

## An Empirical Examination of the Effects of Accounting Conservatism on Return on Assets: Evidence from Algerian companies for the period (2010-2019)

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### Abstract :

This study investigates the effect of accounting conservatism as an independent variable on return on asset for a sample of 10 Algerian companies between the periods of (2010-2019). Descriptive analysis of accounting conservatism level show different results between Algerian companies but there was a negative effect of accounting conservatism on return on asset according to the Pearson correlation. Also size of the company had an influence on the level of accounting conservatism.

### Mots clés:

Mot clé.1: Conservatisme comptable

Mot clé.2: rendement de l'actif

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### Résumé :

Notre étude examine l'effet du conservatisme comptable en tant que variable indépendante sur le rendement de l'actif pour un échantillon de 10 entreprises algériennes entre les périodes de (2010-2019). L'analyse descriptive du niveau de conservatisme comptable diffère entre les entreprises Algériennes. Par contre on a trouvé un effet négatif du conservatisme comptable sur le rendement de l'actif selon la corrélation de Pearson. La taille de l'entreprise a également eu une influence sur le niveau du conservatisme comptable.

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## **1- The introduction:**

Financial statements are the final of the accounting process with the purpose to provide financial information that can describe the company condition in a certain period. The financial information has functioned as information instrument, a management accountability tool for company owners, description of company success indicators and a consideration in decision making (Othmane, 2018, p. 247). Financial statements issued by a company are a reflection of company financial performance.

For a company, maintaining and improving financial performance is such a prominent requirement so that any available financial information from a company is often used by analysts or investors to calculate its financial ratios for a base of consideration in the investment decision (Benhamin & Behih, 2020, p. 361). In this research, it uses a profitability ratio. The profitability ratio will be measured through indicators, namely: Return on Asset (ROA).

For that accounting conservatism is one of the measures taken to ensure the quality, transparency and expression of the financial statements of the actual reality of the company, as it is one of the basic concepts on which the accounting theory has been based for a long time as a restriction on the application of accounting principles when preparing the financial statements, in light of the uncertainty faced by the accountant.

The Algerian legislator has adopted a set of laws to ensure the transparency and credibility of financial statements and increase their quality, by adopting international accounting standards. Therefore, this paper comes to study the role of these laws and legislations in obliging companies to an acceptable level of accounting conservatism, which the financial accounting system considers as an accounting principle which it is known as the principle of prudence and caution, and the effect it has on increasing the quality of financial statements.

### **1.1- Research question:**

Most of the research in the area of accounting conservatism measurement indicates that is a complicated and difficult subject, and this complexity is due to the multiple perspectives involved and the difficulties of quantifying accounting conservatism. There is a question about the optimal level of return on asset, it can be established based on comparison with other companies in a sector or size between liquidity and profitability relayed to the investors required rate of return (ROA). Therefore study asks the question about the accounting level in the Algerian companies over the period 2010-2019 to provide empirical evidence. The principle question is: are the Algerian companies practice the accounting conservatism? What is the effect of accounting conservatism on return on?

### **1.2- Research hypothesis:**

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In order to answer the above mentioned question, in this study two hypothesis has been formulated as:

- The Algerian companies practice accounting conservatism.
- There is a negative effect of accounting conservatism coefficient on return on asset level for the Algerian companies.

## **1.3-Previous studies**

The accounting conservatism considers as one of the most important accounting concepts, as it indicated the estimation of the circumstances of uncertainties, which clearly indicates the multiplicity of accounting options and policies. Some of which may be characterized by prudence and caution. We review some studies on the effects resulting from the application of accounting conservatism concept.

The study of (xia & zhu, 2009) investigates the determinants of accounting conservatism using the data of listed companies in China and accrual-based measures of conservatism. The results find that information asymmetry constitutes a significant cause for accounting conservatism, and that management incentives have greater impact on accounting conservatism than other factors. Also found that accounting conservatism is greater among SOEs, which suggests that the concerns of managers about their promotion/careers and governmental pressures specific to SOEs likely play a role in shaping accounting practices. Results show that, in China, debt is the most important factor affecting accounting conservatism, followed by ownership, and that the board has little effect.

