

Received: February 2024

Accepted: March 2024

DOI: 10.7862/rz.2024.mmr.02

CC-BY 4.0

Amira BENACHOUR¹Lamine TARHLISSIA²

THE MICROECONOMIC DETERMINANTS OF THE PERFORMANCE OF LARGE COMPANIES: CASE OF ALGERIAN COMPANIES

This research aims to identify and study the internal factors that can influence the financial performance of large Algerian companies and make them sustainable. This study is based on a sample of 78 large Algerian companies operating in four sectors: construction, trade, industry and services, over a period of four years from 2018 to 2021. For this purpose, we used the panel data regression method that takes into account both individual and temporal dimensions. The results of the statistical and econometric analysis showed that the debt ratios play negatively and very significantly on the economic profitability of large Algerian firms, it is also the case for the tangibility of assets, the sectors of activity, the public sector and the size of the firm. However, the capital turnover ratio and the age of the companies act favorably and significantly on their profitability. Self-financing, liquidity and the sector of activity present insignificant coefficients.

Keywords: financial performance, microeconomic determinants, large Algerian firms, panel data.

1. INTRODUCTION

Large and small businesses are an economic unit that occupies a predominant place in the national economic market; because of their impact on the nature and quality of the industrial network and their importance in terms of job creation and improvement of the quality of life. Faced with such tough and lively competition with increasingly modern and complex market expectations, each company must be resilient, that is to say, be able to face hard and unusual blows. Achieving performance then becomes an important issue that it must master. According to OTLEY (1999) performance is itself a multifaceted concept that does not have a single definition, everything depends on the stakeholders and the vision of the company: its strategy and its objectives. It is in this sense that the performance of a firm

¹ Amira Benachour, Ecole Supérieure de Commerce, Algeria; e-mail: a_benachour@esc-alger.dz (corresponding author). ORCID: 0009-0000-2867-2501.

² Lamine Tarhlissia, Ecole Supérieure de Commerce, Algeria, Algiers; e-mail: l_tarhlissia@esc-alger.dz. ORCID: 0009-0009-4296-7950.

can be measured from different angles and is not limited to the financial dimension. However, it is often apprehended by financial indicators designed on the basis of information contained in the annual financial statements, the latter are intended to measure the financial performance of the company given that it presents a subjective measure of the ability to a business to use the assets of its primary mode of operation and generate revenue. The strength and performance of businesses contribute to the overall success of the country, including their contribution to the country's Gross Domestic Product (GDP) or through tax revenues that assist the government in operating smoothly and maintaining and enhancing the country's infrastructure.

In Algeria, during the recent COVID-19 health crisis, and despite recording significant revenue losses, it was observed that a significant number of large companies have risen to the collective challenges: this included producing essential products that were sorely needed, as exemplified by the agri-food giant "CEVITAL", as well as maintaining the operation of critical infrastructure networks (water, electricity, communication channels). While other major corporations, such as "Air Algérie", were on the brink of bankruptcy, estimating losses reaching 35 billion dinars by the end of 2020, without taking into account possible customer refunds (EL WATAN: 19/07/2020). Looking at the companies' results during this period, one is tempted to question the explanatory factors behind their performance. Indeed, while some companies manage to achieve good results, others struggle to attain positive outcomes. Thus, our work strives to address the following issue:

2. WHAT ARE THE MICROECONOMIC FACTORS THAT INFLUENCE THE PERFORMANCE OF LARGE COMPANIES IN ALGERIA?

This research question is divided into the following sub-questions:

- How firm's financial performance can be measured?
- Are firm's size, its legal status, and its available capital the only performance determinants of Algerian firms?
- Is there a consensus between present and past research?

The following hypothesis is formulated based on results that were obtained from precedent research.

The microeconomics factors that influence the performance of large Algerian firms are: firm's size, its legal status, and other factors related to financial structure (liquidity)

In order to answer the above-mentioned sub-questions, the following sub-hypotheses are proposed:

- H1: financial performance indicators are: economic added value EAV, Return on Equity (ROE), and Return On Assets (ROA)
- H2: there are other indicators that determine the performance of Algerian firms, namely, debt ratio
- H3: the present research will arrive at the same conclusions as past research.

Considerable amount of prior research on performance has focused mainly on banks not firms and the small amount that took firms, studied just small and mid-sized firms. In this research, however, the focus will be on large companies. Moreover, past research tended to take financial diagnostic variables unlike the present paper in which other variables that might influence performance will be examined.

To address this issue, we employed a descriptive approach and an analytical approach. The descriptive approach was utilized in the theoretical section, while the analytical approach, employed in the practical section, aims to yield concrete results through multiple

regression analysis on panel data from a sample of 78 Algerian companies over the period 2018–2021. The integration of both descriptive and analytical approaches will provide more comprehensive answers to the hypothesis outlined above.

3. COMPANIES PERFORMANCE, THEORETICAL FRAMEWORK

Currently, business performance has become a relevant concept in strategic management research. Although it is a widely used concept in academic literature, there is rarely harmony regarding its definition and measurement.

