



**14th Annual Conference of the  
EuroMed Academy of Business**

**Contemporary Business Concepts  
and Strategies in the new Era**

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# **14th Annual Conference of the EuroMed Academy of Business**

CONFERENCE READINGS

BOOK PROCEEDINGS

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## **Contemporary Business Concepts and Strategies in the new Era**

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All full papers and abstracts submitted to the EMRBI Conference are subject to a peer reviewing process, using subject specialists selected because of their expert knowledge in the specific areas.

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## FOREWORD

The Annual Conference of the EuroMed Academy of Business aims to provide a unique international forum to facilitate the exchange of cutting-edge information through multidisciplinary presentations on examining and building new theory and business models for success through management innovation.

It is acknowledged that the conference has established itself as one of the major conferences of its kind in the EuroMed region, in terms of size, quality of content, and standing of attendees. Many of the papers presented contribute significantly to the business knowledge base.

The conference attracts hundreds of leading scholars from leading universities and principal executives and politicians from all over the world with the participation or intervention of Presidents, Prime Ministers, Ministers, Company CEOs, Presidents of Chambers, and other leading figures.

This year the conference attracted about 160 people from over 23 different countries. Academics, practitioners, researchers, and Doctoral students throughout the world submitted original papers for conference presentation and for publication in this Book of Proceeding. All papers and abstracts were double blind reviewed. The result of these efforts produced empirical, conceptual, and methodological papers and abstracts involving all functional areas of business.

Due to challenges associated with the COVID-19, the EuroMed 2021 conference had to go online for a second consecutive year. The EuroMed Academy of Business would like to wish you the very best during these challenging times. We want you to know how much we value and appreciate your contribution to the EuroMed community, and we wish you and your families all the best. Our thoughts go to those who suffered from the disease, to their families and friends, and to the doctors and medical staff who are fighting day after day at the forefront of the pandemic.

We wish to all that this 'different' and unique conference will be both fruitful and stimulating, as it used to be during the last 13 years.

## ACKNOWLEDGEMENT

We have all worked hard to ensure that this new online experience will be a great one for all participants. Consequently, most of our annual regular activities were normally scheduled online, including the inauguration event and keynote speech, parallel presentation and discussion sessions, journal special issue paper development workshops, networking and collaboration workshop, research project and publication workshop and more.

Many people and organizations are responsible for the successful outcome of the 14th Annual Conference of the EuroMed Academy of Business.

It is acknowledged that a successful conference could not be possible without the special co-operation and care of the Track Chairs and Reviewers for reviewing the many papers that were submitted to this conference. Special thanks to the Session Chairs and Paper Discussants for taking the extra time to make this conference a real success.

The last but not the least important acknowledgment goes to all those who submitted and presented their work at the conference. Their valuable research has highly contributed to the continuous success of the conference.

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## FINANCIAL PERFORMANCE ANALYSIS OF EUROZONE LISTED COMPANIES USING DUPONT MODEL

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### ABSTRACT

The main objective of this paper is the analysis of factors that can influence the financial performance (measured by “return on equity”) of the Eurozone listed companies. For this purpose, we use the DuPont model to provide useful information to identify the main factors that affect profitability. The data was collected from financial statements of the Eurozone listed companies during the year 2018 (ORBIS database), and the final sample included 750 companies distributed across the 19 Eurozone countries. Using the Ordinary Least Squares (OLS) method, we studied the effects of four factors (tax burden, interest burden, EBIT margin, and assets turnover) in return on equity. The overall results suggest that all factors significantly have an influence in return on equity and, consequently, the financial performance of companies listed in the stock markets of Eurozone countries. The efficient use of total assets, measured by assets turnover, seems to be the most powerful factor with an impact of 0.94% in ROE, due to a variation of 1%. However, all the other factors also show a considerable influence on financial performance.

