An Examination of Assets Tangibility, Liquidity, Growth Opportunities, Size and Altman's Z-score on Firm's Profitability.

Ola Mohamed El Mokadem
Supervised by:
Dr.Khaled Gad
Dr.Nivene Sobhy
College of Management and Technology
Accounting and Finance Department
Arab Academy for Science, Technology & Maritime Transport

Abstract

This study analyzes and explains the various factors that affect the profitability of several companies in MENA Region in terms of return on assets (ROA), return on equity (ROE) and return on sales (ROES). The purpose of the study is to determine the impact of firm-specific factors on the profitability of firms in MENA Region, and to identify the most important factors that affect firm profitability. The study uses a cross-sectional analysis to analyze a total of 2331 observations. The data used in the study was collected from a data stream data database. The study uses a Pearson correlation and a multiple regression analysis to determine the factors that affect firms' profitability in MENA Region for 2007-2016.

The statistical analysis showed a positive correlation between independent variables (liquidity, growth opportunity, asset tangibility, firm size, Altman's Z-score), and firms' profitability.

The study suggests that in order to enhance the profitability of firms, it is important to focus on liquidity, growth opportunities, size, and Altman's Z-score. It is recommended that companies retain a significant portion of their annual profits to reinvest in additional investments and increase profitability. Additionally, it is advised to maintain a high level of tangible assets to perform better. Large companies should also take advantage of their size and strive to increase profitability. Furthermore, analysts should consider introducing new variables such as depreciation, age, and ownership concentration, and examine their impact on company profitability. It is also suggested to apply the same study to other companies or regions and compare the results with those of this study.

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Keywords: liquidity, growth opportunities, assets tangibility, size, Altman's Z-score, profitability.

INTRODUCTION

This study builds upon the research conducted by numerous scholars who have explored the concept of profitability. The primary aim of this research is to pinpoint the key factors that could potentially influence the profitability of companies operating in the MENA Region. The analysis considered variables like asset tangibility, liquidity, firm size, growth prospects, and Altman's Z-score. It is worth noting the existing gap in literature regarding the factors affecting profitability in

companies within the MENA Region. Consequently, identifying these determinants will greatly advantage stakeholders of these firms, including creditors, investors, executives, and shareholders.

A significant portion of our examination into industry determinants, firm, and business profitability involves creating relationships in models that connect different hypothesized causal variables to various measures of profitability. These causal variables usually encompass a mix of environmental factors, firm strategies, and organizational characteristics. This research is prevalent across multiple disciplines, including economics, business strategy, accounting, finance, management science, management, international business, marketing, and sociology.

Upon examining prior research on the factors influencing company profitability, a wealth of valuable and thorough information can be gathered. Nevertheless, the data tends to be predominantly qualitative. It proves challenging to compare the quantitative outcomes of different studies due to variations in model specifications and the operationalization of explanatory and dependent variables. Various methodologies are employed in different studies, ranging from basic cross tables to intricate "causal" models. Researchers frequently adopt diverse approaches when quantifying the influence of specific causal variables in different scenarios. Undoubtedly, researchers are influenced by existing literature, particularly in terms of model

specification, resulting in interconnected streams of literature with closely related findings.

Studies on firm profitability have been conducted in the past, with many taking a simplistic "natural experimentation" approach. Due to the difficulty of establishing true experimental controls in profitability research, researchers often rely on statistical methods to assess the impact of certain factors while keeping other variables constant. Despite most statistical tests showing a significant effect of individual explanatory factors on profitability, it is important to compare and contrast these results with other studies to replace the null hypothesis of "no effect." (Capon et.al, 1990).

Based on the research conducted by Al-Jafari et al. (2015), the term "Profitability" encompasses robust earnings derived from revenues after deducting all expenses accrued within a specific timeframe. Profitability stands as a crucial goal for the majority of businesses, as those that fail to prioritize profitability are unlikely to endure. Undoubtedly, all companies strive to enhance the wealth of their shareholders, a feat achievable through the augmentation of their shareholdings. Nevertheless, prior financial studies have posited a strong correlation between a firm's earnings and the value of their stocks. Hence, if companies manage to generate substantial revenues as anticipated, it is probable that their stock prices will rise. Conversely, in cases

where earnings announcements fall short of expectations, a decline in stock prices is anticipated.

In the MENA Region, there is a noticeable dearth of research on the factors influencing firm profitability. While studies exploring these determinants are prevalent in Western countries, they are not as common in eastern countries. It is crucial to examine the influence of firm-specific factors on profitability, as this understanding can enable firms to effectively utilize their resources and capabilities to maximize their profits.

LITERATURE REVIEW

The definition of profitability

According to Al-Matari, et al. (2014), the assessment of profitability serves as a means to evaluate the competence and suitability of an organization's operations. Profitability estimation involves the allocation of the intricate aspects of profitability into planned representations that can be compared and transferred under similar circumstances. In today's business landscape, profitability estimation is considered a more significant role compared to measurement and accounting. This aligns with numerous studies that have highlighted profitability management as a process through which an organization manages its performance to align with its corporate and operational strategies and objectives.

Determinants of profitability And Hypotheses Development
Assets tangibility

Certain intangible assets or intellectual capital are not included in financial statements due to the challenge of measuring or quantifying them in monetary terms. Intellectual capital refers to a collection of knowledge assets that are associated with an organization and play a crucial role in enhancing its competitive advantage by adding value to key stakeholders (Marr and Schiuma, 2004). Sveiby (1998) categorizes the hidden intangible portion of the balance sheet into three groups: individual competence, internal structure, and external structure.