3.1. What is performance?

The word “Performance” entered the French dictionary in 1839 (Domin, Nieddu, 2012) and initially referred to the success achieved by a racehorse and the success of the race itself, then extended to the results and athletic achievement of a sportsman. It is derived from the English word “performance” (late 15th century), which means carrying out a task with regularity, method, and application. However, this English term has its origins in Old French from the Latin verb “parformer”, which dates back to the 13th century and meant to accomplish and execute (Renaud, Berland, 2007). According to (Bourguignon, 2009), this term was initially used in two fields: sports to describe the outcome of a competition, and mechanics to characterize the technical possibilities and capabilities of a machine before being adapted for businesses (Renaud, Berland, 2007). However, the 20th century is marked by the development of the concept of “performance”, which quantified the potential for exponential yield. This captured the attention of numerous researchers. Although it is a common concept in both academic literature and organizational contexts to denote a certain level of excellence (Issor, 2017), there is little consensus on its definition and measurement. According to (Issor, 2017): “It is a concept that does not achieve unanimity around a precise definition and measurement, as the latter depends on the intended objective, chosen analytical perspective, and the field of interest of the user” (El Amraoui, Hinti, 2022).

Nevertheless, numerous attempts have been made by various researchers to define this concept. Le Moigne (1996) demonstrates that the notion of competitiveness is crucial in understanding firm performance: “For both organizations and racehorses, performance is relative: it's not about doing 'well.' It's about not doing worse than others” (Hamadmad, 2017). According to Issor “performance is nothing other than the evolution or enlargement of the company (Issor, 2017). However, (Bourguignon, 2009) highlights the new managerial approach and defines performance as the achievement of organizational objectives, regardless of their nature. (Bouquin, 2004), on the other hand, demonstrates that a successful company is one that manages to meet the expectations of stakeholders and ensures the desired reward surplus for them. To this day, there is no universal and precise definition of the concept of performance. (Jean-Paul Bailly, 2005) observes that despite a certain vagueness surrounding the definition of performance, there are certain points of convergence among different definitions (Bailly, 2005), namely:

- Performance is often used in the context of valuation and is closely linked to value. The latter involves enhancing results and revenue (entailing a constant search for optimal costs).
- Achieving objectives on time.
- Strong positioning in relation to competitors.
- Sustaining current and future profitability.

Through this literature review, it becomes clear that performance is not a concept that is defined in an absolute or objective manner. It is a subjective concept that holds as many meanings as there are individuals or groups using it. Each firm can have its own interpretation depending on the stakeholders and the company's vision, strategy, and objectives. (Galambaud, 2003) emphasizes that “a company doesn't have one but multiple performances” (Amaazoul, 2018).

3.2. Approaches to performance

The literature highlights the existence of a multitude of tools and methods, both traditional and modern, for assessing the financial performance of companies.

3.2.1. Traditional approaches to performance measurement

This approach falls within the scope of neoclassical finance, where performance is translated into shareholder value. In other words, it refers to the surplus provided to shareholders in relation to their opportunity cost. (Gérard, and all, 1998) distinguishes between two types of measures within this approach: Measures derived from financial research (Tobin's Q ratio and Marris's ratio) and recent measures of created value (Economic Value Added – EVA and Market Value Added – MVA). It's important to note that the credibility of measuring shareholder value is conditioned by two assumptions: the efficiency of financial markets and the measurability of the cost of capital using the Capital Asset Pricing Model (CAPM).

3.2.2. Ratio Approach

This approach relies on the calculation of certain ratios such as Return on Equity (ROE), which measures how shareholders have fared over the year. It provides a genuine measure of performance from an accounting perspective as it expresses the percentage of corresponding results for each monetary unit invested (Mahi, 2021). And the ROE measures the company's ability to adequately and consistently compensate its shareholders from its operations (Alami et al., 2023). (Helfert, 1991) prefers to call this ratio the “return on net worth” and asserts that it is the most commonly used ratio by financial analysts to measure the return on owners' investment. Return on Investment (ROI) is a financial indicator that helps determine the profitability of invested capital. In other words, it measures the loss or gain generated by each monetary unit invested in projects. Not only does it assess the rate of return of any given project over a specific period, but when used frequently, it also predicts the future profitability trend of the company.

3.3. Literature review

Documentary analysis in scientific research allows for the interpretation of existing literature in light of recent developments and calculates the impact of this new information in the field by mapping the evolution of knowledge. So, we have chosen to present some studies carried out on the same subject. The study by (Hunjra et al., 2014) aimed to assess empirically the determinants of the performance of Tunisian insurance companies during the period of study from 2002 to 2018 using the panel data methodology. The empirical results show that only the microeconomic factors are determinants of the performance of insurance companies. The macroeconomic factors do not have significant effects on performance. Capital structure, solvency, risk capital management, premium growth, volume of capital, age and financial investments are the determinants of the performance of Tunisian insurance companies.

