Using Financial Statements Analysis as a tool on identifying the solvency of SMEs and its relation with Forensic Accounting; Evidence from Albania.

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Abstract: Business development plays a vital role in economic development, so the effective and efficient management of activities carried out by businesses is to a great importance. But their identification in financial reports are also object of fraud activities, a phenomena which is turning into a headline of the day, especially for developing countries and also in Albania. Accounting professionals who are directly responsible for the preparation of the reports must use the principles and techniques of Forensic Accounting which help them to investigate legitimate financial activity and conduct due diligence reviews to properly assess the activity of economic entities. This paper identifies the importance of financial statement analysis tools and techniques in this process, being identified as Fraud Indicators of financial statements indicators. In the study have been taken into consideration the financial statement of 70 SMEs that carry out commercial activity and that through financial statements reports it was studied how "red flags" can be identified in financial reporting indicators to further investigate whether fraud conditions are met or not. Data analysis showed that there was a significant statistical relationship between liquidity and performance indicators, which serve as a starting point for going into further use of technical forensic accounting techniques by professionals.

1. Introduction

Economic developments in Albania are rapidly increasing the need for professional accounting services to identify what we often say the true and honest view of the activity of economic entities. Professional accountants must increasingly develop their professional skills to trace what lies beneath financial statements so that to uncover other hidden problems and risks, including those related to:

Fraud; change in profitability or capital due to fraud or criminal activities.

Liquidity; change in profitability or capital due to their excessive debt and insolvency.

Compliance with rules of fiscal legisltaion; taxes or fines due to non-compliance with laws. The principles and techniques of Forensic Accounting as [32][1] explains help professional accountants to investigate legal financial activity and conduct due diligence reviews to properly assess the activity of economic entities. Often they are similar to detectives who conduct interviews and perform checks to crack financial crime cases. Through our work, we want to show how financial statement

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[1] https://www.toptal.com/finance/due-diligence-consultants/forensic-accounting

analysis tools help in this process, which is increasingly becoming very important in Albania due to high levels of corruption (if we refer to the corruption perception index CPI), which for the year 2023 is 37[2].
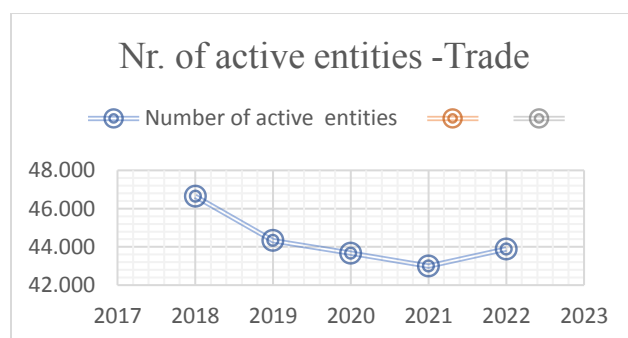
Business development plays a vital role in economic development, therefore it is very important to effectively and efficiently manage the activities carried out by business. One of the main issues faced by financial executives today is not only securing funds, but also using them appropriately to generate maximum returns. Liquidity management is an important decision that directly affects the profitability of the entities must maintain a good balance between the two, because if it focuses more on profitability then it risks not being able to pay creditors its employees or other parties. On the other hand, if the company focuses more on maintaining high levels of liquidity, it risks not taking advantage of investment opportunities, causing losses. Many studies in different countries have been devoted to the relationship of liquidity with profitability and have produced different empirical results.

The paper aims to identify how the tools and techniques of financial statement analysis help accounting professionals to study the solvency of economic entities, indicators that help identify, based on the principles of forensic accounting, the legal or illegal activities of economic entities. The study is based on primary and secondary data, studying the literature in this field as well as analyzing the data of 70 economic entities in Albania that deal with the activities of *trading goods, products* for a 6 year time period (2017,2018, 2019, 2021, 2022, 2023). The year 2020 is not included in the study due to the impact of Covid 19 and to have a comparable database.

It is worth mentioning "*one moment is enough to lose everything*" and we can understand that the inability to meet short-term obligations can affect the transactions of economic entities and in many cases even its reputation. Lack of cash or liquid assets can also affect the development of criminal activities, money laundering, loss of trust from creditors or suppliers, etc. The moment in financial terms belongs to short-term periods, so it is quite important for accounting professionals to use the techniques and tools of financial statement analysis to understand the level of liquidity of an economic entity. Various researchers have presented a group of reports to analyze the liquidity of companies, but now accepted everywhere are static reports and dynamic reports of solvency in short-term periods. In our paper we will use static reports, this is due to the legal form of economic entities that exercise their activity in Albania.

Fig. 1: Number of Economic Entities with commercial activity.