The study of (Abed, Al-Badainah, & Abu Serda, 2012) This study researches the level of conservatism in accounting policies and explores its impact on earnings management for a swatch of 259 Jordanian Manufacturing companies for the period 2006-2009. The results point out that there are differences on the level of conservatism between companies. Moreover, the results of this study disclose that conservatism and size are negatively related to earnings management, while performance found positively related to earnings management.

Also (Affes & Sardouk, 2016) studied the effect on the relationship between the level of accounting conservatism and performance of a central governance mechanism, namely, the ownership structure. They examined the concentration effect of institutional, wage and property of such a mechanism on the relationship between accounting conservatism and the accounting company's performance, which is measured by the return on equity in 60 French listed companies belonging to the SBF 120 index in the period 2007-2012 . The results support the moderating effect of such a mechanism that the ownership concentration is positive and significant. Ownership concentration

promotes the practice of accounting conservatism and consequently generates the improvement of a company's performance.

As (El-Habashy, 2019) investigated the impact of conservative accounting on corporate performance indicators of Egyptian firms. To test hypotheses. Panel regression models were used for data analysis on a sample of the 40 most active non-financial companies in the period 2009-2014. Givoly & Hayn (2000) indicator is used as a benchmark for measuring accounting conservatism. The corporate performance indicators used in this study are return-on-assets (ROA) and return on equity (ROE) representing accounting performance measures. The results of the research show that accounting conservatism has a significant positive impact on corporate performance indicators. This reflects the positive effect of corporate performance on shareholders that leads to a strong corporate financial position.

## **2- Theoretical Framework**

Accounting conservatism is one of the controversial concepts in accounting thought and practice. The pioneers of accounting used to use the concept of "prudence and caution" to express an accounting conservatism when preparing financial statements.

The perception of conservatism in accounting dates back to Medieval in the fourteenth century, as The first verifications occurred of the property owner's accounts by auditing as "faithful and prudent". Subsequently, they happened in Italy, with the valuation of assets, mainly inventories, with a lower cost or market value. They were inserted into accounting textbooks in the 17th century, and were hereafter required by the commercial code in France in 1673, Prussia, 1794 and Germany, 1884 (Basu, Conservatism Research: Historical Development and Future Prospects, 2009, p. 3). Conservatism can be considered one of the oldest good auditing practices.

### **2.1-The concept of accounting conservatism:**

The conservatism is a dominant characteristic of financial reporting which have been highly concentrated in the recent years because of the famous corruptions by companies like Enron and WorldCom. While there is a wide agreement upon the conservatism in preparing financial statements, however there is no comprehensive definition of this concept, there are many definitions that economic writers have referred to:

Accountants traditionally expressed conservatism by the rule "anticipate no profits, but anticipate all losses". (Basu, 1997, p. 07) interpreted this rule as denoting the accountants' tendency to require a higher degree of verification of recognizing good news than bad news, and that in the

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financial statements earnings reflects bad news more quickly than good news.

Defined it (Pae, Thornton, & Welker, 2004, p. 31) as the degree to which a company's accounting income reflects expected losses in a timelier fashion than expected gains in a given fiscal year.

Conservatism is an integral part in Generally Accepted Accounting Principles through practices such as lower-of-cost-or-market accounting for inventories, and the use of write-downs for long-lived assets (Basu, Hwang, & Jan, 2002, p. 05). However, the recognition rules for asset impairments provide for discretion and judgment by managers and auditors.

Examples of conservatism comprise the lower of cost or market convention, advertising costs and the expensing of research and development costs , write-downs of goodwill following impairment testing but proscriptions against recognizing internally generated goodwill, and the recognition of post-retirement obligations (Pae, Thornton, & Welker, 2004, p. 5).