The study by (Nikolaus, 2015) examines the determinants of firm performance in Indonesian and Dutch companies during the period of 2009–2013. The sample consists of 276 Indonesian non-financial firms and 62 Dutch non-financial firms. Firm performance (dependent variable) is measured using Tobin's Q, while the independent variables include: leverage, ownership concentration, inflation, growth, and size. The study by (Assienin, Ouattara, 2016) aimed to explain the financial performance of Ivorian banks. To achieve this, they assembled a sample of 27 banks observed over a six-year period (2011–2016). The researcher selected the following explanatory variables: Liquidity (Total Loans/Total Assets), Operational Efficiency (Operating Costs/Operating Income), Ownership (1 = Public; 2 = National Private; 3 = Foreign Private), Amount of Bank Deposits, Cost of Funding (Interest Expenses to Customers/Total Customer Deposits), GDP. The explained variables include ROA (Net Income/Total Assets), ROE (Net Income/Equity), and NIM (Net Interest Margin or Net Interest Income/Total Assets). The ROE and NIM models are fixed-effects models, while the ROA model is a random-effects model. The study made by (Laha, and Sur, 2020) aimed to shed some light on the efficiency of the select 47 construction and engineering firms and the different microeconomic and macroeconomic factors affecting such efficiency during the period 1999–2000 to 2018–2019. For the purpose of this study, Stochastic Frontier Analysis was used primarily to determine the firm-level efficiency scores. Subsequently, the determinants of such firm-level efficiency were looked into using Panel Censored Tobit Regression Model. The results of the study showed that leverage, size, age, openness, exchange rate and price factor were the important determinants of the efficiency of the construction and engineering firms during the period of study. The study by (Ngoc and Nguyen, 2020) aimed to investigate the determinants of financial performance of 1343 Vietnamese companies classified into six different sectors and listed on the Vietnam Stock Exchange over a four-year period, from 2014 to 2017. These determinants include the company's size, liquidity, solvency, financial leverage, and financial adequacy. Meanwhile, financial performance is assessed using three different ratios: Return on Assets (ROA), Return on Equity (ROE), and Return on Sales (ROS). The study of (Derbali, Lamouchi, 2021) aimed to assess empirically the determinants of the performance of Tunisian insurance companies during the period of study from 2002 to 2018 using the panel data methodology. The sample used in our study is made up of 13 resident insurance companies listed on the Tunisian Stock Exchange during the period of study. We employ microeconomic and macroeconomic variables. The empirical results show that only the microeconomic factors are determinants of the performance of insurance companies. The macroeconomic factors do not have significant effects on performance. Capital structure, solvency, risk capital management, premium growth, volume of capital, age and financial investments are the determinants of the performance of Tunisian insurance companies with a different sign positive and negative. By This study (Odipo et al., 2020) aim to look at micro-economic determinants of long run performance of shares issued in Nairobi Securities Exchange from 1st Jan. 2007 to 31st Dec. 2013. Do these selected microeconomic determinants have statistically significant effects on long run return on equity issued in the Nairobi security exchange in Kenya? The study has a total 12 firms that issued shares in the security exchange during this period. In order to achieve the objectives of the study “a calendar study” approach on the issued shares was adopted. Monthly average returns were calculated for a period of 5 years. The study made bay (Quoc Trung, 2021) aimed to estimate the factors affecting Vietnamese small and medium-sized enterprises (SMEs) listed on the Hanoi Stock Exchange and the

Chi Minh City Stock Exchange between 2009 and 2019. The author adopts a quantitative method (the “Generalized Method of Moments” – GMM) to investigate six statistically significant variables positively affecting SMEs’ performance at 5%. These variables include the profitability lag, firm size, leverage ratio, revenue growth, gross domestic product growth, and the quality of national governance. One of the significant contributions of this study to the literature is to consider the leverage ratio as a tool to improve SMEs’ performance, and national governance quality is a mechanism to enhance SMEs’ efficiency.

4. ECONOMETRIC STUDY OF DETERMINANTS OF PERFORMANCE IN LARGE ALGERIAN COMPANIES

4.1. Research methodology

In order to build our final database required for modeling the econometric model, we approached the Directorate of Large Enterprises (DGE), the organization responsible for tax monitoring of the heaviest taxpayers in Algeria, specifically the management sub-directorate. We were able to gather accounting data from financial statements (balance sheets and income statements) of 78 companies under study, covering a time span of four (04) years (2018–2021), resulting in a total of 312 observations.

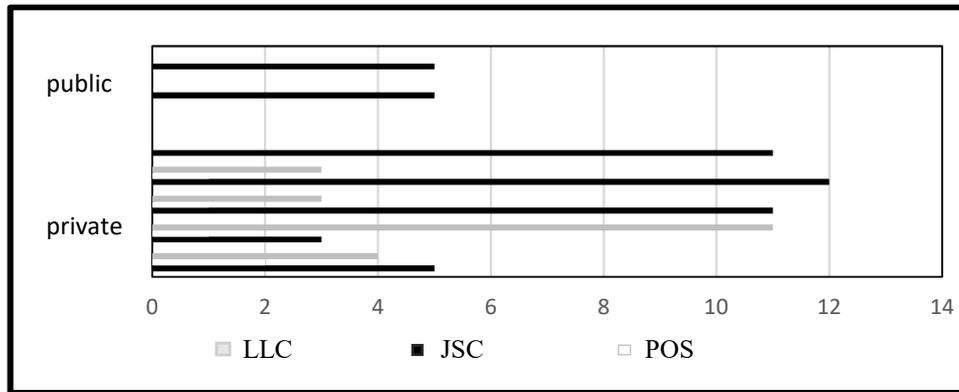


Figure 1. Sample presentation

Source: Own elaboration.