*Keywords: DuPont model; Eurozone countries; Financial performance; Profitability ratios; Return on Equity; Stock markets.*

### INTRODUCTION

Financial performance analysis includes analysis and interpretation of financial statements with the purpose to undertake a full diagnosis of the profitability and financial soundness of the business. The analysis can focus on different areas, but often it is assessed the firm's production and productivity performance (total business performance), profitability performance, liquidity performance, working capital performance, fixed assets performance, fund flow performance, and social performance. Thus, different financial ratios could be used to analyse working capital, financial structure, activity and profitability, but the latest is one of the most commonly used.

Profitability ratios are financial metrics used to measure and evaluate the ability of a company to generate income, and they evidence how well a company uses its assets to produce the income and value to shareholders; managers widely use them, creditors and investors. Return on Equity (ROE) is one of the most important profitability ratios, giving the value created for shareholders and investors. However, considering this ratio alone does not provide the whole picture of the company. It is necessary to break down the ROE components and understand each of their roles and how they affect the ROE ratio.

Therefore, the main objective of this study is to analyse and explain factors that can influence the financial performance of the Eurozone listed companies, measured by ROE.

To achieve our purpose, we used the DuPont model to provide useful information in order to identify the factors that affect ROE. Using the Ordinary Least Squares (OLS) method, we analysed the effects of four Dupont model' factors (tax burden, interest burden, EBIT margin, and assets turnover) in ROE. The data was collected from the financial statements of the Eurozone listed companies - year 2018 (Orbis database), and the final sample included 750 companies distributed across the 19 Eurozone countries.

This study is structured as follows: firstly, we present the literature review; secondly, we discuss the methodology (methods and data); next we present and discuss the results; finally, we show the main conclusions and the implications of our findings.

## LITERATURE BACKGROUND

### *Companies' performance and financial ratios*

The competition among companies has been intensified with globalisation and, consequently, increased the importance of analysing its financial performance and identifying the parameters that could affect it (Erdoğan et al., 2015). Financial ratios are the most popular method of financial analysis due to their use as an input for complex mathematical models (Myšková and Hájek, 2017), including predictive models such as the Altman model and the Ohlson model are based on financial ratios (Kariyawasam, 2019).

In practice, financial ratios are the main way for analysing financial performance due to their simplicity and additional information value. They are based on financial statements and could be an analytical tool providing clarity (Kariyawasam, 2019).

Although financial ratios are widely used to determine the companies' performance, this issue has been an interesting and challenging problem for many researchers and practitioners (Delen et al., 2013). The identification of the financial ratios that can accurately evaluate the companies' performance is an important question for decision-makers.

Several authors analysed the relationship between financial ratios and financial performance in different countries, periods or specific industries. Delen et al. (2013) studied the potential relationship between firm performance and financial ratios, using exploratory factor analysis and adopting predictive modelling methods. They concluded that Earnings Before Tax-to-Equity ratio and Net Profit Margin were the two most important variables.

Borhan et al. (2014) examined the impact of several financial ratios on the financial performance of one chemical company that faced financial problems after its merger and due to the world financial crisis. Using a multiple regression model, they measured six selected financial ratios, representing liquidity, leverage and profitability, from 2004 to 2011. The results showed that some ratios positively affect the company's financial performance and others a negative relationship. The current ratio, debt ratio and net profit margin showed the highest significant impact on the company's performance.

Kariyawasam (2019) analysed the same relationship in ten companies listed in Colombo Stock Exchange, using financial data from 2013-2018 and a panel data analysis. The results showed that only the current ratio, leverage, and firm size had a significant relationship with the company's financial performance. They also observed a positive impact of the current ratio and firm size in its profitability but a negative impact of leverage on it.

#### *Return on equity and DuPont model*

ROE is one of the major indicators adopted in the financial analysis of the companies that measure the ability of equity to generate a financial return. Its value is obtained by dividing net income by shareholders' equity (Net Income / Equity).