Source: Instat 2022

Based on INSTAT 2022 data, we find that 84.58% are physical person entities or farmers and the other 15.42% of the economic entities excercise their activity with the status of "juridicial persons". There are a total of 43,885 economic entities that exercise commercial

activity, this number, which compared to 2018, has decreased by 5.9%.

Factors mentioned above are an important reason why some companies, based on their poor financial situation, or for other reasons, may take actions that are illegal by manually

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[2] https://www.transparency.org/en/cpi/2023/index/alb, visited at 11/03.2024

intervening in the financial statements. For these reasons, forensic accountants use different techniques to reach a reliable level that the financial statements do not contain interference or fraud, some of which are presented as follows;

1. Data Mining and Analysis as a forensic technique (trend analysis, anomaly detection and Benford Law's) uses sophisticated software to analyze large databases [22], [14].
2. Conducting Interviews and Questionnaries with staff can provide good insights and reveal disrepancies in the information used for Financial Statement that lead to possible fraud detection [23].
3. Computer Forensics also is a technique that is used to extract and analyze data from computers ensuring that the data are not tampered for example uncovering deleted records, hidden files etc [25].
4. Technical Analysis is another technique that is used from Examiners and helps on identifying abnormal patterns in financial data [31], [30].

This paper is focused on tools and technical analysis of financial statements for detecting possible fraud.

2. Literature Review

[7] in their study found that forensic accounting and corporate governance had significant effect on the financial performance of listed banks in Nigeria. They also concluded that fraud detection identifies the importance of transparency and reporting mechanisms in preventing fraudulent activities while maintaining the financial performance of banks.

[33] in his study also found that forensic accounting practices play a key role in the detection and prevention of financial information manipulation. In this study, he found that indicators like current ratio, net working capital, return on assets, return on capital, profit margin for non-manipulating firms are higher than for manipulative firms.

[21][3] in his study has identified The importance and Implications of Forensic Accounting in the Financial world. Among the findings, he concluded that the current education options are limited in terms of Forensic Accounting techniques for increasing the professional skills of the accountants who will practice them. Most chartered accountants begin their careers in taxation or auditing and use this experience to eventually pursue chartered accounting and it is important to continue to improve education and training opportunities to ensure that the future chartered accountants are very well prepared to perform their jobs adequately.

According to the [10][4], fraud cost american consumers \$8.8 billion in 2022, a 44% increase from 2021, making Forensic Accounting an important profession in handling these loses. The detection of fraud in accounting was achieved through the combination of several analytical accounting and investigative technique tools. Financial Analysis Methods was one of the thechniques used to investigate the financial data and specifically the trend analysis of the elements reflected in the financial statements. By comparing financial ratios, such as profit margins or liquidity ratios, against industry norms or historical data, Forensic Accounting professionals can detect anomalies that indicate financial missrepresentation or fraud.

[1] in their study have identified the role of liquidity in the relationship between accounting and advertising expenses on the one hand and financial performance for SMEs in Jordan. The study was based on data from 200 SMEs, the results of which showed that accounting expenses are key factors for financial performance, especially in SMEs. Moreover, SMEs are more sensitive to liquidity challenges, which significantly affect their short-term expenses and therefore affect their financial performance. The findings indicated a negative effect on the relationship between advertising expenditure and financial performance.

[3] https://digitalcommons.liu.edu/cgi/viewcontent.cgi?article=1026&context=post_honors_theses

[4] https://online.mason.wm.edu/blog/forensic-accounting-fraud-examination

[18][5] in a study has identified among others that some accounts tend to have stable relationships over time. Generally an increase in one account results in a similar increase in an associated account. In many companies, there is a predictable relationship between:

➢ Revenues, Account Receivable and Inventory
➢ Inventory and Accounts Payable
➢ Fixed Assets and Depreciation Expenses

So, if a company reports a significant increase in revenue then the company will expect a proportional increase in accounts receivable. Of course, not every disproportionate increase or decrease indicates fraud. In some cases, "*red flags*" can indicate inefficiencies, poor business practices or incorrect accounting practices.

[17] states that in order to achieve a balance between liquidity and profitability, companies must ensure that short-term assets are sufficiently liquid to minimize the risk of insolvency. On the other hand, in order to maintain a satisfactory level of profitability, companies must invest in less liquid assets in order to maximize returns.

Empirical findings from the studies of [2] on 94 Pakistani companies listed on the Karachi Stock Exchange for the years 1999-2004 resulted in an inverse relationship between profitability and liquidity as measured by the current ratio. Thus a higher level of liquidity has a negative effect on profitability. Between the current ratio as a traditional and static measure of liquidity and the cash cycle as a more dynamic measure, the study found that the current ratio is the most important measure of liquidity affecting the profitability of Pakistani companies. According to them, Pakistani firms should strike a balance between liquidity and profitability.

[3] in his study empirically examined the relationship between profitability and liquidity, measured by the current ratio and the cash cycle. Through correlation and regression analysis, he found a significant negative relationship between the level of high profitability and the level of liquidity. This relationship is more pronounced for companies with high levels of current ratio and cash cycle.