4.1.1. The dependent variable

We choose (ROA), a post-performance indicator that we will test in our model. His performance measure reflects the company's ability to generate profit from its asset base.

$$ROA = \frac{\text{Net profit}}{\text{Total assets}} \quad (1)$$

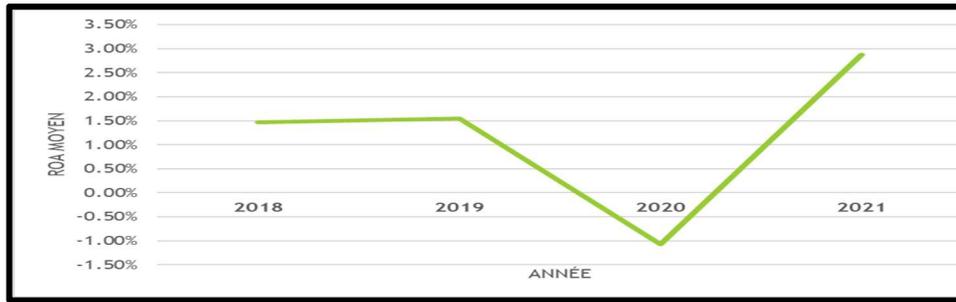


Figure 2. Evolution of ROA

Source: Own elaboration.

4.1.2. Independent variables

- Debt ratios: A distinction should be made between long-term debt and short-term debt, as the leader's behavior may be influenced by the maturity date of the held debt.
- Long and Medium-Term debt ratio: As previously mentioned, according to Jensen & Meckling (1976), long-term debt is very useful for mitigating agency costs and managing conflicts of interest between managers and shareholders. However, the theory of pecking order financing (Myers, 1975) states that companies with lower debt are more profitable. This is because they reinvest profits, while others borrow money, thereby increasing their leverage, which creates a negative relationship with financial performance. Medium and long-term debt financing is measured by the sum of long-term debt (Borrowings and Financial Debts + Other Non-Current Liabilities) divided by total liabilities.

$$\text{LMDR} = \frac{\text{long and medium terme debt ratio}}{\text{total liabilities}} \quad (2)$$

H1: Long-term debt has a negative influence on performance.

- Short-Term Debt ratio: (Scholes, Wolfson, 1988) state that companies prefer short-term debt when the tax rate is high. In this case, short-term debt will be less costly and the easiest way to achieve the desired optimal level of debt. (Emery, 2001) agrees, asserting that short-term debt helps increase the company's earnings and production, considering the risks related to refinancing and interest rates. The measurement of short-term debt financing is operationalized by the ratio of short-term debt (Suppliers and Related Accounts + Passive Treasury + Other Current Liabilities) to total liabilities.

$$\text{SDR} = \frac{\text{term debts}}{\text{Total liabilities}} \quad (3)$$

H2: There is a relationship (positive or negative) between short-term debt and company performance.

- The self-financing ratio: The trade-off theory (Myers, 1984) assumes that no funding model is preferred. However, according to agency theory, without taking on debt, managers can make decisions that benefit themselves at the expense of other shareholders. In this case, by incurring debt, they are compelled to optimize the investment decisions they make in order to fulfill their punctual commitment. On the other hand, according to hierarchical funding theory, internal funding is preferable to external funding, which is reflected in a negative relationship between them. This report allows us to measure the percentage of financial dependence of the company.

$$\text{SFR} = \frac{\text{stock holders equity}}{\text{Total equity}} \quad (4)$$

H3: Self-financing has a negative impact on the financial performance of companies.

- Liquidity (Working Capital Ratio): Measures the amount of easily convertible asset items that the company possesses to meet its short-term obligations. (Pattitoni, Spisni, 2014) demonstrate a strong positive relationship between the independent variables measured by the three liquidity ratios and the dependent variable measured by ROE (Return on Equity). This can be explained by the fact that a high level of liquidity can mitigate the impacts of adverse changes in the economic environment, the risk of being unable to repay short-term debts, and the risk of missing out on profitable investment opportunities due to financial issues. According to the study by (Matar, Eneizan, 2017), liquidity has a positive and significant impact on firm performance. The ratio below measures liquidity as done by (Gurbuz et al., 2010).

$$\text{LIQ} = \frac{\text{current assets}}{\text{current liabilities}} \quad (5)$$

H4: The liquidity ratio positively impacts the financial performance of companies.