Conservatism stipulates that possible errors in measurement should be in the orientation of undervaluing rather than overvaluing of net income and net assets. If two estimates of assets or earnings to be received or paid in the future are nearly equally likely, then conservatism dictates that the lower optimistic one be used (xia & zhu, 2009, p. 82)

There are two completely different opinions about conservatism. Some scholars believe that conservatism is useful for the users and financial analysts .They suppose that conservatism increases the volume of information reported in the securities markets. This increase might contribute the investors and other users of financial statements for making proper decisions. In fact, this theory considers three information benefits including enhancing information quality, reducing the advantages of earnings management and signaling managers for providing private information to the managers (MOHAMMADI, HEYRANI, & GOLESTANI, 2013, p. 190). Some other ones, while, not only pay no attention to the role of information, but also opposed this concept in terms of its negative impact on the quality of information included in the published financial statements. As the accounting conservatism, it conflicts with some principles and qualitative characteristics of accounting information, such as comparability, stabilization, reliable representation and consistency. It may conduct the perversion of accounting information and display them values differ from the true values (Al-Sakini & Al-Awawdeh, 2015, p. 233). The exaggeration in conservatism may harm some users of accounting information.

### **2.2-Return on Assets (ROA)**

Financial performance in the broader sense refers to the degree to which financial objectives being or has been accomplished and is an important aspect of financial risk management. And it is the measurement of what had been achieved by a company which shows good conditions for certain period of time (Batchimeg, 2017, p. 23). It is a measure of how well a firm can use assets from its primary mode of business and generate revenues. So understanding financial performance is essential for every organization because most of the organization's crucial decisions depend on the financials and they help in the decision-making process of the company.

Analysts and investors used financial performance to measure firm's overall financial health over a given period of time (Boutora & Raguem, 2020, p. 197), and can also be used to compare similar firms across the same industry, or to compare industries or sectors in aggregate.

The variable used in this research is as an indicator of company's performance. According to an indicator ROA be that a company can use its financial resources to generate value for shareholders (BESSAI KESSOUH, 2020, p. 78). The greater the ROA of a company, the better the company's financial performance because the rate of return increasingly generating profits versus the relatively small assets (Atidhira & Yustina, 2017, p. 130). High ROA is also attracting investors to invest because it is companies are able to leverage their assets to the business (Sukmawati & Garsela, 2016, p. 54). Return on Assets (ROA) is one of profitability ratios. This ratio is most often pointed out, in the analysis of financial statements, because it is able to indicate company success to create profits. ROA is competent to measure the company's ability to generate profits in the past to then be projected in the future (Rosikah, Dwi, Dzulfikri, Muh, & Miswar, 2018, p. 7).

### **2.3-The accounting conservatism in the Algerian accounting system:**

In this context, we will try to show the existence of the accounting conservatism in the financial accounting system by defining the rules that reflect the concept of the accounting conservatism.

#### **a) According to Article 14 of Executive Decree 08-156:**

This decree came to determine how to apply some articles from Law 07-11 of November 25, 2007, which includes the financial accounting

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system, where it referred briefly to the accounting conservatism through Article 14.

The financial accounting system referred to the concept of accounting conservatism by the term "prudence", and considered it one of the accounting principles which governs the process of preparing the financial statements in case of uncertainty. Also stressed the reasonable estimate and not over-valuing, and that by implicitly without using the term accounting conservatism explicitly (Official Gazette n°27, 2008).

### **b) According to the decision dated July 26, 2008:**

This decree came to define the evaluation and accounting rules, the content and presentation of the financial statements, as well as the nomenclature and operating rules of the accounts (ATIG & BOUZIANE, 2021, p. 207). In this element, we will deal with the evaluation rules that indicate the existence of the accounting conservatism.

The legislator stressed out of prudence and caution, and in the first section: enrollment assets, liabilities, expenses, and revenues and including them on accounts, Chapter One: General principles, and through Paragraph 4.111, the necessity of formation reserves for potential expenses, and canceling them in the event that the reasons for their formation disappears, this means the existence of the concept of Accounting conservatism objectively (Official Gazette n°19, 2009).

If we notice both Paragraph 7.112 and Paragraph 8.112 of Section Two: General Rules for Valuation Chapter One, we find that the legislator stipulated the application of accounting procedures for recognizing losses of deterioration in asset values (Sid, 2013, p. 220). In accordance with of the principle of prudence and caution through recording the potential losses and delaying the recognition of expected profits until they are realized (Official Gazette n°19, 2009).