At the industry level, however, he found that the cash cycle is more important as a measure of liquidity than the current ratio. Also, firm size had a significant effect on profitability at the industry level.

[19] studied the relationship between liquidity, leverage ratios and profitability in London Stock Exchange companies in the period 1993-1997. The results showed that the cash cycle, current ratio and liquid ratio have a negative and significant relationship with profitability ratios, measured by the indicators net marginal profit, ROA and ROE.

But, according to the study of [12] on the cement and tea industry in India for the period 1992-2003, liquidity measured by the current ratiohas a statistically positive effect on profitability.

[8] in a study with a sample of 1009 Belgian companies for the period 1992-1996, evidences a negative relationship between the average accounts receivable period and profitability. According to him, this negative relationship may come from the fact that customers want more time to evaluate the quality of the products they buy from firms that have a decrease in profit or that are in financial difficulties. A negative relationship also emerged from the study of over 8,872 small and medium-sized Spanish firms from 1996-2002, according to which an increase in the average accounts receivable period affects profitability, because less profitable firms stimulate their customers by granting longer payment terms [24].

Although almost all the above studies identify a negative relationship between average accounts receivable period and profitability, [28] found a positive relationship between them. In their study of a sample of listed firms in India for the period 2000-2008, they argued that Indian firms can improve their profitability by extending the collection period of accounts receivable. According to them, the positive relationship comes from the fact that Indian firms operating in an emerging market must provide more trade credit or cash-back sales to maintain competitiveness with foreign

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[5] https://www.kpmcpa.com/how-cash-flow-statements-help-experts-find-fraud/ visited at 22.04.2023

competitors who have superior products and services.

Companies with commercial activity keep low inventory levels compared to manufacturing companies that pass goods through the production process and naturally the average inventory holding period is expected to be higher. Regarding the impact of the average inventory holding period on profitability [5] and [20] argue a positive relationship between the average inventory holding period and ROA. According to them, maintaining high levels of inventory helps reduce product supply costs and protects the firm against price fluctuations as a result of adverse macroeconomic factors. On the other hand, [8] and [24] identified a negative relationship between AIP and profitability. According to them, a negative relationship can come as a result of the decrease in sales, which leads to a decrease in profit and an increase in inventory. According to [15] the negative relationship suggests a mismanagement of inventory levels and a drop in demand associated with an unnecessary investment of money in inventory when it could have been used elsewhere more effectively. Even [2] argued a negative relationship, because if the firm will need more time to sell inventory by increasing its holding period, profitability is expected to decrease. But [13] from the study of over 88 companies listed on the New York Stock Exchange for the period 2005-2007 did not find a statistically significant relationship between the average inventory holding period and profitability.

[20] argues a positive relationship between the average accounts payment period and profitability, because the later a company repays its creditors, the higher the profitability. This implies that firms postpone payments to suppliers in order to have cash available for their short-term needs. These results are consistent with the working capital management rule that firms should try to postpone their payments to creditors as long as possible, taking care not to disrupt their business relationships with them. But [24] and [13] failed to find statistically significant

relationship between average accounts payment period and profitability.

[15] studied the relationship between liquidity and profitability by studying a significant number of companies listed on the US market. The study covered the period 1975-1994 and concluded a significant negative relationship between the money cycle and selected indicators of profitability. They argued that the negative relationship between profitability and cash cycle can be explained by market power that is, shorter cycle can be due to bargaining power from suppliers or customers and higher profitability can be due to market dominance.

Considering the analysis of financial statement and Forensic Accounting, we say with conviction that these areas are connected together and aim to provide an opinion on a regular structure in the way companies record and report financial transactions.

Forensic Accounting in the analysis carried out through the indicators of AIP, AARP, AAPP[6] can highlight potential or intentional problems that can be related to the overvaluation of inventory or non-receipts for long periods of time that can signal credit problems. Also, late payments to suppliers may indicate problems with relations with suppliers or benefit from credit terms to improve its liquidity position, affecting the improvement of short-term profitability in some cases.

In the academic context of Albania, the Faculty of Economics, University of Tirana has taken an important step towards improving and expanding its curriculum by including the Forensic Accounting course in two of its Master programs since the academic year 2020-2021. This course aims to deepen and expand students knowledge in key aspects of accounting, both accounting analysis and preparing them to identify and combat financial fraud and corruption that may exist in the private and public sector. Through this course, students learn not only the legal rules that govern accounting practices, but also the methods of analysis and interpretation of the financial

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[6] AIP – Average Inventory Period/ AARP – Average Accounts Receivable Period/ AAPP – Average Accounts Payable Period

indicators mentioned above that can often be essential in detecting suspicious activities. This education also affects the formation of ethical awarness and professional responsibility towards issues of transparency and law enforcment.

