of period, purchase, sales, inventory, account receivable, earning before interest and task, current liabilities and total debt during a five-year period (2005-2010) for both categories of companies.

Research required data were collected from library resources, financial statement of audited sample companies, published information by TSE, companies' comprehensive data bank in official website of stock organization and tact processor and desert information software.

Descriptive statistic table states descriptive factor amount for each variable separately and it is for a total of 5 years. Table 1 contained data about central index of companies like the number of observations. Table 2 shows data about dispersion index of companies like standard deviation, skewness and kurtosis. Minimizing and maximizing states data dispersion suburb average axis used to measure unit of AP, INN, AR and ACC are data; and measure of companies' size is on the basis of their assets logarithm.

In the present study, the relationship between demand recovery period and inventory turnover with profitability will be tested. In order to achieve this goal, the following model will be used.

Table 1. Central index descriptive statistic.

Variable	Number of observations	Average	Median	Percentiles				
				1	25	50	75	99
ROA	165	0.21	0.18	-0.025	0.105	0.182	0.276	0.745
AR	165	113.42	93.64	0.023	60.31	93.65	154.2	295.3
INV	165	170.03	161.03	34.43	119.06	161.3	201.7	422.1
SGROW	165	0.03	0.22	-0.78	0.09	0.22	0.38	3.35
SIZE	165	4.97	5.01	4.03	4.77	5.01	5.2	5.6
DEBT	165	0.88	0.91	0.45	0.85	0.91	0.94	0.97

Table 2. Dispersion index.

Variable	S.D	Skewness	Kurtosis	Minimize	Maximize
ROA	0.148	0.4	0.45	-0.03	0.75
AR	72.17	0.07	-0.012	0	295.32
INV	75.43	0.034	0.11	35.16	425.63
SGROW	0.47	0.5	0.47	-0.81	3.48
SIZE	0.3	-0.477	0.5	4.03	5.59
DEBT	0.085	-0.32	0.275	0.44	0.97

ROA is considered as dependent variable (Solano and Teruel, 2004) and is measured by the following ratio:

$$ROA = \frac{EBIT}{\text{Assets' averages}}$$

$$\text{Average assets} = \frac{\text{Year end assets} + \text{First year assets}}{2}$$

Average revenue and inventory number volume are considered as independent variable (Solano and Teruel, 2004):

$$\text{Average revenue (AR)} = \frac{\text{receivable accounts}}{\text{Average daily sale}}$$

$$\text{Average daily sale} = \frac{\text{sale}}{365}$$

$$\text{Average revenue (AR)} = \frac{\text{receivable accounts} * 365}{\text{sale}}$$

$$\text{Inventory number volume (INV)} = \frac{\text{inventory}}{\text{Averagedaily purchase}}$$

$$\text{Average daily purchase} = \frac{\text{purchase}}{365}$$

$$\text{Inventory number volume (INV)} = \frac{\text{inventory} * 365}{\text{purchase}}$$

Size of the company sales growth and short depth ratios (DEPT) are (Solano and Teruel, 2004) controllable varieties and are calculated as follows:

$$SGROW = \frac{\text{sale1} - \text{sale0}}{\text{sale0}}$$

$$SIZE = \log \text{property}$$

$$DEPT = \frac{\text{current liability}}{\text{Total dept}}$$

RESULTS

In order to test the hypotheses, we used single-variable regression and multi-variant regression; we used F test to check whether the models are meaningful and T test for testing if the regression coefficient is meaningful.

H1: There is a meaningful relation between average of revenue and profitability of companies.

First condition – investigating the relation between average revenue and profitability in small and medium companies

Model (1)

$$ROA_{i,t} = \alpha + \beta_0 AR_{i,t} + \varepsilon_{i,t}$$

Table 3 shows the determination of coefficient.

Table 3. Model 1.

Durbin–Watson	Standard deviation	Defined coefficient AdjR ²	Definition coefficient R ²	Correlation coefficient R
1.641	0.14175	0.086	0.095	-0.309

Table 4. The results of F test.

Item	Statistic value F	Medium	F. d	Total	Sig
noissergeR	10.941	0.22	1	0.22	0.001
secnalaB	---	0.02	163	2.09	----
latoT	----	----	163	2.309	----

Table 5. Index model in single variable.

Item	T- Test	Standard Index	Un-standard index		Sig.
		Beta	S.D	B	
Fixed amount	10.956	----	0.026	0.282	0.000
AR i, t	-3.308	-0.309	0.000	-0.01	0.001

Table 6. Test of recovery period justification.

