

Financial Profitability of Firms and its Determining Factors. (Case of the trade sector, Vlore region, Albania)

Kristi Dashi¹

Abstract: The main purpose of this paper is to study the relationship between financial profitability and factors such as debt structure, liquidity situation, turnover ratios, size and age of companies, in a sample of 49 large businesses operating in the trade sector in the Vlore region, Albania. An econometric model was built, organizing and integrating the data taken from the certified financial statements of these businesses for a period of three years (2014 to 2016), into the multiple regression model in the form of panel data. The model is found to be statistically significant. The findings of the empirical analysis suggest that there is a positive relationship between financial profitability and accounts payable turnover as well as a negative relationship between financial profitability and short-term debt ratio, long-term debt ratio, inventory turnover, accounts receivable turnover and cash conversion cycle. Both of these relationships result fixed in time, so they can be used for long-term improvement of the entity's profitability situation.

Keywords: profitability; econometric model; financial statements; financial ratios

JEL Classification: C01; C51; G320

1. Introduction

Albanian businesses operate in an unfavourable environment, but with obvious and continuous improvements. The Albanian market is considered as a potential for trade development considering the fact that the country is still dealing with a transition economy which is trying to find its own path in the international trade markets. The trade sector plays a key role in the economic development of the country. Datas from the Structural Survey of Enterprises, published by INSTAT in 2015, highlight the importance of this sector in the Albanian economy.

¹ MSc, University of Tirana, Faculty of Economy, Albania, Address: Sheshi Nënë Tereza, no. 183, Tiranë, Shqipëri, Albania, Corresponding author: kristi.dashi111@gmail.com.

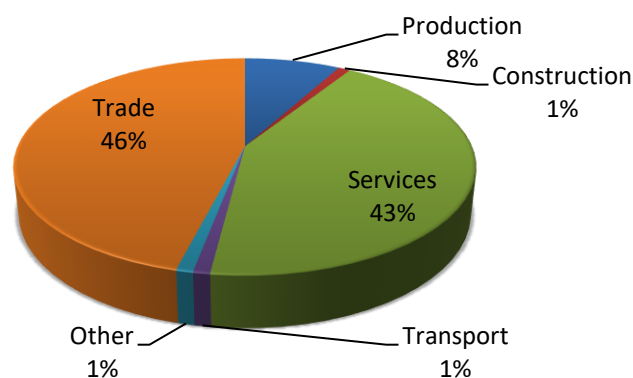
Table 1. Enterprises, employees, net sales and investments in the trade sector, 2015

Activity	Enterprises	Employees	Net Sales (mln ALL)	Investments (mln ALL)
Trade	45.093 (43,1%)	111.848 (25.7%)	871.076 (48,3%)	27.615 (11.3%)
Total	104.534	435.437	1.802.364	208.24

Source: *Structural Survey of Enterprises, INSTAT*

The trade sector includes wholesale, retail and vehicle repair. 43.1% of the total active businesses operate in the trade sector, whose net sales represent 48.3% of the total net sales of the year. Trade employees represent 25.7% of the total number of employees. Based on the value-added analysis, the trade sector accounts for 24.4% of this indicator, followed by the services sector with 16%.

The trade sector plays an important role in the economic development of Vlora region too. The chart below shows that 46% of the businesses under the administration of the Vlora Regional Tax Directorate, operate in this sector, followed by the service sector (43%) and production (8%).

**Chart 1. The distribution of businesses by economic sectors**

About 1,000 businesses with a turnover more than 8 mln ALL, classified as large businesses, share their activity between sectors such as trade, services, production and construction.

Table 2. Number of active subjects for the years 2015 and 2016, in Vlora Region

Tax Liability	2015	2016
Large Businesses	808	965
Small businesses with VAT	649	900
Small businesses	3074	3826
Farmers, etc	300	596
Total	4831	6287

Taking into consideration the importance of the trade sector, this paper aims to answer the following research questions:

“What is the nature of the impact of factors such as capital structure, liquidity, asset turnover, size and age of companies, in the financial profitability of large businesses operating in the trade sector?”

“Does this impact tend to be fixed or random over time?”

2. Literature Review

Foreign literature has a considerable number of studies, which try to identify the factors and the extent of their impact on a company's profitability. In these studies, the main profitability indicators are classified into accounting and market indicators. Meanwhile, in Albania there are few studies, mainly because of the difficulties in providing accurate and true financial information of the companies.

- *The existing literature about the relationship between the capital structure.*

And the financial profitability of a firm suggests that this relationship may be positive, negative, but there are also studies where this relationship appears to be mixed.