3. Methodology

The purpose of the paper is to identify a financial statement analysis technique for the principles and techniques of forensic accounting. The paper tests the relationship between two important indicators for every economic entity, which are liquidity and profitability and which in most of the studied literature are the most studied indicators. Two hipotheses were raised as follows:

Hypothesis 1 (H1.0). There is a significant relationship between liquidity indicators and the financial performance of SMEs in Albania

Hypothesis 2 (H2.0). There is a positive significant relationship between liquidity indicators and the financial performance of SMEs in Albania

For testing hipotheses, financial data obtained from financial statements of 70 economic entities during the years 2017-2023 and 210 data in total for each seleceted variable were used. We reiterate that the 2020 year data are not included due to impact of Covid19. The variables taken in the study are:

Indipendent Variable- Liquidity, which is represented by;

Current Ratio which will be found from the ratio of short-term assets to short-term liabilities.

CR= Current Assest / Current Debts

Cash cycle is presented in detail in its component items the average accounts receivable period (AARP), the average inventory period (AIP) and the average accounts payable period (AAPP), and is found with the formula;

Cash Cycle = AARP + AIP – AAPP

Dependent variable- Profitability which is represented by the two ratios of return on equity (ROE) and return on assets (ROA). In addition to the above variables, different authors also suggest the use of financial leverage and the sales change ratio, both in the role of control variables, used to explain the impact on profitability, which we took into consideration in our study.

Data analysis was performed through a regression model based on panel data, using a panel of 70 companies and 6 years. The method used for the analysis is the Least Squares Method for panel data. Least squared regression models have the form:

$$Y_{i,t} = \beta_0 + \beta_1 X1_{i,t} + \beta_2 X2_{i,t} + \beta_3 X3_{i,t} + \beta_4 X4_{i,t} + \beta_5 X5_{i,t} + \beta_6 X6_{i,t} + \beta_7 X7i,t + \varepsilon_{it}$$

where, $Y_{i,t}$ = *dependent variable* (ROE, ROA)

$X_{i,t}$ = *indipendent variable composed of respectively* (Current Ratio (CR), Quick Ratio (QR), Average Inventory period (AIP), Average Accounts Receivable Period (AARP), Average Accounts Payable Period (AAPP), Cash Cycle (CC), Financial Leverage (FL), Sales Change Ratio (SCR) for i=1,2,3,......,70 for 70 commercial companies and for t=1,2,3,4,5,6 for the time period 2017,2018,2019,2021,2022,2023.

βi = model parameters, variable coefficients
ε = error model term

Substituting with the relevant variables, we obtain two statistical models as follows:

(1) $ROE_{it} = \beta_0 + \beta_1 CR_{it} + \beta_2 AARP_{it} + \beta_3 AIP_{it} + \beta_4 AAPP_{it} + \beta_5 FL_{it} + \beta_6 SCRit + \varepsilon_{it}$

(2) $ROA_{it} = \beta_0 + \beta_1 CR_{it} + \beta_2 AARP_{it} + \beta_3 AIP_{it} + \beta_4 AAPP_{it} + \beta_5 FL_{it} + \beta_6 SCR_{it} + \varepsilon_{it}$

Quick Ratio and Cash Cycle are excluded from the model. This is due to the problems of multicollinearity because the quick ratio presented a strong connection or correlation with the current ratio, as well as the cash cycle with its components (this is also based on the calculations methods having short-term cobligations and elements of short-term assets). Also in relation to the cash cycle, we choose for the analysis the components of the cash cycle, because they are more accurate measures and

provide more analytical information on the period of cash circulation.

For the calculation of the indicators, we relied on two main reports; the overview of the financial position and from the overview of the financial performance and to extract the results of the statistical models, the eViews7 program was used.

4. Data Analysis and Discussion

For each indicator of the independent variable, we first present descriptive statistics such as average, standard deviation, minimum and maximum values of each indicator as well as the median, which are presented as follows:

Table 1 "Descriptive statistics of variables for commercial companies"

Variable	Average	Standard Deviation	Maximum Value	Minimum Value	Median
Current Ratio	2.01	1.83	15.97	0.41	1.55
Quick Ratio	1.02	0.95	10.19	0.09	0.84
AARP	98.72	250.49	2,985.09	0.06	44.99
AIP	78.75	114.64	917.12	0.01	37.44
AAPP	140.31	247.10	2,844.91	1.49	75.60
Cash Cycle	159.05	449.88	5,732.16	-318.88	71.28
Financial Leverage	0.63	0.22	1.52	0.06	0.65
Sales Change	0.16	0.64	7.58	-0.90	0.07
ROA	0.10	0.36	0.817	-0.57	0.04
ROE	22.33	153.36	1,579.45	-656.39	0.32

Source: Authors based on data from financial statement companies

Based on the above data, it can be concluded as follow:

1.   *Static Reports; this grouping includes Current ratio and Quick Report.*

Based on the data collected from 70 companies included in the study, it is found that theu have a current ratio that varies between rates 1-3 and we can say that the commercial companies included in the study have a level of liquidity sufficient for the needs of companies if we start from the average level of this industry indicator of 2.01 times. But care should be taken because the median value is 1.55 times, so half of the values are below this level, signaling problems with liquidity for repayment of short-term obligations.also the quick ratio has a distribution around the value of 1 times with a median of 0.84 times. As a result, most of the companies during the 6 years period do not manage to cover the short-term obligations with their short-term income,

signaling the caution that the economic entity should have with liquidity.