- Tangibility: Tangible assets are physical assets that have a relatively well-defined market value based on their condition and useful life. They can include equipment, buildings, tools, and other physical properties... While the findings of the study by (Pouraghajan, Malekian, 2012) demonstrated that an increase in asset tangibility had a positive effect on financial performance (Zeitun, Tian, 2007) and (Onaolapo, Kajola, 2010) found that a high proportion of fixed assets reduces financial performance. Investing in fixed assets helps reduce labor costs, production expenses, and overall production costs. Furthermore, a company holding a significant proportion of fixed assets can access loans at a lower cost, as these assets serve as collateral for creditors.

$$\text{TANG} = \frac{\text{fixed assets}}{\text{Total assets}} \quad (6)$$

As a result, costs decrease and profits increase. Therefore, we formulate the following hypothesis:

H5: There is a positive and statistically significant relationship between tangibility and financial performance.

- Asset turnover: The mentioned ratio is an effective indicator of a company's ability to efficiently use its assets to generate sales, i.e., its revenue. It is calculated by dividing the company's revenue by its total assets, helping determine how much revenue the company has generated for every 1 unit of currency invested in its assets.

$$\text{ASSETTURN} = \frac{\text{gross sales}}{\text{Total assets}} \quad (7)$$

H6: The speed of capital turnover positively influences performance.

- Company size: Theoretically, the relationship between size and financial performance is equivocal. Company size is considered a determinant of financial performance by many researchers: Erasmus (2013), Nanda and Panda (2018), have found a positive influence between company size and financial performance. These and many others assert that a large company can have a greater impact on its current and potential investors, creditors, stakeholders, and even consumers – as evidenced by the high business performance of conglomerates and multinational corporations in the global economy. Size will positively influence their tax performance in the market. In other words, larger companies can exploit economies of scale. They are more innovative and competent than firms with limited capabilities and resources. On the other hand, Dhawan (2011), Ramasamy (2005), and Salman and Yazdanfar (2012) have found that company size has a negative effect on financial performance. According to them, improving performance can be challenging for larger companies, which might sometimes lead to a decrease in market performance. However, some researchers such as Durand and Coeurderoy (2001), Tzelepis and Skuras (2004) have found that company size does not have a significant influence on financial performance. The variable used in our study to measure company size is the natural logarithm of revenue:

$$\text{size} = \log(\text{gross sales}) \quad (8)$$

H7: Size has a positive impact on the financial performance of companies.

- Age: The relationship between a company's age and its performance is well-documented but yields contrasting results. Some economists like Coad (2018) use age as an indicator of the experience acquired by the company in its operations. However, certain shortcomings outweigh the advantages of age. Strong arguments support the view that older firms are more likely than younger firms to underperform on average. According to (Boeker, 1997), older companies suffer from the ossification of their routines, non-learning processes, blindness and conservatism, which lead to poor performance and decline. Evans (1987) agrees with this by concluding in his study that a company's performance, on average, decreases with age. Therefore, our hypothesis is as follows:

H8: The older a company is, the less it is performing.

This study proposes a model to test the research hypotheses. This model aims to investigate the effect of economic profitability through various selected variables such as: debt ratios, self-financing ratio, liquidity ratio, tangibility ratio, asset turnover, company size, company age. The model to be estimated is presented as follows:

$$ROA(t) = c + \beta_1 * LMDR(t) + \beta_2 * SDR(t) + \beta_3 * SFR(t) + \beta_4 * LIQ(t) + \beta_5 * TANG(t) + \beta_6 * AGE(t) + \beta_7 * ASSETTURN(t) + \beta_8 * size(t) \quad (9)$$

5. DISCUSSION OF RESULTS

For our sample of 78 companies spanning the years 2018–2021, totaling 312 observations, we obtained satisfactory results after regression with the PCSE model and we obtained this model:

$$ROA = -0.10175389 SDR + -0.11712591 LMDR + 0.00123383 SFR - 0.00284949 LIQ - 0.05640939 TANG + 0.001216 AGE + 0.00808189 ASSETTURN - 0.0011691 size + 0.12324003$$

Table 1. Regression result

Explanatory variable	Expected sign	Coefficient	P-value
SDR	-	-0.1017	0.000
LMDR	-	-0.117	0.000
SFR	-/+	0.0012	0.391
LIQ	+	-0.0028	0.196
TANG	+	-0.056	0.000
AGE	-	0.0012	0.000
ASSETTURN	+	0.008	0.002
SIZE	+	-0.0011	0.017

Source: Field survey.

The test for overall significance is significant with a probability (p-value) approaching 0. We will present the interpretation of the results obtained regarding the explanatory variables.

- Short-term debts: The results of the regression model indicate that short-term debts have a negative relationship with economic profitability, and they are statistically significant with a p-value approaching 0 and a coefficient of (-0.10175389). This implies that a 1% change in the short-term debt ratio, holding all other factors constant, leads to a decrease of 10.17% in the financial performance of companies. Our result presents a disagreement with “equilibrium theory”, which assumes a positive relationship between financial structure ratios and performance. However, the pecking order theory suggests an inverse relationship between debt and performance, as companies achieving high profitability prefer to finance their needs through internal funding first, only resorting to debt when internal financing is

insufficient. This is in contrast to the “equilibrium theory”. Our observation supports the results of (Czech Republic, 2013) and (Vätavu, 2015).