(Sadiq & Sher, 2016) study of 19 out of 22 companies in Pakistan in order to determine the impact of the capital structure on their profitability, found out an important negative relationship between these variables. Thus, an increase in debt-financed capital caused a decrease in the profitability of these firms. (Onalapo & Kajola, 2010) studied the impact of the capital structure on the financial performance of companies listed on the Nigeria Stock Exchange. This study was conducted for 30 non-financial companies operating in 15 different sectors for a period of seven years. The results showed that the capital structure (debt ratio) had a significant negative impact on the profitability of these companies (ROA and ROE). (Zeitun & Tian, 2007) investigated the impact of the capital structure on firm performance using panel data of 167 companies in Jordan for the period 1989-2003. The capital structure had a significant negative impact on financial profitability, expressed both through market and accounting indicators. (Sarkar & Zapatero, 2003) discovered a

positive relationship between profitability and financial leverage ratio for firms taken in their study. (Abor, 2005) reviewed a sample of 22 commercial firms in Ghana and concluded that there was a positive short-term relationship with the profitability of these firms.

Another study looked at the relationship between the capital structure and profitability in seven Latin American countries for the years 1996 to 2005 for 6766 firms in various sectors. The conclusion drawn was that there was a positive relationship between debt financing and firm growth and a negative relationship between debt financing and profitability for large firms. Those firms which have more tangible assets, have a lower level of profitability and use more debt. (Cespedes, Gonzales, & Molina, 2009)

▪ *The current review of existing literature reveals the existence of a significant relationship between the liquidity situation and the financial profitability of a firm. Despite the large number of studies, the nature of the liquidity impact on profitability is not fully recognized. This is because these studies have produced different results; some of them have shown a negative relationship while some other studies have shown a positive relationship.*

Also, since every study is conducted under different economic conditions, their conclusions can not be considered true for every economy.

A study of 131 listed companies on the Athens Stock Exchange for the period 2001-2004 showed a significant link between the cash conversion cycle and profitability. The Accounts Receivable Turnover, Accounts Payable Turnover and the Inventory Turnover are the three components of the money conversion cycle. Pearson correlation and regression analysis showed that there was a negative relationship between these three indicators and profitability. (Lazaridis & Tryfonidis, 2006) Moreover, managers could make their firms more profitable by managing the money conversion cycle and keeping each of its components at optimal levels.

These findings are also supported by the conclusions of (Deloof, 2003) the Deloof's study found a negative correlation between gross operating income and the average collection period of accounts receivable, the average payment period and the inventory holding period for Belgian firms.

According to (Gill, Biger, & Mathur, 2010), who extended the study of (Lazaridis & Tryfonidis, 2006) there is a significant relationship between cash conversion cycle and profitability. The study of 88 firms listed on the New York Stock Exchange through regression analysis showed that the profit of a firm will increase if the accounts receivable, accounts payable and inventories are managed effectively.

(Hasan, Akbas, Caliskan, & Durer, 2011) study of companies listed on the Istanbul Stock Exchange for the period 2005-2009 tried to shed light on the relationship between profitability and the management of working capital. The findings showed

that the reduction of cash conversion cycle positively impacted profitability, represented by ROA.

- The size of a firm can be defined as the production capacity to provide a variety of goods and services to customers. *Usually, larger sized firms are characterized by higher profitability compared to smaller ones because their position allows them to benefit from economies of scale. So, compared to small firms, units can be produced at a lower cost.*

(Doğan, 2013), analyzing data from 200 listed companies on the Istanbul Stock Exchange, revealed a positive correlation between firm size and profitability. (Jonsson, 2007) also came to this conclusion. His study found out that large firms have higher profitability than small ones. While (Niresh & Velnampy, 2014) in a study of 15 firms in the trade sector discovered a neutral relationship between the firm's profitability and size. The results of their study showed that firm size had no impact on its profitability.

➤ *As for the turnover indicators, as far as the results of empirical studies are concerned, different studies have different results. Literature offers mixed results; positive, negative, or neutral relationship between assets turnover and financial profitability indicators.*

(Skolnik, 2002) study found that a steady decline in asset turnover was offset by an increase in operating income, thus not having a significant impact on operational return. The study also showed that profit margins and asset turnover both contribute to profitability and that there is a statistically significant negative correlation between total assets turnover and operating profit margin

(Balili, 2016) in a study of the pharmaceutical companies in Albania revealed: a statistically significant impact of short-term assets turnover and profitability, a positive and fixed impact of total assets turnover in financial profitability; a fixed and negative impact of the accounts receivable turnover and accounts payable turnover on the profitability of the companies.