2.   *Cash Cycle and its indicators – AIP, AARP, AAPP*

Average Inventory Holding Period (AIP) in trading companies should be low since they purchase inventory for resale. Most of the companies surveyed trade in food goods and various industrial items with fast turnover and the average inventory holding period is 78.75 days.

Average Accounts Receivable Period (AARP) varies from company to company regardless of being within the same industry. This is a consequence of the different policies followed by companies regarding the collection rights. The average level of this report is 98.72 days, while the median is around 45 days.

Companies selected for the study operate in the wholesale and retail trade sector and the average accounts receivable period varies from

0.06 days in accounts that operate with cash sales to 2985 days for those companies that have uncollectible accounts receivable. This indicator was not removed from calculations due to the following arguments: firstly, the analysis of the financial statements is performed by indipendent professionals (i.e professionals outside companies) and secondly, analysis starts with indicators that the financial statements contain and provide indices for regularity or irregularity, for fair representation or manipulation, etc. These signals then serve to deepen investigations or convey signals to the relevant structures, to professionals practicing forensic accounting.

On the other hand, companies in general have the tendency to postpone the repayment of suppliers as much as possible. The Average Accounts Payment Period (AAPP) has more or less the same distribution for all companies. Exceptions are made by only 2 companies whose main activity is the trading of spare parts and electrical household appliances and have a very high average accounts payment period during 4 years, reaching the maximum vale of 917 days. The average accounts payment period has a mean of 140 days and a median of 76 days. So trading companies choose to collect accounts receivable in 45 days and settle accounts payable in 76 days.

Based on three above indicators, the cash cycle lasts on average 159 days but with a median of 71 days. When analyzing this indicator, should be taken care for those companies that have high levels of cash cycle, because it signals liquidity problems, while companies with negative cash cycle manage to collect sales revenue quickly, maintain low levels of the inventory as well and manage to use the payment terms offered by suppliers by liquidating them in the most distant terms.

3- Control Variables- Financial Leverage (FL) and Sales Change Ratio (SCR)

Regarding the Financial Leverage (FL), it is presented at different levels depending on the needs of the companies. It can be seen that companies use an average of 63% debt financing and cover the rest with their own

capital. From the collected data, only 3 companies had financial leverage values at levels above 100%, which based on the explanatory information of financial statements, this was caused as a result of financing financial losses with debt. Often Albanian companies it happens that the loss coverage is carried by the company owners, a technique that *should be a signal for further "investigation" into the source of the money*. Therefore, this indicator should be kept under control over the various signals it can provide regarding the solvency of economic entities in short-term periods. Meanwhile, the indicator of the Sales Change Ratio (SCR) gives us information that there are no changes in high values related to sales, they change from one year to another on average by 16% and their median identifies a change in sales by 7%. These values show a normality of the income indicator in the conditions when the economic units grow from one year to another.

4- Profitability and its indicators - ROA, ROE,

Return on assets is a ratio that measures the overall productivity of a company and gives the percentage of profit a company earns from using its resources. The return on assets for the companies studied has an average of 10%, while the median is 4%. In addition to the levels around 10%, we also have negative ROA levels that coincide with two companies that have a level of financial leverage above 100%. If negative ROA is accompanied by high levels of debt, the negative ROA effect is magnified. Businesses often decide to increase their debt when they anticipate a positive ROA in the future – a potentially risky strategy that can result in lower than expected or worse negative ROA. In addition to them, we also have a company that reaches the highest level of ROA of 81.7%, which results from companies that have a lower level of assets and operate in the trade sector of computer programs as well as office apparatus and equipment.

Return on Equity (ROE) shows how much profit a company generates with the money that shareholders have invested. This is the most unstable indicator for the companies under study. ROE has an average level of 2233%, but as a result of a very high standard deviation and the presence of extreme levels that distort the

calculations of the average, we are basing it on median for the interpretation of the average. The median ROE is 32%, so ranked in ascending order the average falls to 32%. For a sustainable economy, ROE levels between 12-15% are considered desirable. Negative ROE values result in companies that have closed the financial year with losses and have multiplied as a result of using high levels of financial leverage and low levels of equity capital. And very high positive values come as a result of high financial leverage and keeping share capital at minimal levels. These irregularities are the signals that should be taken into consideration by professionals practicing forensic accounting for further investigations related to tracing the source of money.