In the words of Leif Edvinsson, as cited by Brinker (2000), intellectual capital can be defined as the combination of human capital and structural capital, which includes relationships with consumers, network management, and information technology. Choong (2008) calculates excess ROA intellectual capital by considering human, customer, and structural intangible assets. Therefore, intellectual capital encompasses the three main elements of an organization (human capital, structural capital, and customer capital) that are related to knowledge and technology, ultimately providing a competitive advantage and delivering more value to the company. Roos et al. (1997) discovered that the market value of these companies often exceeds their net asset value, which represents the value of their

physical assets. The difference between these two values is referred to as the company's "hidden value," which can be expressed as a percentage of the market value. From these statements, it can be concluded that intellectual capital is a crucial factor in increasing both the market value and overall value of a company. Therefore, measuring intellectual capital is essential for a company as it ensures proper allocation and prevents discrepancies in information between the company and its investors.

H1: There is a significant relationship between Asset tangibility and firm profitability.

Firm size

Previous research has posited a connection between a company's size and its dividend policy. According to this perspective, larger companies tend to distribute higher dividends, while smaller companies distribute lower dividends due to their challenges in raising cash compared to their larger counterparts. The larger companies have easier access to the capital market, making them less reliant on internal funds and thus more capable of paying dividends. This viewpoint is also supported by Osobov (2008), Aivazian (2003), Al-Twaijry (2007), Eriotis (2005), and Ahmed and Javid (2009).

The examination of the primary theories regarding the firm does not provide evident and straightforward consequences concerning the correlation between size and profitability. The

researchers, Kaen and Baumann (2003), concluded in their investigation that there is no association between the size of a company and its profitability measures.

Pratheepan (2014) states that the profitability of a firm is greatly influenced by factors such as the firm's size, sales growth, market power, investment, and efficiency. On the other hand, the study conducted by Asimakopoulos, Samitas, and Papadogonas (2009) reveals that company profitability is positively impacted by the size of the firms, sales growth, and investment. However, it is negatively affected by leverage and current assets.

H2: There is a significant relationship between Firm size and firm profitability.

Liquidity

The dividend payouts of a company are significantly influenced by its liquidity or cash flows position. Companies that have higher liquidity are more inclined to pay dividends, while those facing a liquidity crunch are less likely to do so. The ability of a company to pay dividends is primarily dependent on its cash flows. A company with a poor liquidity position will generally offer less generous dividends due to a shortage of cash. (Kanwal and Kapoor 2008; Ahmed and Javid 2009).

Previous empirical research has concentrated on examining the correlation between a firm's performance and its financial leverage. For instance, certain studies have discovered

a favorable association between profitability and debt funding (Oke and Afolabi, 2011; Abor, 2005). Conversely, other studies have shown a notable adverse relationship between financial leverage and companies' performance (Twairesh, 2014).

Liquidity is the ability of a company to repay its short-term liabilities using its quick assets within the next year. This can be assessed by determining the current ratio, which is the ratio of current assets to current liabilities. It indicates the ability to convert an asset into cash quickly and reflects the firm's ability to manage working capital effectively at normal levels. A company can utilize liquid assets to finance its operations and investments when other sources of funding are not available or are too costly. Conversely, higher liquidity enables a company to deal with unexpected risks and meet its obligations even when earnings are low. (Matar & Eneizan, 2018).

H3: There is a significant relationship between Liquidity and firm profitability.

Growth opportunities

According to Saleh & Zeitun (2015), growth is defined as an increase in sales, which is calculated by subtracting the sales in the current year from the sales in the previous year and then dividing it by the sales in the previous year. Growth is also used as an indicator of growth opportunity. It is believed that companies with greater growth opportunities will perform better because they generate additional income from new

investment projects. Myers (1977) discovered that companies with a high growth rate relied more on internal financing and less on debt funding, resulting in a higher performance. Therefore, we anticipate a positive correlation between growth opportunities and a company's performance.

Growth refers to the capacity to enhance performance based on the outcomes achieved by the organization. Numerous factors, both internal and external, influence growth. To achieve rapid growth, a significant amount of funds is required for expansion. In a growing company, the profits are typically reinvested as capital for further expansion rather than being distributed as dividends (Yoo & Kim, 2015). The growth of a company can be observed through changes in its total assets. These changes in assets serve as an indicator of whether the company is experiencing growth or not. If the company is able to increase its assets, it is anticipated that its operational results will also improve, as the level of public trust in the company rises (Ghasemi, Hisyam & Razak, 2017).

H4: There is a significant relationship between Growth opportunities and firm profitability.

 Altman's Z-score

Based on the research by Nisa et al. (2013), the Altman's Z-Score model is a linear analysis that consists of five objectively weighted measures. These measures are combined to calculate

a total score, which is then utilized to categorize companies based on their financial stability.

Adjei (2010) conducted a study to assess the profitability status of Accra Brewery, a publicly traded company listed on the Ghana Stock Exchange, over a span of seven years from 2000 to 2006. The research utilized Altman's Z-score, a bankruptcy prediction model, to evaluate the risk of bankruptcy for Accra Brewery. As a result, the study derived the following hypothesis.