This ratio is relevant for different stakeholders, but it has particular interest for managers, investors and entrepreneurs. For managers and entrepreneurs can help in the decision-making process (Burja, 2011; Chandrapala and Guneratne, 2012; Chandrapala and Knapkova, 2013; Charles et al., 2018). For investors allow knowing about the creation of additional value (Eiteman, Stonehill and Moffet, 2002). For investors and entrepreneurs allows assessing the global efficiency rate of their investments (Popa and Ciobanu, 2014). In fact, investors want to maximise interest for personal investment by achieving an ROE as high as possible and higher than other potential investments; and the managers are interested in increasing financial return for attracting new business investment (Burja and Mărginean, 2014).

The DuPont model is a sub-part of a ratio analysis methodology for monitoring and enhancing a business's profitability and 'return' (Padake and Soni, 2015). It is advantageous because it breaks various components of business performance indicators into smaller parts, providing a more accurate assessment of the significance of changes in a company's ROE. The main advantage of this model is that it can demystify relatively complex financial analysis and put strategic planning at the fingertips as

it links several critical ratios and allows one to examine how a firm generates its return to its owners, i.e., its ROE (Liesz and Maranville, 2008), providing much deeper understanding on efficiency of the firm (Padake and Soni, 2015).

Since its creation, three distinct versions of the DuPont model have been used to help unravel the underlying drivers of profitability and return over time (Liesz and Maranville, 2008). In 1918, F. Donaldson Brown, electrical engineering, began his functions in General Motors and he recognised a mathematical relationship between two commonly computed ratios, namely the net profit margin (NPM) and total asset turnover (TAT), and return on assets (ROA). With ROA being affected by a profitability measure (NPM) and an efficiency measure (TAT) led to the DuPont model becoming a widely used tool of financial analysis (Liesz, 2002). The original DuPont model was born, as illustrated in equation 1 below (Liesz, 2002; Mubin et al., 2014).

$$ROA = \frac{\text{net income}}{\text{sales}} \times \frac{\text{sales}}{\text{total assets}} = \frac{\text{net income}}{\text{total assets}} \quad [1]$$

In the 1970s, the focus of financial analysis shifted from ROA to ROE (Liesz and Maranville, 2008) and to answer this new perspective, the DuPont model had the first major modification (Little et al., 2011). It was introduced one-third factor of attention for financial managers: leverage. Later, Hawawini and Viallet (1999) introduced a new modification of the DuPont model, adding two more factors. With this change, the new formula includes five factors to explain and understand the ROE and it is shown below in equation 2 (Liesz, 2002; Mubin et al., 2014).

$$ROE = \frac{EBIT}{Sales} \times \frac{Sales}{Invested\ capital} \times \frac{EBT}{EBIT} \times \frac{Invested\ Capital}{Equity} \times \frac{EAT}{EBT} \quad [2]$$

In this equation, EBIT is the earnings before interest and taxes, the EBT is the earnings before taxes, the EAT is the earnings after taxes, and the invested capital is obtained as cash + working capital requirement + net fixed assets.

Several studies used total revenue instead of sales and the total assets instead invested capital of the original model (e.g. AlAli, 2019; Ferreira et al., 2019), calculating ROE using the following formula (equation 3):

$$ROE = \frac{\text{net income}}{EBT} \times \frac{EBT}{EBIT} \times \frac{EBIT}{\text{revenue}} \times \frac{\text{revenue}}{\text{total assets}} \times \frac{\text{total assets}}{\text{shareholders equity}} \quad [3]$$

Where ROE is equal to *Tax burden* × *Interest burden* × *EBIT margin* × *Assets turnover* × *Leverage*.

DuPont model requires just a few simple calculations, as Liesz and Maranville (2011) stressed, and gives managers the possibility to conduct strategic and financial planning. In the literature, several studies used the DuPont model to explain financial performance and profitability.

According to Mubin et al. (2014) and Arsad et al. (2017), this model supports managers to assess companies' operating performance and return on equity, financial leverage, and assets turnover. Botika (2012) studied the listed companies in Romania from 2007 to 2010, using profitability, turnover

and leverage, and concluded that DuPont components represent an important and viable form of stock's abnormal returns analysis that supports market participants in making their investments decisions. In the same country, Burja and Mărginean (2014) analysed five companies of the furniture industry. They remarked on the importance of the DuPont model to identify the positive and negative impacts of the different ROE' factors. This study also confirms the versatility of the DuPont model to apply in most companies, regardless of size or industry.