4.1 Results nd Discussion

With the first model; $ROE_{it} = \beta_0 + \beta_1 CR_{it} + \beta_2 AARP_{it} + \beta_3 AIP_{it} + \beta_4 AAPP_{it} + \beta_5 FL_{it} + \beta_6 SCR_{it} + \varepsilon_{it}$

We will test which elements of liquidity explain ROE in the role of the dependent variable, taking as independent variables the current ratio, the average accounts receivable period, the average accounts payment period, the average inventory holding period, the financial leverage and the change in sales. Test for the dependent variable ROE given the following result:

Table 2. ROE Least Squares Model

Dependent Variable: ROE
Method: Panel Least Squares
Sample: 2017 2023
Periods included: 6
Cross-sections included: 70
Total panel (balanced) observations: 210

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-44.54064	27.21237	-1.636779	0.1018
AAPP	-0.145359	0.048165	-3.017946	0.0026
AARP	0.013605	0.031429	0.432875	0.6651
AIP	0.024842	0.035925	0.691491	0.4893
SCR	89.25183	5.432961	16.42784	0.0000
Fin. Lev	112.1928	31.20131	3.595773	0.0003
CR	-7.029351	2.192626	-3.205905	0.0014
AR (1)	0.947505	0.006948	136.3806	0.0000

R-squared	0.904815	Mean dependent var		22.77235
Adjusted R-squared	0.904536	S.D. dependent var		155.5091
S.E. of regression	48.04802	Akaike info criterion		10.58561
Sum squared reside	5524509.	Schwarz criterion		10.60488
Log likelihood	-12700.02	Hannan-Quinn critter.		10.59262
F-statistic	3249.627	Durbin-Watson stat		1.971090
Prob(F-statistic)	0.000000			

Inverted AR Roots	.95	

Source: Authors

Statistical significance of the model we will see with the F test, when $F_v > F_k$ (or $p < \alpha$) for α accepted as a 5 % significance level, while for the explainability of the model we start from the corrected R^2.

As we see from the results of the model, the model is statistically significant with

$F_{statistic} = 3249.63 > F_{kr}$ ($p < 0.05$) and based on the hypotheses:

Ho: There is no statistically significant relationship between current ratio (CR), AARP, AIP, AAPP, financial leverage, sales and profitability as measured by ROE

Ha: There is a statistically significant relationship between current ratio, AARP, AIP, AAPP, financial leverage (FL), sales (SCR) and profitability as measured by ROE.

H0 falls down. So, the model is statistically significant for α=5%. Also, from the examination of the T-student statistic and the comparison with the T-critical we see that p<α for α=5% the variables are also significant with the exception of the average accounts receivable period and the average inventory holding period.

Regarding the explainability of the model starting from the corrected R^2 we see that the explainability of the model is 90.45%, so ROE is explained by the variables used for the model at the level of 90.45%. From the evidence to result in the best model with all the variables that the literature suggested the model with a time lag AR(1) that eliminates the problem of autocorrelation or self explanatory variables. This is also confirmed by the Durbin – Watson criterion value of 1.97, so this model has no autocorrelation problems, elimintaing the fictious increase in model explainability. Based in the statistical model it is resulted that ROE is a variable that is explained by AAPP, Sales, Financial Leverage and current ratio variables. AARP and AIP turn out to be insignificant, so in order to achieve a statistically better model, we eliminate them as variables and obtain a corrected model as follows:

Table 3. Corrected ROE with Least Squares Method

Dependent Variable: ROE
Method: Panel Least Squares
Sample (adjusted): 2017 2023
Periods included: 6
Cross-sections included: 70
Total panel (balanced) observations: 210

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-36.87854	26.90567	-1.370660	0.1706
AAPP	-0.131413	0.047055	-2.792739	0.0053
SALES	88.78364	5.428259	16.35582	0.0000
Fin. Lev	107.3653	31.04455	3.458426	0.0006
CR	-6.948713	2.189860	-3.173132	0.0015
AR(1)	0.947557	0.006948	136.3845	0.0000

R-squared	0.904679	Mean dependent var		22.77235
Adjusted R-squared	0.904480	S.D. dependent var		155.5091
S.E. of regression	48.06209	Akaike info criterion		10.58536
Sum squared resid	5532365.	Schwarz criterion		10.59981
Log likelihood	-12701.73	Hannan-Quinn criter.		10.59062
F-statistic	4546.134	Durbin-Watson stat		1.971039
Prob(F-statistic)	0.000000			

Inverted AR Roots	.95	

Sources: Authors

Even through the corrected model it is explained that it is significant because $F_{statistic}=4546.13>F_{kr}$ (p<5%). The explanatory power of the model as measured by the corrected R^2 is 90.45% almost unchanged from the explanatory power of the first model. This model, to eliminate the autocorrelation problem also results in a time lag AR(1) and from the Durbin-Watson criterion value of 1.97 this model has no autocorrelation problems.