H5: There is a significant relationship between Altman's z-score and firm profitability.

Research Methodology

There are two types of variables used in the study which is firm profitability as a dependent variable measured by Return on assets (ROA), Return on sales (ROS) and Return on equity (ROE) ratios. These independent variables are Asset tangibility, Firm size, Liquidity, Growth opportunities, Altman's z-score.

The research design serves as a plan or guide for gathering, assessing, and interpreting data (De vasus, 2006). It is contingent upon the nature of the problem being investigated and the extent of existing knowledge on the research subject (Sekran, 2010). The primary objective of this study is to examine the correlation between variables, making it a descriptive research. Descriptive research involves formulating

specific research questions and hypotheses in advance (Malhorta & Birks, 2007).

The study will be quantitative because it will quantify the research problem under investigation using numerical data that can be measured and analyzed using statistical techniques. A quantitative study usually utilizes research techniques that seek to quantify data and apply statistical analysis. To meet study objectives, a deductive research approach will be used because the study is based on reviewing previous research and applying previous theoretical models.

Data Collection

This thesis uses secondary data of the firm- specific and country-level factors. Data of the firm- specific factors are collected from the Thompson Reuters DataStream financial database for financial firms listed on the respective stock exchanges of the following MENA region countries: Bahrain, Egypt, Jordan, Kuwait, Oman, Morocco, Qatar, Saudi Arabia, Tunisia, and the United Arab Emirates. Information for different nations inside the area, for example, Algeria, Iraq, Syria, and Lebanon were not accessible on DataStream, thus those countries are omitted from the investigation sample.

The dependent variables and firm-specific independent variables are extracted from the sample firms' income statement and balance sheet items. The data are collected for the period 2007-2016 inclusively.

Sample selection

This thesis examines a total study sample of 2331 observations the ten MENA countries discussed above. The researcher collected data for the period 2007-2016. The data used in this study was collected from the data stream data base.

Due to the missing data in these MENA countries, analysing each country individually may not be the best approach since the number of observations for each individual country would not be large enough. This would also pose constraints on computing the dependent variables in this thesis. To overcome this issue, all ten countries' data are aggregated into a single dataset that comprises the MENA region.

Furthermore, apart from the absence of data, the identification and elimination of outliers are also carried out. An observation is classified as an outlier if it exceeds three standard deviations from the mean of the sample distribution (Chen et al., 2015). Outliers are regarded as suspicious observations due to their substantial deviation from the majority of the data points, and they pose a challenge as even a small number of outliers can have a distorting effect on the outcomes (Cousineau and Chartier, 2010).

Since the variables needed to compute each model vary, so do the numbers of observations for each model. Because it's possible that some values of a given model are outliers and

because some missing data values needed to compute one model might not be needed to compute another. Then, each model's final observation count eventually varies.

Each company's SICS code and an industry description are listed in the Data Stream Database. Nevertheless, SIC codes are unavailable and cannot be retrieved for businesses in MENA countries. Rather, the companies are categorized into ten sectors using the Standard and Poor's Global Industry Classification Standard (GICS). The following GICS industries—Energies, Materials, Industrials, Consumer Discretionary, Consumer Staples, Health Care, Real Estate, Information Technology, Telecommunications Services, and Utilities—are used to classify the companies based on the descriptions of their respective businesses on DataStream.

Statistical Methods

In order to respond to the study questions and validate the hypothesis, the researcher employed a few statistical techniques in this qualitative investigation. The non-parametric tests listed below were   applied:

The following tests were performed in addition to using a descriptive statistics tool The Poisson, Binomial, Negative Binomial, Inverse Gaussian, Tweedie, and Beta distributions are in addition to the Normal and Gamma distributions.

Data analysis techniques

The subsequent we run tests to examine the data and determine how the variables relate to one another.

Before fitting the model, the assumptions about the normalcy of the independent and dependent variables must be verified. One of the most important regression analysis assumptions is the normalcy assumption. To verify this presumption the non-parametric One-Sample Kolmogorov-Smirnov Test is used to determine whether data are normal. The test's null hypothesis is that the variable "follows normal distribution," hence if the dependent variable's p-value is more significant than 0.01 or 0.05, the dependent variable is considered normal.

Multicollinearity refers to a linear relationship between explanatory variables and can be assessed using the Variance Inflation Factor (VIF). If the VIF value exceeds 10, it indicates the presence of multicollinearity.

Linearity is a key assumption of regression models that can be assessed using the (RESET) test. When the scatter plot is dispersed randomly around zero, it indicates linearity. However, if there is a discernible pattern in the scatter points, it suggests a lack of linearity. It is important to understand that linearity refers to the linear relationship between the dependent variable and all independent variables collectively, rather than each individual independent variable.

Prior to estimating the regression model, it is essential to verify normality and multicollinearity, whereas linearity should be assessed after the regression model has been estimated.

Results

Descriptive statistics

The independent variables (b, Size, Liquidity, Growth opportunities, Altman's z-score) and dependent variables (ROA, ROE, ROS) have been subjected to a descriptive analysis by the researcher. This analysis was conducted considering the factors of countries and years. The obtained results are presented as descriptive statistics.

The dependent variable (ROA) according to the following factors (countries, years)

The researcher conducted a descriptive analysis and acquired the subsequent outcomes for the variable (ROA) based on factor (countries):

Table 1 Descriptive statistics for the variable (ROA) according to factor (countries).