In order to preserve the credibility of the financial statements, the Algerian legislator has focused heavily on proving the loss in value in the interest of stakeholders.

According to the concept of accounting conservatism, costs of research and development are recognized promptly instead of being capitalized, and thus they are considered as an expense included in income list and are not considered an intangible asset in the balance sheet. The first section, chapter two: special rules for evaluation and inclusion in the accounts.

Pursuant to the principle of prudence and caution, the legislator stipulated that potential losses be recognized promptly of financial investments, without that the potential gains, in Paragraph 6.122, Section

Two: non-current financial assets, bonds and accounts payable be recognized.

The researchers confirm that the use of the "cost or market, whichever is the lower" method for assessing inventory is considered an indicator of the existence of an accounting conservatism. The Algerian legislator has explicitly mentioned this in Section III, stocks and products under implementation paragraph 5.123 (Official Gazette n° 19, 2009).

Valuation of inventories according to the Algerian legislature is being the less than their book cost or the value of their achievement net, and recording the depreciation in the value of the inventory as a burden on the income list (Jamal, 2013, page 212).

### 3-Research Methods, tools and measures:

The reason of this study is to analyze the accounting conservatism level. Therefore, this study uses descriptive and correlation research plan using panel data. It uses purely secondary data taken from the yearly reports published by sample Algerian companies which were obtained from on their websites. We used multiple regression analysis in estimating the study hypothesis.

#### 3.1 Sample Selection:

Using a sample of industrial, service and financial Algerian companies between the years 2010 to 2019, to investigate the accounting conservatism level. The population consisted initially of 10 companies which issued annual reports during the above mentioned period. This means to total of 100 observations.

In addition, the study sample selected the industrial, service and financial sectors because these are the largest and most important sectors. Collecting the financial information data of the Algerian companies is so difficult, due the secrecy and caution characterizing their corporate governance and the lake of databases for this purpose, so the selection of companies sample was based on the availability of their financial information statements. Algerian companies are not listed in the stock exchange. The variables have been measured directly using the amounts related to them in the financial statements, which have been weighted using the total assets, in order to isolate the size effect.

Table No 01: Summary of sample selection

Overall population companies	10
Industrial companies	04
Service companies	01
Financial companies	05
<b>Total observations</b>	<b>100</b>

Source: collected by the researchers.



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### 3.2-Model Development:

Even though the previous literature developed various proxies for accounting conservatism, many of them captured accounting conservatism only partially and each of them had its strengths and weaknesses. In line with the previous empirical studies, this study relies on measuring the level of accounting conservatism on the accrual based measure (Tarfaoui & Mayou, 2021, p. 124) proposed by (Givoly & Hayn, 2000). Thus, the accounting conservatism approach is:

$$TACC = \frac{\text{Net Income} - \text{Net Operating Cash Flow}}{\text{Total Assets}} \dots\dots\dots (1)$$

In order to measure accounting conservatism and show his impact on return on assets, Model (1) is formed which has been dependence by many studies such as the study of (SANA’A, 2016, p. 11) and study of (El-Habashy, 2019, p. 6). The size is a control variable included to determine their influence on return on assets. The model is adequate for Algerian companies, financial statements data are used and the majority of Algerian companies are not listed in the stock market, so we don’t require any market variables in the model below:

$$ROA_{it} = a_0 + a_1 TACC/TA_{it} - a_2 LnTA_{it} + \varepsilon_{it} \dots\dots\dots (2)$$

Where:

- ROA<sub>it</sub>**: is the return on asset calculated by net income on total assets.
- a<sub>1</sub>TACC/TA<sub>it</sub>**: is the accounting conservatism calculated by (Income - net operating cash flow)/total assets. Where is divided on TA to minimize the differences of size and to homogenize the results.
- LnTA<sub>it</sub>**: the logarithm of total assets for the company during the period t, which measured the size of companies.
- a<sub>0</sub>**: is a constant
- a<sub>1</sub>, a<sub>2</sub>** : are the regression coefficients
- ε<sub>it</sub>**: is the residuals

### 4- Empirical results:

The reason of this study is to analyze the effects of accounting conservatism on return on assets (ROA). Therefore, in this section descriptive analysis for the variables was examined. This study uses the ordinary least square regression analysis to analyze the effect of accounting conservatism and company’s size on ROA. Also we estimated different models of panel data to choose the appropriate model, and obtain coefficients to compare it with different empirical results obtained from literature review above that suggested the existence of accounting conservatism practices in companies.