Durbin–Watson	Estimated S.D	Adjusted AdjR ²	R ²	R
1.71	0.13935	0.117	0.151	-0.388

Negative correlation coefficients imply there is negative relationship between course demands and profitability of confirmed receipt; on the other hand, the amount of the test also lacks coordination between the serial data. F test and analysis of variance were used to review regression fit:

H0: There is no significant relationship between sales growth and profitability.
 H1: There is significant relationship between sales growth and profitability.

$$ROA_{i,t} = \alpha + \beta_0 AR_{i,t} + \beta_1 SIZE_{i,t} + \beta_2 SGROW_{i,t} + \beta_3 DEBT_{i,t} + \varepsilon_{i,t}$$

Table 6 shows the coefficient of determination, determination coefficient of adjusted and statistic of Durbin –Watson is presented for review of lack of serial correlation between data: Negative correlation coefficients have negative relationship between course demands and profitability of confirmed receipt; the amount of camera Pearson - Watson also lacks coordination between the serial data. F test and analysis of variance were used to review regression.
 H0: There is no significant relationship between sales

As the top chart shows, regression of model is suitable and there is a meanful relation between benefit of the company and earnings of department Table 4. The amount of regression is shown in Table 5. Although the significant level is very low, it confirms the negative relation between variables. In the second condition the relation between recovery period and profitability with controllable variables is as follows,

growth and profitability.
 H1: There is significant relationship between sales growth and profitability. Table 7 shows this test. This means that there is a significant level of regression model for suitable recovery period between the company and profitability demands. A value of regression coefficients is given in Table 8. Results obtained indicated negative relationship. As a result, regression model (2) is as follows:

$$ROA_{i,t} = -0.27 - 0.001AR_{i,t} + 0.045SIZE_{i,t} + 0.067SGROW_{i,t} + 0.286DEBT_{i,t} + \varepsilon_{i,t}$$

Table 7. Test suitable model (2).

Item	Statistic value	Average of square	Degrees of freedom	Total of square	Sig.
Regression	10.251	0.045	4	0.181	0.002
Remains	-----	0.021	160	2.128	----
Sum	-----	-----	164	2.309	-----

Table 8. Coefficients model multivariate model demands recovery period (2).

Item	T- test	Std coefficient			
		Beta	Std. Error	B	Sig.
Constant value	-1.01	-----	0.267	-0.27	0.005
AR i,t	-3.972	-0.388	0	-0.001	0.002
SIZE i,t	1.525	0.142	0.029	0.045	0.03
SGROW i,t	1.438	0.136	0.046	0.067	0.024
DEBT i,t	1.717	0.165	0.166	-0.286	0.019

Table 9a. Can explain the test inventories turnover in the model (2-1).

Durbin–Watson	Standard deviation	Defined coefficient Adj R ²	Definition coefficient R ²	Correlation coefficient R
1.626	0.14339	0.095	0.074	-0.272

To confirm the hypotheses and to prove there is a negative relationship between demand and profitability recovery period, the above modes show that the control variables do not exist, although the correlation coefficient between the demands of recovery and profitability year period occurred. But its severity is very low. Adding more low-intensity correlation to control variables makes it still have extremely weak relationship. It can be concluded that the presence of control variables somewhat has positive effect this year.

H2: there is a relationship between inventory turnover and profitability.

In the first case, the relationship between inventories and profitability turnover without control variables is reviewed.

$$ROA_{i,t} = \alpha + \beta_0 INV_{i,t} + \varepsilon_{i,t} \quad \text{Model (2-1)}$$

ROA stands for return on assets model and INV stands for inventories turnover.

The coefficient of determination, adjusted coefficient of determination, and Pearson Digital - Watson for reviewing lack of serial correlation between the data model (2-1) are presented in Table 9a.

Coefficient value (-0.272) confirms the negative relationship between inventories and profitability flow. Durbin–Watson (1.626) lacking of serial correlation between the variables is shown.

F test and analysis of variance were used to review regression.

H₀: There is no significant relationship between sales growth and profitability.

H₁: There is significant relationship between sales growth and profitability.

Table 9b shows Pearson F Fisher and ANOVA test.

Regression model (2-1) and the appropriate inventories turnover and profitability between companies have a significant relationship.

A value of regression coefficients is given in Table 9c.

Obtained coefficients have significant relationship between dependent variables; and because the independent variable coefficient is negative, then this relationship is an inverse relationship.

As a result regression model (1-2) is:

$$ROA_{i,t} = 0.119 - 0.0001 INV_{i,t} + \varepsilon_{i,t}$$

In the second case, inventory turnover and profit are reviewed in the presence of control variable.

$$ROA_{i,t} = \alpha + \beta_0 INV_{i,t} + \beta_1 SIZE_{i,t} + \beta_2 SGROW_{i,t} + \beta_3 DEBT_{i,t} + \varepsilon_{i,t} \quad \text{Model (2-2)}$$

(ROA) return on assets model, (INV) inventory turnover volume, Company size (SIZE), (SGROW) DEBT is relative short-term dept.

The coefficient of determination, adjusted coefficient of determination and statistics for Watson test reviews that lacks cohesion bit serial data model (2-2) are presented in Table 10:

Table 9b. Suitable test model (2-1).

Item	Statistic value	Average of square	Degrees of freedom	Total of square	Sig.
Regression	8,321	0.171	1	0.171	0.005
Remains	----	0.021	163	2.138	----
Sum	----	----	164	2.309	----

Table 9c. Regression coefficients.