- Long and medium-term debts: Long-term debts have a negative coefficient of (-0.11712591) with a tolerance of error approaching 0. An increase in long-term debts by one unit leads to a decrease in ROA by 11.71%. Our result is not in line with the expectations of the Trade-Off Theory (TOT), which suggests a positive relationship between debt and a company's economic profitability. This could be attributed to a high level of bank borrowing. However, the result supports the Pecking Order Theory (POT) hypothesis and the findings of the study by (Abri and Balehouane, 2019).
- Self-financing: According to the obtained results, self-financing does not significantly impact the level of performance in large Algerian private enterprises (p-value of 39.1%). Our result aligns well with the Pecking Order Theory (POT) and the study by (Vätavu, 2013), but not with the agency theory.
- Liquidity: Table 2.14 displays a non-significant negative coefficient of (-0.00284949) (p-value of 19.6%). Our study thus suggests that liquidity negatively impacts the performance of large Algerian enterprises. This could be because these companies hold excessive amounts of liquidity, potentially indicating insufficient investment in productive assets that generate income. On the other hand, a company lacking adequate liquidity might struggle to meet short-term obligations and face insolvency risks. At this stage, we observe that large Algerian enterprises are mishandling their excess liquidity. This contradicts the findings of the study by (Matar, Eneizan, 2017) and the study by (Abri, Balehouane, 2019), both of which found a significant positive impact of liquidity on ROA. It also differs from the study by (Melwania, Manish, 2016), which found a non-significant positive impact.
- Tangibility: Presumably, asset tangibility should have a positive impact on the financial performance of the company. However, in our sample, a significant negative coefficient of (-0.05640939) emerges at the 0.1% significance level. This suggests that large Algerian enterprises acquire too many assets without improving their financial performance. In other words, the companies in the sample are not using their assets efficiently. The consequence could also result from the fact that during the period of the 2020–2021 health crisis, the higher the proportion of fixed assets, the higher the depreciation and inventory costs, which negatively affected the financial performance of the company. This observation aligns well with the findings of the study by (Vätavu, 2013).
- Age: The age of the company is positively correlated with its financial performance. This study reveals a coefficient of (0.001216) with a tolerance error approaching 0. This means that a 1% change in the age of the company, holding all other factors constant, results in a 0.12% change in the financial performance of large enterprises. Older firms often have a rich history and expertise that give them a better understanding of consumer expectations and a greater ability to adapt to market changes. They also benefit from an established reputation and a strong brand identity that allows them to stand out from competitors. In other words, the older the company, the higher its economic profitability. This result contradicts the findings of (Boeker, 1997) who found that older companies are less performing.
- Size: The results indicate a significant negative relationship with a 5% tolerance error between the size and the economic profitability ratio. A coefficient of

(-0.0011691) means that a 1% change in this explanatory variable, holding all other factors constant, results in a 0.11% change in performance. This can be justified by the fact that smaller companies are often more agile and adapt more quickly to market changes. They may also be more innovative and creative than larger ones, as they typically have less bureaucracy and hierarchy to manage, resulting in fewer agency problems. Furthermore, supervising various tasks can become more complex, leading to inefficient resource distribution, higher expenses, and reduced asset profitability. Our study thus supports the findings of (Dhawan, 2001; Ramasamy, 2005; Salman, Yazdanfar, 2012), but contradicts those of (Nguyen, T., Nguyen, V., 2018).

- Asset turnover: The asset turnover ratio is closely related to economic performance, as the results indicate. Companies with a high asset turnover rate are those with substantial liquidity and significant financing capabilities. This suggests that the company efficiently utilizes its assets to generate sales.

6. CONCLUSION

The objective of our empirical study was to identify the microeconomic factors explaining the financial performance of large Algerian enterprises, measured by the Return on Assets (ROA) ratio. To achieve this, we conducted a panel regression analysis using a sample of seventy-eight (78) large companies for the period from 2018 to 2021. Before performing the regression, we initially divided the sample into public and private enterprises to highlight characteristic differences. We found that public enterprises had lower economic profitability (ROA) but possessed larger sizes, higher long-term debts, and greater liquidity. We also observed that public enterprises tend to be older than private enterprises. The results from the corrected panel regression show that: on one hand, debt ratios, tangibility, size, have a negative and highly significant impact on the financial performance of large Algerian enterprises. On the other hand, company age and asset turnover have a positive and significant impact on the ROA ratio.

In conclusion, our study contributes to understanding the key determinants of financial performance for large Algerian companies. It reveals the complex interplay of various microeconomic factors that influence ROA, shedding light on the importance of debt management, asset efficiency, company size, sectoral differences, and other variables in driving financial success. However, self-financing has a positive but non-significant impact on financial performance. Liquidity plays a negative and non-significant role in the economic profitability of large Algerian enterprises.