3. Methodology

3.1. Source of Data and Population of Study

The initial phase of the study was to identify the activity of large businesses, which would constitute the population of the study. For this reason, a general analysis of all businesses operating in the Vlora Region was conducted.

The distribution of businesses by economic sectors was presented graphically in the introduction section. The two sectors with the highest share are the trade sector and the service sector. Large businesses (businesses with an annual turnover more than

8 mln ALL) operating in the trade sector are chosen because this sector not only has the highest share, but also because it often functions as a provider of the service sector. So, the population of the study consists of all the large businesses operating in the trade sector, which are under the administration of the Vlora Regional Tax Directorate. Within the big business bundle, 49 businesses with the highest total annual sales were selected. The total sales of the selected sample account for approximately 52% of the sales of all the population, so we can say that this is a representative sample. The data used in this paper are secondary data provided by certified financial statements of the surveyed companies, mainly from the balance sheet and the income statement. Subsequently, they are used to calculate the financial ratios which will be used in the econometric model.

3.2. Variables Used in the Study

The dependent variable in this study is the financial profitability of the companies, represented by ROA. The independent variables are chosen taking into consideration the literature study discussed previously, selecting the most commonly used variables in similar econometric models.

Table 3. Variables of the model and their calculation

Variable	Indicator	Measurement
Dependent Variable	ROA	Net Income/Average Total Assets
Independent Variables	Short term debt (SHTD)	Short term debt/Total Assets
	Long term debt (LTD)	Long term debt/Total Assets
	Current Ratio (CR)	Current Assets/Current Liabilities
	Quick Ratio (QR)	(Current Assets-Inventory)/Current Liabilities
	Cash Conversion Cycle(CCC)	Average Collection Period+ Average Inventory Period-Average Payment Period
	Working Capital turnover (WCT)	Net Sales/Working Capital
	Accounts Receivable turnover (ART)	Net Credit Sales/Average Accounts Receivable
	Accounts Payable Turnover (APT)	Total Supplier Purchases/Average Accounts Payable
	Inventory turnover (IT)	Cost of sales/Average inventory
	Age(K)	Number of years
Size	LOG(Net Sales)	

3.3. Empirical Analysis

The model is expected to have the form of a multifactorial linear regression with a generalized form as follows:

$$\text{Financial profitability} = f(\text{explanatory variables } i) = f(x_{1i}, x_{2i}, x_{3i}, x_{ni})$$

All dependent and independent variables are grouped into time series of cross-sections. The study contains 49 cross-sections crossed out in 3 time periods (2014-2016) generating matrices of 147 observations. Panel data will be used to estimate the fixed or random time effect that the independent variables have on the dependent variable.

The general form of the panel data model is presented in the following equation:

$$y_{it} = \beta_0 + \beta_{1xit1} + \beta_{2xit2} + \dots + \beta_{kxitk} + a_i + u_{it}$$

✓ **The fixed effect model**

Table 4. Results of the fixed effects model

Dependent Variable: ROA				
Method: Panel Least Squares				
Sample: 2014 2016				
Periods included: 3				
Cross-sections included: 49				
Total panel (unbalanced) observations: 145				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.282987	0.054839	5.160309	0.0001
CCC	-0.000304	0.000169	-1.790224	0.0006
K	-0.025324	0.071700	-0.353200	0.7248
LOGS	0.041139	0.209362	0.196499	0.8447
IT	-0.000189	0.001460	-0.129609	0.0013
WCT	-0.002489	0.006313	-0.394332	0.6943
ART	-0.000432	0.000309	-1.396404	0.0001
APT	1.80E-05	2.1E-06	8.345670	0.0167
LTD	-0.041428	0.155259	-0.266831	0.0058
SHTD	-0.094958	0.956746	-0.099251	0.0071
CR	-0.000513	0.001242	-0.413547	0.6802
QR	0.001439	0.003754	0.383365	0.7024
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.855107	Mean dependent var	0.135586	
Adjusted R-squared	0.797522	S.D. dependent var	0.653220	
S.E. of regression	0.032603	Akaike info criterion	2.266896	
Sum squared resid	0.082910	Schwarz criterion	3.498648	
Log likelihood	-104.3500	Hannan-Quinn criter.	2.767399	
F-statistic	1.031446	Durbin-Watson stat	1.953294	
Prob(F-statistic)	0.000000			

According to the Fisher test, this model is statistically significant ($p > 5\%$).

The model has a high determination coefficient, R^2 corrected is about 89%.