ROA						
Country	N	Mean	Std. Deviation	Skewness	Minimum	Maximum
Bahrain	51	.1028433	.04831713	-.261	.02364	.17433
Egypt	412	.0979094	.07601499	1.100	.00018	.34085
Jordan	263	.0693077	.06976119	2.083	.00011	.36026
Kuwait	352	.0667500	.05539491	1.710	.00069	.35150
Oman	268	.1014347	.06345072	.554	.00034	.32958
Qatar	135	.0868352	.05490758	1.095	.00012	.29587
Saudi Arabia	394	.0796632	.06383397	1.678	.00053	.35565
Tunisia	155	.0709178	.04712684	.650	.00041	.20309
Abu Dhabi	152	.0666807	.04509343	1.621	.00111	.29180
Dubai	97	.0670565	.05197142	1.759	.00053	.28482
Total	2279	.0812788	.06377365	1.412	.00011	.36026

From the previous table

- The average return on assets (ROA) in Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Tunisia, Abu Dhabi, and Dubai is as follows: Bahrain - 0.103, Egypt - 0.098, Jordan - 0.069, Kuwait - 0.067, Oman - 0.101, Qatar - 0.087, Saudi Arabia - 0.08, Tunisia - 0.071, Abu Dhabi - 0.067, and Dubai - 0.067.

- The highest (lowest) ROA values in Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Tunisia, Abu Dhabi, and Dubai are as follows: .17433 (.02364), .34085 (.00018), .36026 (.00011), .35150 (.00069), .32958 (.00034), .29587 (.00012), .35565 (.00053), .20309 (.00041), .29180 (.00111), and .28482 (.00053).

- The standard deviation for all countries is below 25% and represents a modest percentage.

- The positive value of the skewness coefficient suggests that the distribution is skewed to the right, meaning that the majority of the values are located to the left of the mean.

The negative value of the skewness coefficient suggests that the distribution is skewed to the left, meaning that the majority of the values are located to the right of the mean.

Descriptive statistics for the variable (ROA**) according to factor** (years**).**

The researcher performed the descriptive analysis and obtained the following results:

Table 2 Descriptive statistics for the variable (ROA) according to factor (years).

year	N	Mean	Std. Deviation	Skewness	Minimum	Maximum	
2007	194	.1044723	.06981657	.974	.00109	.35150	
2008	209	.0932582	.06747706	1.236	.00053	.35741	
2009	245	.0874847	.06947730	1.289	.00012	.36026	
2010	254	.0875519	.06975227	1.305	.00041	.35506	
2011	231	.0773608	.06092482	1.438	.00124	.31428	
2012	213	.0745466	.06099247	1.625	.00069	.30881	
2013	256	.0738155	.06064738	1.442	.00011	.33712	
2014	264	.0740824	.05969791	1.623	.00021	.35565	
2015	220	.0717667	.05399149	1.675	.00019	.34362	
2016	193	.0715643	.05492525	1.635	.00063	.30912	
Total	2279	.0812788	.06377365	1.412	.00011	.36026	

From the previous table

- The mean value of the (ROA) on 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 and 2016, is 0.0104, 0.093, 0.087, 0.088, 0.077, 0.075, 0.074, 0.074, 0.072 and 0.072.
- The Maximum (Minimum) values of the (ROA) on 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 and 2016, are .35150 (.00109), .35741 (.00053), .36026 (.00012), .35506 (.00041), .31428 (.00124), .30881 (.00069), .33712 (.00011), .35565 (.00021), .34362 (.00019) and .30912 (.00063).
- The standard deviation value for all years is less than 50% and is a small percentage.

- The skewness coefficient's positive value indicates that the skewness is to the right and so most of the values are on the left of the mean.

The dependent variable (ROE) according to the following factors (countries, years):

Descriptive statistics for the variable (ROE) according to factor (countries).

The researcher performed the descriptive analysis and obtained the following results:

Table 1 Descriptive statistics for the variable (ROE) according to factor (countries).

ROE						
Country	N	Mean	Std. Deviation	Skewness	Minimum	Maximum
Bahrain	51	.1423729	.06961257	.429	.03474	.33294
Egypt	412	.1742866	.11160672	.681	.00033	.54621
Jordan	263	.1040898	.09180213	1.638	.00026	.49779
Kuwait	352	.1123773	.07927579	1.391	.00178	.50165
Oman	268	.1887081	.11573279	1.481	.00166	.71609
Qatar	135	.1712246	.10612174	1.297	.00013	.57867
Saudi Arabia	394	.1494814	.10712182	1.411	.00130	.56586
Tunisia	155	.1440461	.08225504	.788	.00252	.42249
Abu Dhabi	152	.1174184	.06553086	.968	.00176	.35531
Dubai	97	.1340804	.12072890	2.496	.00164	.73542
Total	2279	.1455747	.10342716	1.368	.00013	.73542

From the previous table

- The mean value of the (ROE) on Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Tunisia, Abu Dhabi and

Dubai, is 0.142, 0.174, 0.104, 0.112, 0.189, 0.171, 0.149, 0.144, 0.117 and 0.134.

- The Maximum (Minimum) values of the (ROE) on Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Tunisia, Abu Dhabi and Dubai, are .33294 (.03474), .54621 (.00033), .49779 (.00026), .50165 (.00178), .71609 (.00166), .57867 (.00013), .56586 (.00130), .42249 (.00252), .35531 (.00176) and.73542 (.00164).