Item	Coefficients non-standard		Standard coefficient	T test	Sig.
	B	S.D	Beta		
Constant	0.119	0.034	-----	3.452	0.001
INV	-0.001	0.00	-0.272	-2.885	0.005

Table 10. Test cycle in inventory models (2 -2).

Coefficient R	Coefficient of determination R 2	Coefficient determined by L violation Adj R ²	Standard deviation estimate	Pearson Digital - Watson
-0.28	0.078	0.142	0.14516	1.64

Table 11. Test suitable models (2-2).

Item	Statistic value	Average of square	Degrees of freedom	Sum of square	Sig.
Regression	10.251	0.045	4	0.181	0.002
Remains	-----	0.021	160	2.128	-----
Sum	-----	-----	164	2.309	-----

Table 12. Coefficients of multivariate model of inventory turnover in model (2-2).

Item	Statistic of T	Std coefficient	Non S.D coefficient		Sig.
		Beta	Std .Error	B	
Constant value	0.028	-----	0.271	0.008	0.007
INV	-3.845	-0.263	0	-0.001	0.002
SIZE	-0.441	-0.044	0.032	-0.014	0.006
SGROW	0.573	0.055	0.047	0.027	0.012
DEBT	-0.11	-0.011	0.172	-0.019	0.013

Correlation coefficient value approves the negative relationship between inventory turnover and profitability; and Durbin–Watson test shows lack of serial correlation between data.

Suitable regression for review of variance revealed that Pearson F Fisher test was used. Statistical hypothesis test is as follows:

H₀: There is no significant relationship between sales growth and profitability.

H₁: There is significant relationship between sales growth and profitability.

Table 11 shows the test of above mentioned assumption. Regression of (2-2) model is suitable and there is significant relationship between inventory turnover and profitability whose values of regression coefficients are given in Table 12.

The significant level is obtained, a coefficient was significant and there is independent and dependent relationship between variables; and because independent variable coefficient is negative, this relationship is inverse relationship.

Regression of (2-2) model is fits the following:

Table 14. Regression fit test.

Item	Statistic value	Average of square	D.F	Sum of square	Sig.
Regression	8.18	0.006	1	0.006	0.005
Remains	-----	0.022	163	2.303	-----
Sum	-----	-----	164	2.309	-----

Table 15. Coefficient of sale growth model.

Item	Statistic of T	Std coefficient		Non std coefficient		Sig.
		Beta	S.D	B		
Constant value	9.741	-----	0.24	0.082	0	
SGROW	2.86	0.052	0.048	0.026	0.005	

$$ROA = 0.008 - 0.001INV - 0.014SIZE + 0.027SGROW - 0.019DEBT + \epsilon$$

Comparing these two positions show that without the presence of controlling variables, the coefficient relation between inventory turnover and profitability is not significant; but its severity is very low because of the value of adjusted coefficient of determination. When the control variables are added, correlation intensity is more, but not to the extent of strengthening the relationship. Then it can be concluded that the presence of control variables has partly positive impact on this relationship.

At this time, we review the effect of sales amount and its growth on profitability, because increase of sales affects account receivable and inventory.

Formula of this test is as follows:

$$ROA_{i,t} = \alpha + \beta_0 SGROW_{i,t} + \epsilon_{i,t}$$

In this model ROA is assumed as SGROW.

Coefficient of determination, adjusted coefficient of determination and Durbin –Watson test that lacks serial correlation between data are seen in Table 13.

Positive correlation coefficient confirms that there is direct relationship between sales growth and profitability; on the other hand, statistic value of Durbin –Watson shows lack of serial correlation between data.

F (Fisher) test and analysis of variance were used to review regression Statistical hypothesis of this test is as follows:

H_0 : There is no significant relationship between sales growth and profitability.

H_1 : There is significant relationship between sales growth and profitability.

Table 14 shows the results of this test.

Since the significant level for analysis of variance is less than 0.05, the null hypothesis, with 99 percent confidence level, is rejected and the research hypothesis is accepted. This means that this regression is appropriate

and there is significant relationship between sales growth and profitability. The values of regression coefficient are in Table 15.

The significant level for each of the coefficient is less than 0.05; so the null hypothesis, with 99 percent confidence level, is rejected and the research hypothesis is accepted. So the obtained significant coefficients are meaningful and there is a relationship between dependent and independent variables. Because the independent variable coefficient is positive then this relationship is a direct relationship.

The regression can be defined as follows:

$$ROA_{i,t} = 0,028 + 0,026 SGROW_{i,t} + \epsilon_{i,t}$$

Conclusion

Regarding the first hypothesis, results showed that there is significant and inverse relationship between average collection period and profitability in companies; In other words profitability levels may reduce with increased average collection period.

The second hypothesis also proves that there is significant and inverse relationship between inventory turnover and profitability in companies. Also F, T tests represented that models and coefficient of regression are significant. The result confirmed the second hypothesis with 99 percent level.

It is interesting to note that sales growth can establish direct relationship with profitability and has positive effect on it. A particular program should be made to consider credit sales in order to increase companies' profitability and to have a particular consideration for their payment.

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