✓ *The random effects model***Table 5. Results of the random effects model**

Dependent Variable: ROA				
Method: Panel EGLS (Cross-section random effects)				
Sample: 2014 2016				
Periods included: 3				
Cross-sections included: 49				
Total panel (unbalanced) observations: 145				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.319722	0.333763	3.954059	0.0001
CCC	-0.000412	0.000129	-3.184177	0.0317
K	-0.028597	0.013281	-2.153318	0.0331
LOGS	-0.081981	0.085615	-0.957551	0.3400
IT	-0.000296	0.000975	-0.303716	0.0045
WCT	-0.000493	0.005372	-0.091803	0.9270
ART	-7.60E-06	4.16E-05	-0.182643	0.0132
APT	5.56E-06	4.37E-05	0.127330	0.0003
LTD	-0.055660	0.231863	-1.538002	0.0000
SHTD	-0.034959	0.036189	-1.871668	0.0001
CR	0.000956	0.001011	0.946460	0.3456
QR	-0.004165	0.002397	-1.737157	0.0847
Effects Specification				
			S.D.	Rho
Cross-section random			0.123347	0.0349
Idiosyncratic random			0.649052	0.9651
Weighted Statistics				
R-squared	0.507956	Mean dependent var		0.128835
Adjusted R-squared	0.447705	S.D. dependent var		0.640238
S.E. of regression	0.679772	Sum squared resid		54.28103
F-statistic	8.430758	Durbin-Watson stat		1.178858
Prob(F-statistic)	0.000003			
Unweighted Statistics				
R-squared	0.627390	Mean dependent var		0.135586
Sum squared resid	72.60002	Durbin-Watson stat		2.924679

The random effect model finds some of the independent variables statistically significant at $p < 5\%$ (based on t-test, except of K, LOGSH, WCT, CR). The level of determination with R squared is approximately 45%.

Both models are statistically significant, so the Hausman test will be used. The Hausman test is performed to determine which model is most appropriate between the fixed and random effects model. The null hypothesis is that the preferred model is the random effects model. The alternative hypothesis is that the preferred model is the fixed effects model.

Ho = Random effect

Ha = Fixed effect

Table 6. Hausman Test

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	34.921606	11	0.0000

As we see from the results of the Hausman test, the value of the statistics is less than the value of chi square table. This means that Ha stands, so the best model to use is the fixed-effect model ($p < 5\%$).

We conclude that the variables: accounts receivable turnover, accounts payable turnover, inventory turnover, cash conversion cycle, long term debt, short term debt give a fixed impact on ROA, which means that these results can be used for further forecast.

According to the results of Table 3, the estimated equation will be:

$$ROA = 0.282987 - 0.000304CCC - 0.025324K + 0.041139LOG(S) - 0.000189IT - 0.002489WCT - 0.000432ART + 0.00001.8APT - 0.041428LTD - 0.094958SHTD - 0.000513RK + 0.001439QR$$

4. Conclusion

This paper tried to assess the relationship between financial profitability and factors such as debt structure, liquidity situation, turnover indicators, size and age of companies in a sample of 49 large businesses operating in the trade sector. An econometric model was built, organizing and integrating the data into the multiple regression model in the form of panel data, in order to answer the research questions.

In a more detailed way, the empirical findings suggest the following conclusions:

- The results of the model were in line with the initial expectations related to the long-term and short-term debt variables and confirmed the negative relationship

between these variables and ROA. Among these two variables, the short term debt ratio had the highest impact with a coefficient of approximately -9.49%. So, an increase of 1% in SHTD will cause a steady decrease of ROA by 9.49%. As for the long term debt, the -4.14% coefficient shows that an increase of 1% of LTD will cause a fixed decrease of 4.14% of ROA. This may result due to the fact that the activity of these companies relies more on short-term financing from customers rather than on long-term borrowing.

▪ Regarding the turnover indicators taken in consideration, the model presents the following results:

The impact of *the accounts payable turnover* is statistically significant, but with a low positive impact level. APT had a positive effect on ROA with a low coefficient of 0.000018. The impact is low, but as it is a fixed impact, managers can increase the company's ROA in the future by speeding up the accounts payable turnover.