REFERENCES

- Abri, A., Balehouane, H.N.E.H. (2019). *Les déterminants de la performance financière des entreprises privées algériennes* (Doctoral dissertation).
- Aditiya, P. (2006). *Executive compensation: Firm performance and gouvernance. An empirical analysis*. "Economic and political weekly", No. 36.
- Alami, M., Makhtari, M. (2023). *Les défis d'évaluation de la performance organisationnelle dans les entreprises*. „International Journal of Accounting, Finance, Auditing, Management and Economics”, 4(2-1). DOI: 10.5281/zenodo.7811073.
- Alexander, C. (2018). *Firm Age and performance*. "Journal de Evolutionary Economics", 28(1). DOI: 10.1007/s00191-017-0532-6.

- Amaazoul, M. (2018). *Synthèse des principales approches définitives du concept de performance en sciences de gestion*. "RCMP", No. 2, Décembre.
- Assienin, K.A., Ouattara, A. (2016). *Les facteurs explicatifs de la performance des banques ivoiriennes: une analyse des données de panel*. "Education".
- Bailly, J.P. (2005). *Comment accroître la performance par un meilleur management*. Paris.
- Boeker, W. (1997). *Executive migration and strategic change*. "Administrative Science Quarterly", 42.
- Boughaba, Y. El Idrissi, S. (2021). *Banking financial performance: an analytical essay in the Moroccan banking context*. "REMFO", No. 13, Juin.
- Bouquin, H. (2004). *Le contrôle de gestion*, Presses Universitaires de France, Collection *Gestion*, 6ème édition. Paris.
- Bourguignon, A. (2009). *Performance et contrôle de gestion*. Encyclopédie de Comptabilité, *Contrôle de gestion et Audit*, Ed. Economica.
- Charreaux, G. (1998). *Le point sur la mesure de performance des entreprises*. Université de Burgundy, May, "RePEc".
- Coad, A., Daunfeldt, S.O., Halvarsson, D. (2018). *Bursting into life: firm growth and growth persistence by age*. "Small Business Economics", 50(1).
- Derbali, A.M.S., Lamouchi, A. (2021). *Determinants of the performance of insurance companies*. "International Journal of Productivity and Quality Management", 34(2). DOI: 10.1504/IJPQM.2021.118383.
- Dhawan, R. (2011). *Firm size and productivity differential: theory and evidence from a panel of US firms*. "Journal of Economic Behaviour and Organization", Vol. 44.
- Domin, J.P., Nieddu, M. (2012). *La pluralité des approches en termes de performance*. *Économie et institutions* (En ligne). Access on the internet: <http://journals.openedition.org/ei/483>.
- Durand, R. Coeurderoy, R. (2001). *Age, order of entry, strategic orientation, and organizational performance*. Université Catholique de Louvain, Belgique.
- El Amraoui, H., Hinti, S. (2022). *La performance d'entreprise: Histoire d'un concept (1950–2020)*. "Revue Française d'Économie et de Gestion", Vol. 3, No. 5.
- Galambaud, B. (2003). *GRH et performances*. AGEF, colloque de Marrakech, 23 et 24 janvier.
- Gerrard, M., Blanton, H., Gibbons, F.X., Russell, D.W. (1998). *Reasoned action and social reaction: willingness and intention as independent predictors of health risk*. "Journal of personality and social psychology", 74(5).
- Gurbuz, A.O., Aybars, A. (2010). *The impact of foreign ownership on firm performance, evidence from an emerging market: Turkey*. "American Journal of Economics and Business Administration", 2(4).
- Hamadmad, H. (2017). *Définition d'une expression temporelle de la performance des entreprises manufacturières*. Thèse doctorat, Université Savoie Mont Blanc, France, 2017.
- Helfert, E.A. (1991). *Techniques of Financial Analysis Illinois*. Richard D. Irwin, Inc.
- Hunjra, A.I., Chani, D.M.I., Javed, S., Naeem, S., Ijaz, M.S. (2014). *Impact of micro economic variables on firms performance*. "International Journal of Economics and Empirical Research", 2(2). DOI: 10.1504/IJPQM.2021.118383
- Issor, Z. (2017). *La performance de l'entreprise: un concept complexe aux multiples dimensions*.
- Laha, K., Sur, A.D. (2020). *Macroeconomic and microeconomic determinants of efficiency of Indian construction & engineering firms: an investigation*. "Ramanujan International Journal of Business and Research", 5. DOI: 10.51245/rijbr.v5i1.2020.219.