Mubin et al. (2014) studied which of the components of the DuPont model affects more the ROE ratio in different industries of the KSE 100 index, using financial data from 2004 to 2012 of 51 companies. The results showed that asset turnover significantly varies from industry to industry, whereas equity multiplier and profit margin are volatile among indifferent industries. They also observed a positive industry effect on newly established companies from some sectors (fuel and energy, cement and transport and communication).

Warrad and Nassar (2017) used the DuPont model to study companies of Jordanian industrial sectors for the period from 2008 to 2015, and the results revealed a significant effect of total asset turnover and net profit margin on ROE. Still, there is no significant effect of financing leverage. However, there is a significant effect on ROE when three indicators are analysed altogether.

Bunea et al. (2019) analysed the impact of some financial indicators on ROE using the DuPont model, using a sample of 1253 companies from the energetic Romanian industry and a linear regression model. The results showed that asset turnover, price to earnings, price to book and financial leverage were the most relevant ratios to determine ROE. Still, the asset turnover and price to earnings have had the strongest influence.

Recently, Gaweda and Sajnóg (2020) used a developed DuPont model with seven factors to calculate the cross-sectoral detection of the fundamental determinants of ROE of several companies listed on the Warsaw Stock Exchange operating in the industrial sector, the consumer goods sector, and the trade and services sector during the horizon from 2008 until 2017. The evidence disproved the expected results, suggesting that the Capital Multiplier was the leading factor shaping the level of ROE in the companies, and with the Capital Multiplier also expressing a negative correlation of moderate strength to companies' ROE.

Herciu et al. (2011) analysed the top 20 most profitable companies globally in 2009 (according to Fortune). They concluded that absolute measurements, like profit, are not always relevant, and the DuPont analysis is important to compare several companies and to compose ranks. Also, Sheela and Karthikeyan (2012) used the DuPont model to evaluate the financial performance for the top three pharmaceutical companies in India for the period 2002-2012. They found that the model set a common ground for comparing the company's performance.

In practice, the DuPont model is a modified factor analysis that allows determining which factors caused the change in profitability or making a factor analysis of the return on equity (Filatov and Bunkovsky, 2020). As these authors state, the factors that affect ROE are divided to identify which influences more (and less) this ratio. This model could be used by managers or owners of small companies and by other stakeholders (Liesz, 2002) because it simplifies the companies' financial analysis and is also one effective tool to understand how the formula components affect ROE.

The DuPont model does not consider the relationship between return and risk as to the Capital Asset Pricing Model. Still, it is an important tool to analyse a company's profitability and understand the factors contributing to better performance (Ferreira et al., 2019).

## METHODOLOGY

### *Objectives and sample*

This research work aims to analyse the financial performance, measured by ROE, of companies located in Eurozone countries and listed on the stock markets. As previously mentioned, ROE is one of the most important ratios/indicators used to determine financial performance. According to the DuPont model (previously explained), several factors (ratios/indicators) might influence the financial performance; in this study, we use a model based on four factors to explain the ROE: *tax burden (tax effect), interest burden, EBIT margin, and assets turnover*. Thus, it is relevant to find out which of these factors is the most relevant in ROE measurement.

Financial information collected from the ORBIS/AMADEUS database was used to conduct the research. Data was collected from financial statements of listed companies in the Eurozone in the economic period of 2018. During the data processing arose the need to remove some observations contained in the initial database. Namely, those concerning: (i) companies whose net profit for the period was shown to be higher than the profit before tax, a situation that possibly reflects the accounting treatment of deferred taxes established in financial accounting standards; (ii) companies with "tax effect" and "financial charges" ratios higher than one, for the reason previously mentioned, where there is a significant positive effect on results before tax; (iii) companies whose variables show missing values; (iv) Financial institutions were dropped due the specific accounting regulations. For obtaining viable and coherent analysis results, it is worth mentioning that the database does not present unrelated data, data falling into the criteria abovementioned, or non-existent data. In these cases, observations were eliminated so that there would be no bias in the results.