At the end of the testing, it is found in relation to the liquidity indicators, that the current ratio has a negative effect on ROE, i.e an increase of one unit in the current ratio brings a decrease of 6.9 units in ROE. This result is consistent with many reserachers such as [2], [3] and [19] who also proved a negative relationship, suggesting that higher the liquidity, the higher the opportunity cost, leading to lower returns.

The average accounts payment period also negatively affects ROE, bringing about a decrease in ROE by 0.13 units for every one unit increase in average accounts payment period. This result is consistent with findings of [8], [2], [27] according to which less profitable firms wait longer to pay bills payable. Also settlement of accounts payable can increase profitability

as companies benefit from trade discounts for timely payments. In the case of Albania, due to numerous problems, companies delay payments, bringing about a decrease in profitability.

Whereas the financial leverage has a strong positive relationship with ROE, i.e an increase of one unit of financial leverage brings an increase of 107.36 units of ROE. Likewise, the change in sales indicator positively affects ROE, an increase of one unit of Sales brings an increase of 88 units of ROE. This is understandable, since the increase in sales revenue is normally accompanied by an increase in profitability.

With the Second model:

$$ROA_{it} = \beta_0 + \beta_1 CR_{it} + \beta_2 AARP_{it} + \beta_3 AIP_{it} + \beta_4 AAPP_{it} + \beta_5 FL_{it} + \beta_6 SCR_{it} + \varepsilon_{it}$$

It is tested from which elements of liquidity taken as independent variables the current ratio, the average accounts receivable period, the average accounts payment period, the average inventory holding period, the financial leverage and the change in sales, ROA is explained in the role of the dependent variable.
Tests for the dependent variable ROA give the following result:

Table 4 . ROA Least Squares Method

Dependent Variable: ROA

Method: Panel Least Squares

Sample: 2017.. 2023

Periods included: 6

Cross-sections included: 70

Total panel (balanced) observations: 210

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.262730	0.035397	7.422285	0.0000
AARP	-8.40E-05	3.98E-05	-2.111484	0.0348
AIP	0.000167	4.54E-05	3.673139	0.0002
AAPP	-0.000487	6.08E-05	-8.015299	0.0000
SALE	0.434494	0.006818	63.72680	0.0000
Fin. Lev	-0.442137	0.039427	-11.21400	0.0000
CR	-0.002481	0.002756	-0.900288	0.3681
AR(1)	0.951058	0.005231	181.8235	0.0000

R-squared	0.971067	Mean dependent var	0.096160
Adjusted R-squared	0.970982	S.D. dependent var	0.353704
S.E. of regression	0.060252	Akaike info criterion	-2.777234
Sum squared resid	8.687330	Schwarz criterion	-2.757963
Log likelihood	3342.069	Hannan-Quinn criter.	-2.770223
F-statistic	11473.58	Durbin-Watson stat	2.004009
Prob(F-statistic)	0.000000		

Inverted AR Roots	.95

Source: Authors

Starting once again from Fisher's analysis, the model is statistically significant with $F_{statistic} = 11473.58 > F_{kr}$ (p< 5%) and based on the hypotheses:

Ho: There is no statistically significant relationship between current ratio (CR), AARP, AIP, AAPP, financial leverage, sales and profitability as measured by ROA

Ha: There is a statistically significant relationship between current ratio (CR), AARP, AIP, AAPP, financial leverage, sales and profitability as measured by ROA.

H0 falls down. So the model is statisticaly significant at α=5%. Also, from the examination of T-student statistic and the comparison with T-critical we see that p<α for α=5% the variables are also significant except for the current ratio where p=0.3681 > 0.05.

The explainability of the model expressed through the corrected R^2 is 97.1%, so the ROA is explained by the variables used for the model at the level of 97.01%. to eliminate the autocorrelation problem, this model has a time delay AR (1). The absence of autocorrelation problems by eliminating the fictitious increase in model explainability is also proven by the Durbin-Watson criterion equal to 2.