- Matar, A., Eneizan, B.M. (2018). *Determinants of Financial Performance in the Industrial Firms: Evidence from Jordan*. "AJAEES", 22(1), Article No. 37476, Janvier.
- Myers, S.C. (1975). *A Note on the Determinants of Corporate Debt Capacity, working paper*. London: Graduate School of Business Studies.
- Myers, S.C. (1984). *The capital structure puzzle*. "Journal of Finance", 39.
- Nguyen, T., Nguye, V. (2020). *The determinants of profitability in listed enterprises: A study from vietnamese stock exchange*. "Journal de Asian Finance, Economics and Business" Vol. 7, No. 1. DOI: 10.13106/jafeb.2020.vol7, no1.
- Nikolaus, V. (2015). *Determinants of firm financial performance in Indonesia and the Netherlands: A comparison*. Bachelor's thesis, University of Twente.
- Odipo, M., Olweny, T., Oluoch, O. (2020). *Microeconomic firm characteristics and long run returns: The case of firms that issued equity at nairobi securities exchange*. "Journal of Advances in Economics and Finance", 5(4). DOI: 10.22606/jaef.2020.54002.
- Onaolapo, A.A., Kajola, S.O. (2010). *Capital structure and firm performance: Evidence from Nigeria*. *European Journal of Economics, Finance and Administrative Sciences*, 25.
- Pattitoni, P., Petracchi, B., Spisni, M. (2014). *Determinants of profitability in the EU-15 area*. "Journal Applied Finance and Economy", 24(11). DOI: 10.1080/09603107.2014.904488.
- Pervan, M., Pervan, I., Ćurak, M. (2017). *The Influence of Age on Firm Performance: Evidence from the Croatian Food Industry*. Université de Split of Economics, Split, Croatie.
- Pouraghajan, A., Malekian, E. (2012). *The Relationship between Capital Structure and Firm Performance Evaluation Measures: Evidence from the Tehran Stock Exchange*. "International Journal of Business and Commerce", 1(9).
- Quoc Trung, N.K. (2021). *Determinants of small and medium-sized enterprises performance: The evidence from Vietnam*. "Cogent Business & Management", 8(1). DOI: 10.1080/23311975.2021.1984626.
- Ramasamy, B. (2005). *Firm size, ownership and performance in the Malaysian palm oil industry*. "Asian Academy of Management Journal of Accounting and Finance", Vol. 1.
- Renaud, A., Berland, N. (2007). *Mesure de la performance globale des entreprises. Comptabilité et environnement*. France.
- Salman, A.K., Yazdanfar, D. (2012). *Profitability in Swedish SME firms: a quantile regression approach*. "International Business Research", Vol. 5, No. 80.
- Tari, M.L. (2018). *La décision financière et son impact sur la performance financière mesurée par la rentabilité*. "Recherches économiques et managériale", No. 23, Ecole Supérieure de Commerce.
- Tzelepis, D., Skuras, D. (2004). *The effects of regional capital subsidies on firm performance: an empirical study*. "Journal of Small Business and Enterprise Development", 11(1).
- Vătavu, S. (2015). *The impact of capital structure on financial performance in Romanian listed companies*. "Procedia economics and finance", 32.
- Zeitun, R., Tian, G.G. (2007). *Capital structure and corporate performance: evidence from Jordan*. "Australasian Accounting Business and Finance Journal", 1(4).

ANNEXES

Descriptive analysis

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	312	.0120201	.1207958	-.4986771	1.416037
DCT	312	.5164232	.3441001	.0095279	2.406773
DLMT	312	.1760492	.2381003	-.0132679	1.052196
AF	312	.6086253	2.820536	-44.81017	19.31384
LIQ	312	1.604758	1.802373	.060501	14.96586
TANG	312	.2644283	.2316487	-2.117901	.6935951
AGE	312	17.30178	10.48055	.1722222	54.00556
ASSETTURN	312	.6790624	1.132254	0	9.45019
size	312	21.04146	4.310961	0	26.01444

Correlation matrix

	ROA	DCT	DLMT	AF	LIQ	TANG	AGE
ROA	1.0000						
DCT	-0.3148	1.0000					
DLMT	-0.2365	-0.2929	1.0000				
AF	0.0311	-0.0178	-0.0885	1.0000			
LIQ	0.1423	-0.4294	-0.0126	0.0365	1.0000		
TANG	-0.0602	-0.1922	0.2264	-0.0513	-0.3996	1.0000	
AGE	-0.0070	-0.1973	0.3361	-0.0235	-0.0421	0.1384	1.0000
ASSETTURN	0.1117	-0.0095	-0.1386	0.0282	0.1451	-0.1271	-0.1970
size	-0.0030	0.0160	-0.1220	-0.0083	-0.0122	-0.0573	0.1396

Estimation result

Coefficients: **generalized least squares**
Panels: **heteroskedastic**
Correlation: **no autocorrelation**

Estimated covariances = 78 Number of obs = 312
Estimated autocorrelations = 0 Number of groups = 78
Estimated coefficients = 14 Time periods = 4
Wald chi2(13) = 263.12
Prob > chi2 = 0.0000

ROA	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
DCT	-.101754	.0109739	-9.27	0.000	-.1232624 -0.0802456
DLMT	-.1171259	.0103638	-11.30	0.000	-.1374386 -0.0968132
AF	.0012334	.0014378	0.86	0.391	-.0015846 .0040514
LIQ	-.0028495	.0022053	-1.29	0.196	-.0071717 .0014728
TANG	-.0564094	.0106176	-5.31	0.000	-.0772196 -.0355992
AGE	.001216	.0001997	6.09	0.000	.0008245 .0016075
ASSETTURN	.0080819	.0026484	3.05	0.002	.0028912 .0132726
size	-.0011691	.000492	-2.38	0.017	-.0021334 -.0002048