- The standard deviation value for all countries is less than 50% and is a small percentage.

- The skewness coefficient's positive value indicates that the skewness is to the right and so most of the values are on the left of the mean.

Descriptive statistics for the variable (ROE) **according to factor** (years)**.**

The researcher performed the descriptive analysis and obtained the following results:

Table 4 Descriptive statistics for the variable (ROE) according to factor (years).

ROE						
year	N	Mean	Std. Deviation	Skewness	Minimum	Maximum
2007	194	.1825548	.10918797	.864	.00130	.57085
2008	209	.1743338	.12025086	1.207	.00124	.71609
2009	245	.1499601	.10568308	1.255	.00013	.71468
2010	254	.1485154	.10540559	1.418	.00071	.73542
2011	231	.1362214	.09902142	1.548	.00194	.56586
2012	213	.1341098	.09391890	1.357	.00252	.55517
2013	256	.1311304	.09563643	1.345	.00033	.55708
2014	264	.1341555	.09761233	1.599	.00050	.60006
2015	220	.1372190	.09650788	1.453	.00026	.55099
2016	193	.1359747	.09963345	1.625	.00168	.52787
Total	2279	.1455747	.10342716	1.368	.00013	.73542

From the previous table
- The mean value of the (ROE) on 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 and 2016, is 0.182, 0.174, 0.15, 0.15, 0.136, 0.134, 0.131, 0.134, 0.137 and 0.136.
- The Maximum (Minimum) values of the (ROE) on Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Tunisia, Abu Dhabi and Dubai, are .57085 (.00130), .71609 (.00124), .71468 (.00013), .73542 (.00071), .56586 (.00194), .55517

(.00252), .55708 (.00033), .60006 (.00050), .55099 (.00026) and .52787 (.00168).

- The standard deviation value for all years is less than 50% and is a small percentage.

- The skewness coefficient's positive value indicates that the skewness is to the right and so most of the values are on the left of the mean.

The dependent variable (ROS) according to the following factors (countries, years):

Descriptive statistics for the variable (ROS) according to factor (countries).

The researcher performed the descriptive analysis and obtained the following results:

Table 5 Descriptive statistics for the variable (ROS) according to factor (countries).

ROS						
country	N	Mean	Std. Deviation	Skewness	Minimum	Maximum
Bahrain	51	.2075495	.16266386	1.549	.02241	.80491
Egypt	412	.1733878	.16903589	2.039	.00026	.97331
Jordan	263	.1502977	.14881648	1.767	.00035	.90748
Kuwait	352	.1714001	.19234797	2.151	.00077	.98921
Oman	268	.1359427	.12033932	1.159	.00045	.61193
Qatar	135	.2920133	.19386504	.968	.00047	.95287
Saudi Arabia	394	.1448337	.13543905	2.392	.00056	.91762
Tunisia	155	.0916543	.06263391	1.215	.00024	.35071
Abu Dhabi	152	.2044325	.14596341	1.583	.00489	.87985
Dubai	97	.1751868	.14644171	1.512	.00104	.70876
Total	2279	.1654559	.15912911	1.992	.00024	.98921

From the previous table

- The mean value of the (ROS) on Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Tunisia, Abu Dhabi and Dubai, is 0.207, 0.173, 0.15, 0.171, 0.136, 0.292, 0.145, 0.091, 0.204 and 0.175.
- The Maximum (Minimum) values of the (ROS) on Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Tunisia, Abu Dhabi and Dubai, are .80491 (.02241), .97331 (.00026), .90748 (.00035), .98921 (.00077), .61193 (.00045), .95287 (.00047), .91762 (.00056), .35071 (.00024), .87985 (.00489) and .70876 (.00104).
- The standard deviation value for all countries is less than 50% and is a small percentage.

The skewness coefficient's positive value indicates that the skewness is to the right and so most of the values are on the left of the mean.

Descriptive statistics for the variable (ROS) **according to factor** (years)**.**

The researcher performed the descriptive analysis and obtained the following results:

Table 2 Descriptive statistics for the variable (ROS) according to factor (years).

ROS						
year	N	Mean	Std. Deviation	Skewness	Minimum	Maximum
2007	194	.2338274	.20395532	1.439	.00241	.97331
2008	209	.1699062	.15339787	1.812	.00104	.92349
2009	245	.1585697	.14148144	2.037	.00047	.94490
2010	254	.1623537	.15013323	1.787	.00024	.90842
2011	231	.1474698	.14148896	2.447	.00123	.98921
2012	213	.1469329	.14210122	2.508	.00053	.93163
2013	256	.1597186	.15878848	2.054	.00026	.95952
2014	264	.1619580	.16306342	2.114	.00035	.97979
2015	220	.1582380	.16137678	1.986	.00088	.91762
2016	193	.1673280	.16244021	1.784	.00056	.89823
Total	2279	.1654559	.15912911	1.992	.00024	.98921

From the previous table

- The mean value of the (ROS) on 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 and 2016, is 0.234, 0.17, 0.158, 0.162, 0.147, 0.147, 0.16, 0.161, 0.158 and 0.167.
- The Maximum (Minimum) values of the (ROS) on 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 and 2016, are .97331 (.00241), .92349 (.00104), .94490 (.00047),

.90842 (.00024), .98921 (.00123), .93163 (.00053), .95952 (.00026), .97979 (.00035), .91762 (.00088) and .89823 (.00056).