A final sample consisting of 750 companies will be used to reach the goal of the research. Regarding their absolute and relative distribution by country, the following should be highlighted. France (22.8%), Germany (21.6%) and Italy (15.9%) are the economies where most companies in the sample

are located (60.3% of all companies in the sample). For each remaining Eurozone country, the number of companies considered in the sample ranges from 5.9% in Spain, Belgium, or the Netherlands and 0.5% in Latvia or Slovakia. In Portugal are located 2.7% of the total sample companies.

### *Variables*

Regarding the variables considered in the study, the explained variable is ROE (the financial performance proxy). According to the DuPont model, the variables that may explain ROE are the tax effect, the interest burden, the EBIT margin, and the assets turnover. These variables correspond to financial ratios that were calculated using the original data collected on ORBIS. The five factors of the DuPont model presented in equation 3 considers an additional variable – leverage. This last variable will not be considered in the estimation since using the five ratios simultaneously causes a perfect multicollinearity problem and does not allow running the OLS model. From the literature review, we expect the following relationship between the ROE and the explanatory variables (Table 1).

Explanatory variables	Tax effect	Interest burden	EBIT margin	Assets turnover
Expected relationship	(+)	(+)	(+)	(+)

TABLE 1. *Expected relationship between the ROE and the explanatory variables*

### *Method*

In the sense of the proposed analysis, to study the relationship between the ROE and the set of independent explanatory variables defined in the adjusted DuPont model (see equation 3) will be applied the linear regression methodology, known as the OLS method. The method is intuitively applicable and mathematically simple. The estimation is performed through a linear regression to identify and quantify which variables explain (the explanatory or independent variables) another variable, which is the object of study (dependent or explained variable) (Gujarati, 2003). The model to be estimated is the one in equation 4, below:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon \quad [4]$$

In the specific case of this study, by applying the OLS method, the aim is to understand if the model to estimate is given by the following equation (equation 5):

$$ROE_i = \alpha + \beta_{1i} Tax\ Effect_i + \beta_{2i} Interest\ Burden_i + \beta_{3i} EBIT\ Margin_i + \beta_{4i} Assets\ Turnover_i + \varepsilon_i \quad [5]$$

In equation 5, the ROE is the dependent or explained variable, the tax effect, the interest burden, the EBIT margin, and the assets turnover are the independent or explanatory variables, withdrawn from the DuPont model, *alpha* is the model constant, *beta* are the estimated coefficients and *e* is the error term. Note,  $i=1, 2, \dots, n$  represent the observations in the model since the database is cross-sectional. An additional mathematical transformation is done, and the variables will be present in a logarithmic

form. The conversion allows the estimated coefficient to be read as a percentage. On the other hand, it will enable the range of values used in the regression to be reduced.

The model fit may be evaluated using a set of indicators and tests. The coefficient of determination (R<sup>2</sup>) indicates the percentage in which the variations in the explained variable are explained by variations occurring in the explanatory variable. A larger value indicates a better accuracy of fit, i.e., a better model. The Student's t-test allows verifying that the estimated coefficient is statistically significant and should be considered as correctly predicting changes in the explained variable. Additionally, the joint significance test (the F-test) is used to verify that the variables together form a good model. Finally, and because several explanatory variables are used simultaneously, it is necessary to verify whether they are somehow related to each other and whether this relationship is strong. To verify whether there is multicollinearity between the explanatory variables, the *Variance Inflation Factors* (VIF) test is used.

It should be noted that the OLS method is one of the traditional methods of inferential analysis most used in economic research (Wooldridge, 2012). In the specific case of applying the DuPont model, several articles have been published in recent years that use this method, which validates and justifies its use in this study (Warrad and Nassar, 2017; Gaweda and Sajnóg, 2020). For a better understanding of the data, descriptive analysis and *Pearson's linear correlation* are previously performed.