The statistical model showed that ROA is dependent on the variables AARP, AIP, AAPP, financial leverage and sales. The current ratio turns out to be insignificant, so in order to achieve a statistically better model, we eliminate it as a variable and obtain the corrected model as follows:

Table 5 . Corrected ROA with Least Squares method

Dependent Variable: ROA
Method: Panel Least Squares
Sample: 2017 2023
Periods included: 6
Cross-sections included: 70
Total panel (balanced) observations: 210

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.256991	0.034993	7.344108	0.0000
AARP	-8.68E-05	3.97E-05	-2.186229	0.0289
AIP	0.000170	4.54E-05	3.734064	0.0002
AAPP	-0.000504	5.81E-05	-8.683153	0.0000
SALES	0.434314	0.006812	63.75981	0.0000
Fin Lev	-0.442795	0.039463	-11.22038	0.0000
AR(1)	0.951615	0.005195	183.1791	0.0000

R-squared	0.971057	Mean dependent var	0.096160
Adjusted R-squared	0.970985	S.D. dependent var	0.353704
S.E. of regression	0.060250	Akaike info criterion	-2.777732
Sum squared resid	8.690240	Schwarz criterion	-2.760870
Log likelihood	3341.667	Hannan-Quinn criter.	-2.771598
F-statistic	13386.82	Durbin-Watson stat	2.004262
Prob(F-statistic)	0.000000		

Inverted AR Roots	.95

Source: Authors

The model was significant as F-$_{statistic}$=13386.85 > Fkr (p< 5%) and the explainability level is 97.1% almost unchanged from the second model.
According to the processed data, the regression model has the following form:

ROA=0.256991-8.68E-05*AARP+0.00017*AIP+0.000504*AAPP+0.434314*SCR-0.442795*FL+ε

It should be noted that the influence of the independent variables on ROA is very small as it can be seen from the coefficients that are all

smaller than 1. ROA is negatively affected by the average accounts receivable period where a 1-day increase in AARP affects very little by decreasing with 8.68E-05 ROA units. The negative impact is consistent with the findings of [15], [8], [2] and [23]. This result suggests that firms can improve their profitability by reducing the number of days that accounts receivable are uncollected. The result can be interpreted as, the less time takes customer to pay their bills, the more cash the company will have available to meet short-term needs such as for inventory, resulting in higher sales leading to higher profitability of the firm. Also less profitable firms offer longer payment terms to their customers as a way to increase the level of sales and consequently profitability.

Average accounts payment period also negatively affects ROA while average inventory holding period positively affects ROA, but at very lows levels. A one-unit increase in AIP and a one-unit decrease in AAPP results in an increase of 0.00017 in the case of AIP and 0.000504 in the case of AAPP. The negative impact of the average accounts payment period, as mentioned in the first model, is related to the fact that companies, due to numerous problems with liquidity, tend to postpone payments on time, losing the trade discounts that can be offered for timely liquidation.

On the other hand, in accordance with the results of [5] and [20] the positive relationship of maintaining high levels of inventory to profitability is related to lower costs of supplying products and protection of companies against price fluctuations as a result of unfavorable macroeconomic factors. Since companies operate in wholesale, maintaining high inventory levels avoids business losses due to product shortages.

The changes in sales also has a positive effect where a 1-unit increase in sales leads to a 0.43 unit increase in ROA, when other variables are held constant.

While financial leverage has a negative impact on ROA where an increase in 1 unit of leverage brings a decrease of 0.44 units of ROA. This result is contradictory to the result of leverage with ROE where a high positive impact emerged. It should be noted that the influence of leverage on ROE in some cases is an inflated and unrealistic indicator. Consequently, this

provides signlas for further investigations that should be used by forensic accounting professionals. The arguments of the investigations are also related to the fact that the main factor that separates ROE from ROA is debt financing because in its absence ROE will be equal to ROA, and these financings mus be traced to their source.

As a conclusion of the findings between liquidity and profitability, there is a statistically significant relationship detailed with the respective indicators, this relationship is presented as follows;

➢ Current Ratio is negatively related to ROE and has no statistically significant relationship with ROA.

➢ The Average Accounts Receivable Period has a negative relationship with ROA, while no statistically significant relationship was found with ROE.

➢ The Average Inventory Period has a positive relationship with ROA, while no statistically significant relationship was found with ROE.

➢ The Average Accounts Payable Period has a negative relationship wit both profitability determinants ROA and ROE.

➢ Financial Leverage has a positive relationship with ROE , while had a negative relationship with ROA.

➢ Sales are positively related with ROA and ROE.

5. Conclusions and Recommendations

Economic developments in Albania are increasingly identifying the need for professional accounting services to identify what we often say is the true and honest view of the activity of economic entities. Accounting professionals, also referring to the reforms undertaken in our country within the EU membership, must increasingly develop professional skills to trace what is hidden under the financial statements and to discover other hidden problems and risks. In this important process, the techniques and principles of Forensic Accounting and Financial Statements Analysis come in handy, the use of which increases the professional ability of

professionals. Liquidity management is an important decision with a direct impact on the profitability of the firm, which must maintain a good balance. Solvency analysis helps us to identify those transactions for which accounting professionals and not only should focus to further deepen the investigations based on the techniques and principles of forensic accounting. Based on the findings of this study as well as those of other researchers, we recommend to professionals that the use of financial stament analysis instruments in the investigation process is a key factor.

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