- The standard deviation value for all years is less than 50% and is a small percentage.
- The skewness coefficient's positive value indicates that the skewness is to the right and so most of the values are on the left of the mean.

The dependent variable (Assets tangibility) according to the following factors (countries, years):

Descriptive statistics for the variable (Assets tangibility) according to factor (countries).

The researcher performed the descriptive analysis and obtained the following results:

Table 7 Descriptive statistics for the variable (Assets tangibility) according to factor (countries)

Assets tangibility						
Country	N	Mean	Std. Deviation	Skewness	Minimum	Maximum
Bahrain	51	.48289704	.242746001	.054	.088394	.975194
Egypt	412	.54001964	.295604202	-.368	.002608	.996703
Jordan	263	.49166217	.302177822	-.161	.001575	.998586
Kuwait	352	.46117313	.288926731	.197	.009260	.998836
Oman	268	.64549173	.240226434	-.494	.009528	.998284
Qatar	135	.51855192	.250612071	.125	.081258	.941416
Saudi Arabia	394	.64147633	.242143347	-.506	.007515	.998714
Tunisia	155	.52928143	.290476113	-.473	.016119	.995806
Abu Dhabi	152	.53797799	.280476150	-.328	.001741	.983432
Dubai	97	.43443020	.278139931	.150	.006948	.992850
Total	2279	.54429351	.282950307	-.283	.001575	.998836

From the previous table

- The mean value of the (Assets tangibility) on Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Tunisia, Abu Dhabi and Dubai, is 0.483, 0.54, 0.492, 0.461, 0.645, 0.519, 0.641, 0.529, 0.538 and 0.434.

- The Maximum (Minimum) values of the (Assets tangibility) on Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Tunisia, Abu Dhabi and Dubai, are .975194 (.088394), .996703 (.002608), .998586 (.001575), .998836 (.009260), .998284 (.009528), .941416 (.081258), .998714 (.007515), .995806 (.016119), .983432 (.001741) and .992850 (.006948).

- The standard deviation value for all countries is less than 50% and is a small percentage.

- The skewness coefficient's positive value indicates that the skewness is to the right and so most of the values are on the left of the mean.

- The skewness coefficient's negative value indicates that the skewness is to the left and so most of the values are on the right of the mean.

- **Descriptive statistics for the variable** (Assets tangibility) **according to factor** (years).

The researcher performed the descriptive analysis and obtained the following results:

Table 3 Descriptive statistics for the variable (Assets tangibility) according to factor (years)

Assets tangibility						
year	N	Mean	Std. Deviation	Skewness	Minimum	Maximum
2007	194	.52818472	.269696368	-.180	.005062	.996899
2008	209	.54610042	.265184033	-.241	.007746	.994335
2009	245	.55671602	.286378904	-.322	.003411	.998586
2010	254	.55293311	.282131550	-.355	.003945	.993912
2011	231	.56421676	.274888774	-.419	.007515	.994909
2012	213	.56276441	.278136730	-.365	.002953	.998714
2013	256	.53209451	.293694320	-.265	.001575	.998836
2014	264	.53346379	.295586326	-.214	.001698	.994120
2015	220	.54108178	.286586946	-.234	.001752	.991885
2016	193	.52181413	.292101377	-.208	.001826	.998284
Total	2279	.54429351	.282950307	-.283	.001575	.998836

From the previous table

- The mean value of the (Assets tangibility) on 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 and 2016, is 0.528, 0.546, 0.557, 0.553, 0.564, 0.563, 0.532, 0.533, 0.541 and 0.522.

- The Maximum (Minimum) values of the (Assets tangibility) on 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 and 2016, are .996899 (.005062), .994335 (.007746), .998586 (.003411), .993912 (.003945), .994909 (.007515), .998714 (.002953), .998836 (.001575), .994120 (.001698), .991885 (.001752) and .998284 (.001826).

- The standard deviation value for all years is less than 50% and is a small percentage.

- The skewness coefficient's negative value indicates that the skewness is to the left and so most of the values are on the right of the mean.

Results

The findings of the non-monetary research indicate that productivity plays a crucial role in all nations, except for Qatar, where it is not a determining factor. This suggests that the nations in the study adhere to the compromise hypothesis. Additionally, most of the countries in the study follow the office hypothesis and the hierarchy hypothesis, as the liquidity quality has a negative and critical impact on all countries except for Qatar and Saudi Arabia. The strength of this relationship varies among countries. Bahrain, Egypt, Oman, and Palestine all show a positive correlation, supporting the compromise hypothesis. On the other hand, the remaining countries exhibit a negative correlation or mixed results. The risk factor is only significant for Saudi Arabia and UAE, while in other countries, it is positive and therefore not explained by the hypothesis. Profits are negative in all countries, aligning with the hierarchy hypothesis. Similarly, the findings regarding growth opportunities indicate that all countries follow the compromise hypothesis, with a negative correlation, except for Oman and Saudi Arabia, which exhibit a positive correlation following the hierarchy hypothesis. The income quality is negative for all countries and follows the hierarchy hypothesis. Ownership structure has a negative correlation with leverage, suggesting that when there is a dominant owner, firms are compelled to pay off their debt.