## RESULTS AND DISCUSSION

Table 2 presents the number of observations for each variable and its unit of measure. It should be noted that, for a more simplified analysis of the data obtained, the values found for the return on equity and the ratios of the tax effect, interest burden and EBIT margin were multiplied by 100 to show values as a percentage.

Variables	N	Unit of measure	Minimum	Maximum	Average	Standard Deviation
ROE	750	ratio	0,001	1.034	0.127	0.113
Tax effect	750	ratio	0.026	1.000	0.714	0.171
Interest Burden	750	ratio	0.066	1.000	0.812	0.179
EBIT margin	750	ratio	0.005	2.530	0.173	0.236
Assets Turnover	750	ratio	0.020	10.529	0.907	0.695

TABLE 2. *Statistical distribution of the data*

The ROE of the companies in this study varies between 0.10% and 103.4%, and the average value is 12.7%. The ROE ratio indicates the percentage of profit per euro invested so, for these companies, each euro invested generates an average profit of 12.7%. The standard deviation is 11.3% indicating the values are very dispersed from the mean value.

The four dependent variables show a significant difference between the minimum and maximum values. The tax effect variable ranges from a minimum value of 2.6% to a maximum value of 100%. The

tax effect variable is calculated by the difference between 1 and the effective tax rate, i.e.,  $\text{tax effect} = 1 - \text{effective tax rate (tax/income before tax)}$ . The maximum value of this variable is given by companies that have a zero-tax burden. On the other hand, a minimum value of 2.6% indicates the existence of companies for which the effective tax rate reaches approximately 97.4%. The average value of this variable, 71.4%, indicates the tax effect that companies bear is, on average, for the 750 observations, 28.6%. The standard deviation has a value of 17.1%. The result indicates each company deviates (either positively or negatively) from the mean in 17.1%, on average.

The interest burden varies between 6.6% and 100%, respectively, corresponding to the minimum and maximum value. The maximum value of this variable, being 100%, shows that the companies that present this result do not show interest expenses. The average value is 81.2%. Since this variable is calculated as '1- interest paid and similar expenses in percentage', it can be said that, on average, the companies show the interest paid and similar expenses equivalent to 18.80%. The standard deviation is 17.9%, indicating that the values of the variable are relatively concentrated.

The EBIT margin ranges from 0.5% to 253%, with the mean value at 17.3%. On average, for values of 17.3%, companies can translate operating assets into results and, consequently, generate operating profits. However, the standard deviation is remarkably high and higher than the mean value (23.6%). In this ratio, it is important to highlight that companies in the database present an income that is not derived from sales/rendered services. As a result, companies have sales values lower than the EBIT.

The assets turnover varies between 0.02 and 10.53. Its average value at 0.91, i.e., on average, for each euro of assets, companies generate 0.91€ in sales. This ratio shows the company's ability to use its assets efficiently, i.e., that the higher its value, the greater the efficiency with which the company generates revenues. The standard deviation is approximately 0.70€. That is, each company can, on average, generate 0.91€  $\mp$  0.7€.

Table 3, in addition to the values obtained applying the Pearson's correlation between each pair of variables present the statistical significance of this same correlation.

	ROE	Tax effect	Interest Burden	EBIT margin	Assets Turnover
ROE	1				
Tax effect	0.245***	1			
Interest Burden	0.393***	0.173***	1		
EBIT margin	0.160***	0.216***		1	
Assets Turnover	0.208	-0.065*	0.156***	-0.412	1

Notes: \*\*\* indicate a statistical significance level of 1%; \*\* indicate a statistical significance level of 5%; \* indicates a statistical significance level of 10%. When no statistical significance was found, the correlation values are not presented.

TABLE 3. *Pearson's correlation: original data*

The tax effect has three positive relationships. The relationships with the ROE, the effect of financial charges and the EBIT margin are statistically significant relationships (significance level of 1%) being

weak positives. The relationship of the tax effect variable with the effect of assets turnover is statistically significant but weak and negative.