The results of the model show that the *inventory turnover* is a statistically significant variable with a $p < 5\%$ level and has given a fixed negative impact on ROA with a coefficient of -0.000189. The level of impact is still low, but being a fixed effect it can be used to improve the profits. *Turnover of accounts receivable* shows how many times the receivables are received on average over the year. According to the model results, the impact of this variable on the profitability of the companies taken in the study is considered significant, but with a low negative impact. A decrease in the turnover of receivables that may directly result from the increase in the average collection period would positively influence ROA. Regarding the liquidity situation only the cash conversion cycle indicator turned out to be statistically significant. This result is expected since the CCC is considered one of the most important dynamic variables of liquidity. The negative statistical relation between ROA and CCC shows that the lower the CCC, the higher the ROA. A one-day reduction in the money conversion cycle will bring a ROA increase of 0.0304%. More specifically, if we refer to the calculation of this indicator ($CCC = \text{Average Collection Period} + \text{Average Inventory Period} - \text{Average Payment Period}$), the company may consider reducing Average Collection Period and Average Inventory Period and prolonging the Average Payment Period in order to increase profitability.

▪ The age indicator of the firms is measured by the number of years from the moment of their establishment. This indicator has not resulted to be statistically significant, so these entities are profitable regardless of the time when they were founded.

Other indicators included in the model, such as the firm size represented by net sales logs as well as some liquidity indicators such as quick ratio, current ratio and working capital turnover not only resulted numerically negligible but are statistically insignificant (with a value of $p > 5\%$). For these variables the model results did not match with those of the reviewed literature. This discrepancy may exist because of the quality of the data stated in the financial statements. It may also be necessary to

expand the population surveyed or extend the study period to reach more accurate conclusions. Therefore, we can conclude that these findings were partially in line with the reviewed literature.

5. Recommendations

Recommendations for future studies that will have the same focus on the issues of this study:

- Consider other dimensions and indicators of profitability in order to provide a more complete picture of financial profitability.
- Make efforts to collect the most reliable and valuable data, not based solely on the financial statements of the entities, the accuracy of which is questioned, especially in the Albanian reality.
- Select a larger sample or extend their study over time to reach more accurate results and closer to theoretical conclusions.

Recommendations could also be given for the companies that made up the sample of this study and those represented by this sample. These companies can improve their profitability and financial position by improving the management process of their activity. Based on the conclusions drawn from the results of empirical models, it is suggested that liquidity management relies more on dynamic rather than static indicators.

6. References

- Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana. *The Journal of Risk Finance*.
- Balili, L. (2016). *Studimi i faktorëve që ndikojnë në përfitueshmërinë financiare të njësive ekonomike. Rasti i sektorit farmaceutik në Shqipëri*.
- Cespedes, J.; Gonzales, M. & Molina, A.C. (2009). Ownership and Capital Structure in Latin America. *Journal of Business Research*.
- Deloof, M. (2003, April/May). Does Working Capital Management Affect Profitability of Belgian Firms? *Journal of Business Finance and Accounting*, pp. 573-587.
- Doğan, M. (2013). Does Firm Size Affect The Firm Profitability? Evidence from Turkey. *Research Journal of Finance and Accounting*, Vol No. 4.
- Gill, A.; Biger, N. & Mathur, N. (2010, July). The Relationship Between Working Capital Management And Profitability: Evidence From The United States. *Business and Economics Journal*.
- Hasan, K.A.; Akbas, E.H.; Caliskan, A.O. & Durer, S. (2011). The Relationship between Working Capital Management and Profitability: Evidence from an Emerging Market. *International Research Journal of Finance and Economics*.

Jonsson, B. (2007). Does the size matter? The relationship between size and profitability of Icelandic firms. *Bifrost Journal of Social Science*.

Lazaridis, I. & Tryfonidis, D. (2006, September). Relationship Between Working Capital Management and Profitability of Listed Companies in the Athens Stock Exchange. *Journal of Financial Management and Analysis*, 19, No. 1.

Niresh, A.J. & Velnampy, T. (2014). Firm Size and Profitability: A Study of Listed Manufacturing Firms in Sri Lanka. *International Journal of Business and Management*, Vol No. 4.

Onaolapo, A. & Kajola, S. (2010). Capital Structure and Firm Performance: Evidence from Nigeria. *European Journal of Economics, Finance and Administrative Sciences*, pp. 70-82.

Sadiq, N.M. & Sher, F. (2016). Impact of Capital Structure on the Profitability of Firms's Evidence from Automobilesector of Pakistan. *Global Journal of Management and Business Research*.

Sarkar, S. & Zapatero, F. (2003, October). The Trade-off Model with Mean Reverting Earnings: Theory and Empirical Tests. *The Economic Journal*, Vol 113(409), pp. 834-860.

Skolnik, R. (2002). Operating Return Trends. *New York Economic Review*, pp. 42-51.

Zeitun, R. & Tian, G.G. (2007, December). Capital Structure and Corporate Performance, Evidence from Jordan. *The Australian Accounting Business & Finance Journal*, 1, pp. 40-61.