From 2003 to 2016, the average total debt to total assets ratio was 46%, while the average short-term debt to total assets ratio was 38%. Egyptian companies had an average profitability rate of 21%, tangibility rate of 28%, growth rate of 13%, and a high liquidity of 2.60. During the period from 2003 to 2008, the percentage of capital structure slightly increased to 48.6% for total debt to total assets and 39.5% for short-term debt to total assets. The average profitability rate changed to 22%, tangibility rate increased to 31.1%, growth rate rose to 15%, and the liquidity average slightly declined to 1.77, but still remained high. In the period from 2009 to 2016, the percentage of capital structure shown in this sample slightly declined to 43.8% for total debt to total assets and 35.6% for short-term debt to total assets. The average profitability rate changed to 20%, tangibility rate decreased to 25%, growth rate declined to 11%, and the liquidity average slightly declined to 2.13, but still remained high. The percentages of capital structure shown in the sample indicate a relatively low preference for debt financing in Egypt, with around 45% for total debt to total assets, 37% for short-term debt to total assets, and 8% for long-term debt to total assets. This suggests that financial managers in Egypt prioritize equity as their primary source of finance, followed by short-term loans over long-term ones. Long-term debt is used as a last resort for financing. Therefore, our focus

is solely on the measures of total debt to total assets and short-term debt to total assets as indicators of capital structure.

The association between profitability and leverage was determined to be statistically insignificant when taking into account both capital structure measures and the three annual periods. This lack of significance is consistent with prior research. Furthermore, the findings suggest that size and tangibility are inversely related to profitability, while growth has a positive correlation with profitability. This indicates that larger companies in Egypt typically have lower levels of profitability, and profitable companies tend to possess fewer tangible assets. Additionally, profitability, tangibility, and growth exhibit a positive correlation with short-term debt, whereas size shows a negative correlation with both short-term debt and total debt ratios. This implies that companies with higher tangible assets and those experiencing growth rely more on short-term debt. Conversely, large and profitable companies are less inclined to utilize short-term debt and generally maintain lower levels of overall debt. Furthermore, liquidity and business risk variables demonstrate a negative relationship with both total debt and short-term debt across all three annual periods.

This suggests that firms with higher liquidity and greater risk tend to utilize less debt overall. Moreover, financial flexibility displays a negative relationship with both total debt and short-term debt, indicating a preference for internal financing sources over debt. Additionally, the results for the

firms indicate that profitability is closely linked to book influence, supporting the hierarchy hypothesis, while market influence shows the opposite trend, in line with the compromise hypothesis. This highlights how the interpretation of influence can lead to varying results. Furthermore, the presence of significant yet unexplained risk adds complexity to the hypothesis. Profitability is negative for Islamic companies and positive for traditional companies. Similarly, growth is negative for traditional companies and positive for Islamic companies.

The statistical examination of assets tangibility revealed a noteworthy influence on both ROE and ROS. Conversely, when considering the remaining variables, the statistical analysis indicated that assets tangibility had no significant effect on ROA.

The research demonstrated that firm profitability is indeed influenced by the variable of firm size, as indicated by all measures for the dependent variable. Conversely, upon examining the influence of various sectors on the study outcomes, the researcher discovered that firm size had a significant positive impact on return on equity (ROE) across all sectors. Additionally, a noteworthy positive correlation between firm size and return on sales (ROS) was observed.

Upon examination of the factors being studied, it was determined that liquidity has a notable effect on company profitability when measured by ROA and ROS. However, the

analysis revealed that liquidity does not have a significant impact on ROE when compared to other variables.

The researcher discovered that the variable growth opportunities have a positive influence on profitability across all three measures, indicating their acceptability. Altman's z-score was found to be suitable for the variables ROE and ROS exclusively. In contrast, the statistical analysis revealed no significant relationship between asset tangibility and ROA for the remaining variables. The researcher observed a negative influence on profitability with ROE and a positive influence with ROS.

Discussion

The researcher concluded that asset tangibility can't be considered as one of the most important determinants of firm profitability which contradicts with the work of Mwaniki et al. (2017).

Contrary to the findings of this study, the presence of deposit insurance had no effect on banks' productivity in developing and low-income countries. In fact, the results showed a negative impact on return on assets (ROS) and a positive impact on net interest margin (NIM). This suggests that the absence of deposit insurance and the presence of mispriced schemes hinder banks' risk-taking behavior, leading to lower long-term productivity. These findings contradict the conclusions of Demirgüç-Kunt and Huizinga (1999). Additionally, the correlation between oil prices and the GDPPC variable positively influenced NIM at a significance level of 10%. However, the impact on ROS was insignificant and negative.

The outcomes of ROS align with the findings of Essayyad and Madani (2003), while the outcomes of NIM support the discoveries of Huseynov (2009). The findings of this study indicate that changes in oil prices indirectly affect banks' profitability, and the weak impact may be attributed to the fluctuation of oil prices during the study period, as well as the fact that some countries are net oil importers. The set of economic structure factors has minimal impact on banks' profitability in both developing and less developed countries. The primary variable in this set is the market capitalization of the financial market (MACP); this variable is included in the regression analysis with a negative sign for both profitability factors, but it is insignificant. The same applies to the relationship of this variable with GDPPC, but with a positive sign.