The financial burden presents statistically significant relationships with the tax effect and assets turnover. There are weak but positive. There is only a moderate positive relationship between the effect of financial burden and the ROE. With the EBIT margin, a statistically significant correlation was not found. This last variable presents a positive, although weak, and statistically significant relationship with the ROE and the ratio of the tax effect. A statistically significant but negative relationship is found with the assets turnover. The correlation with the interest burden is not presented since it is not statistically significant.

Table 4 presents the results of the model estimation using the OLS method. In addition to the VIF that indicates the degree of collinearity between variables, the estimated adjusted coefficient of determination (estimated adjusted R<sup>2</sup>) and the joint significance test (Fisher's F test) are presented. In this table, it is possible to observe the estimated coefficients and their respective individual statistical significance (obtained through the application of the t-Student test) and several indicators that measure the adjustment quality of the models.

Variables	Model		
	Estimated Coefficient	Statistical significance	VIF
Constant	0,410	***	
Fiscal effect	0,849	***	1,099
Interest burden	0,712	***	1,220
EBIT margin	0,863	***	2,544
Assets Turnover	0,941	***	2,655
Number of observations	750		
Adjusted R <sup>2</sup>	0,840		
F-test	983,92 (***)		
Notes: *** indicate a statistical significance level of 1%; ** indicate a statistical significance level of 5%; * indicates a statistical significance level of 10%.			

TABLE 4. Results of the OLS estimation

The estimation results presented in the above table allow us to conclude that all factors explain the ROE variation. In this model, and according to the adjusted determination coefficient, 84.0% of the variations in the ROE are explained by variations that occur in the explanatory ratios. Moreover, the estimated coefficients for all ratios have a statistical confidence level of 99%, and the multicollinearity between the explanatory variables is low (the VIFs are less than 5 for all variables). Finally, the model presents joint statistical significance (the F statistic is statistically significant for a significance level of 1%), which indicates that the variables, together, form a model with the explanatory power of the variation in ROE. The results indicate that a 1% change in the tax effect generates a 0.85% change in the company's financial performance. An increase of 1% in the interest burden leads to a positive change of 0.71% in ROE. The effect of the EBIT margin is remarkably close to the results found for the tax effect. In this situation, when there is a 1% increase in the EBIT margin, the ROE increases by 0.86%. In turn, the

estimated coefficient for the assets turnover shows that when there is a 1% increase in this ratio, the ROE increases by 0.94%. This is the variable that seems to have the strongest influence on the company's financial performance.

All variables show a positive relationship with the financial performance as was expected. According to the findings, all the independent variables have a significant influence on ROE, and therefore on the financial performance. Nonetheless, the major role is played by "assets turnover". The results are in line with Bunea et al. (2019) and Warrad and Nassar (2017), where the "assets turnover" also play a major role to explain ROE. However, we need to consider that "assets turnover" are influenced by the industry sector, as mentioned by Mubin et al. (2014).

## CONCLUSION

This study aims to analyse the financial performance of listed companies placed in the Eurozone countries. The financial performance is based on the return on equity and consequently on book values. On average, for 2018, we found that the ROE presents a value of 12.7% - for 1 euro of shareholders equity, the return was 0.127 euros.

Concerning the main factors that have an influence on the ROE, the most relevant seems to be the efficient use of the assets (i.e., assets turnover). The EBIT margin plays the second important role to explain ROE. The tax effect also influences the ROE in a significant manner. For each 1% of variation, it will influence approximately 0.85% in ROE. Surprisingly, the interest burden is the last influencing factor on ROE. However, with a significant value, a change of 1% in the interest burden will influence 0.71% in ROE.

Therefore, the overall results suggest that all the factors significantly affect the ROE and, consequently, the financial performance of companies listed in the stock markets of Eurozone countries.

For future research, it will be interesting to analyse the financial performance of the Eurozone listed companies, regardless of the country and industry, and with more economic periods.

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