These findings suggest that capital markets and banks will complement each other in the long term in developing and emerging countries, and this is related to economic development. The insignificant results presented here are supported by the findings of Demirgüç-Kunt and Huizinga, Aburime (2008), and Borroni et al.'s (2016) studies. The next variable is banks' assets to GDP (BNK), which has a negative and significant impact on ROS ($p < 0.01$), while its impact on NIM is positive but not significant. The association of BNK with GDPPC is positive ($p < 0.01$) for ROS and negative for NIM ($p < 0.01$). Contrary to the findings of Ghosh (2016) and Demirgüç-Kunt and Huizinga (1999), this paper's findings are

different. Ghosh's (2016) results indicate that banks' assets to GDP positively affected ROS and negatively affected NIM, while Demirgüç-Kunt and Huizinga's (1999) results revealed that this variable had a negative impact on ROA and NIM. The results of this study suggest that the development of the financial sector will reduce costs, leading to higher profitability in the long run for banks operating in developing and less developed countries. The impact of size is insignificant for ROS (positive) and NIM (negative), which is consistent with previous studies such as Yanikkaya et al.'s. (2018) .finally, the concentration had a positive impact on ROS and NIM, but the findings are significant for NIM ($p < 0.10$). This indicates that competitive markets enable banks in developing and emerging countries to gain monopolistic advantages by increasing their interest margin. These results are supported by several studies, such as Athanasoglou et al. (2006) and Saona (2016).

According to the study, it was found that larger firms are estimated to exhibit a higher level of profitability compared to smaller firms. This finding aligns with the research conducted by Dogan (2013), Jonsson (2007), Lee (2009), Stierwald (2009), Saliha and Abdessatar (2011), Shubita and Alsawalhah (2012), Banchuenvijit (2012), Yang and Chen (2009), Almajali, Alamro, and El-Soub (2012), all of whom have advocated for a positive correlation between firm size and its profitability.

The results regarding the size of the company go against the findings of Shepherd (1972), who stated that there is a negative relationship between firm size and profitability. Furthermore, it contradicts the argument made by Whittington (1980) that the profitability of a firm is not influenced by its size.

The research elucidated that the liquidity of a company is directly correlated with its profitability. This finding aligns with the research conducted by Farooq (2012) and Schaller (1993).

The researcher's analysis indicated a positive correlation between growth opportunities and profitability, which stands in contrast to the findings of Saxena and Maru (2016). This contradicts the conclusions of Rahimian, Ghalandari, and Joigh (2012), who suggested a negative relationship between growth opportunities and profitability. Additionally, it contradicts the arguments made by Chashmi and Fedaee (2016) that a firm's profitability is not influenced by its growth opportunities.

The researcher concluded that Altman's Z-score is positively related to its profitability. The findings concerning Altman's Z-score contradict those of Tyagi (2014), Mizan and Hossain (2014), who explained a significant relation between Altman's Z-score and firm's profitability.

Conclusion

Our findings indicate a clear distinction in results when employing different methodologies. Furthermore, the experimental results we have uncovered align closely with existing literature, suggesting

that both the pecking order theory and trade-off theory, as well as the agency theory, contribute to our understanding of capital structure decisions. Equally important, our hypothesis utilizes both book leverage and market leverage, yielding nearly identical results. Our findings provide a robust explanation of the trade-off theory and the pecking order theory. Another consideration is that it may be misleading to compare studies on capital structure determinants due to varying definitions of leverage and differences in independent variables. This study delves into the capital structure of firms and reveals that traditional determinants of capital structure are crucial, while regulations are of secondary importance. Additionally, we demonstrate that Islamic firms exhibit different capital structures compared to conventional firms.

The findings are categorized into two groups: the financial results of the company and the non-financial results. Initially, the non-financial findings indicate that efficiency plays a crucial and negative role in all countries in the sample, except for Qatar. This suggests that the countries in the sample adhere to the trade-off theory. Furthermore, as expected, the majority of countries in the sample adhere to the pecking order theory and the agency theory, as liquidity risk is negative and significant for all countries except Qatar and Saudi Arabia.

The substantial quality characteristic yields mixed results. Bahrain, Egypt, Oman, and Palestine all exhibit a positive correlation, supporting the compromise hypothesis. Conversely,

the remaining countries show a negative correlation or a mixed outcome. The risk factor is only significant for Saudi Arabia and UAE, while in other countries, it is positive and therefore not explained by the hypothesis. Profits are negative in all countries, aligning with the hierarchy hypothesis. Additionally, regarding the findings on growth opportunities, all countries follow the compromise hypothesis with a negative correlation, except for Oman and Saudi Arabia, which exhibit a positive correlation following the hierarchy. The income trait is negative for all countries and follows the hierarchy hypothesis. Ownership structure has a negative correlation with utilization, suggesting that when an extreme owner exists, it forces firms to pay off their debt. When measuring profitability using ROS, the researcher discovered a significant positive relationship between size, dividend policy, operating cycle, and Altman's Z-score with ROS in the energy, consumer staples, and IT sectors. However, a significant negative relationship was found between leverage and ROS.

Limitations

The data was exclusively gathered from the data stream database. Owing to the limited availability of data, the study did not encompass the timeframe spanning from 2017 to 2018. The absence of alternative data sources hindered the researcher's access to certain fundamental data required for this study. Consequently, countries like Syria, Iraq, Libya, and others,

despite being situated in the Middle East and North Africa region, were excluded from the analysis due to their political circumstances.

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