### A. Descriptive Analysis

Table (02) provides a descriptive analysis for the variables examined in this study; it shows the mean, standard deviation, the minimum, the maximum skewness and kutosis.

Table No 02: Descriptive statistics for 100 observations (2010-2019)

Compagnies	ROA <sub>it</sub>	TACC/TA <sub>it</sub>	LnTA <sub>it</sub>
Mean	0.0319	0.0018	23.9145
Median	0.0266	0.0063	24.0024
Maximum	0.1379	0.2911	26.6760
Minimum	-0.3909	-0.3656	20.5183
Std. Dev.	0.5550	0.098	0.5054
Observations	100	100	100

Source: Eviews 10 Outputs

The table above summarizes the descriptive statistics of data, including 100 company-year observations for 10 companies, from 2010 to 2019. The standard deviation shows that the ROA<sub>it</sub>, TACC<sub>it</sub> and LnTA<sub>it</sub> are consistent in terms of dispersion. Return on Asset (ROA) has the smallest value (minimum) of -0.3909 and the largest (maximum) is 0.1379. The average (mean) of the Return on Asset (ROA) was 0.0319 with a standard deviation of 0.5550. This indicates that the data in the variable Return on Asset (ROA) have a distribution that is large, because the standard deviation is greater than the mean value.

The average mean of accounting conservatism (TACC) is 0.0018. The positive value shows that the companies tendency is to be less conservative in financial reports. But there is a variation in the level of accounting conservatism for the study sample, it will be touched upon later. Has the smallest value (minimum) of -0.3656 and the largest (maximum) is 0.2911 with a standard deviation of 0.098. This indicates that the data in the variable conservatism have a distribution that is small. It can be concluded the data in the conservatism was good. Also the table shows that companies size ranges from 26.6760 with a maximum value to about a minimum of 20.5183, with a mean of 23.9145. By looking at the value of standard deviations of 0.5054, the data used in the company size variable have a large distribution; this is due to the difference in the size due to differences on sectors of the companies.

Table No 03: Results of accounting conservatism measurement by company (2010-2019)

Company	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Mean
Al-Aurassi	- 0,01975663	- 0,03482625	0,01091733	- 0,0500539	- 0,07321874	- 0,04709252	- 0,06707021	- 0,06678023	- 0,04988847	- 0,09620285	-0,0498924

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Gulf Bank Algeria	CPA Bank	Bank ABC	FransBank	Seté Gle	Biopharm	Saidal	NCa Rouiba	Sonatrach
-0,1756546	0,04922263	0,0122702	0,29119468	0,04554252	0,26125599	0,06777136	0,19577238	0,02560238
0,07344036	0,01338502	0,00766253	0,10960448	0,05106144	0,18491075	0,07018929	0,18209575	0,06011167
0,09648814	0,04550942	0,02687218	0,14615106	0,20414487	0,21609105	0,0974147	0,01826921	0,01140873
0,10737103	0,03672265	0,00222512	0,09326775	0,04679039	0,08294289	0,08546546	-0,0613496	0,01274109
0,08799345	0,08750805	0,00522256	0,1603109	0,11163009	0,07486893	0,06633292	0,01071103	0,05061063
0,00947337	0,04226779	0,10121934	0,10002962	0,14766594	0,03131254	0,05936137	0,00443694	0,16257409
0,06555445	0,06974858	0,00741049	0,04487509	-0,042745	0,03950279	0,04352016	0,04587155	0,05709754
0,01416321	0,08350634	0,05640533	0,17910469	0,05455205	0,09967199	0,04140836	0,12110288	0,05118259
0,01801103	0,00129973	0,08975823	0,04348372	0,00778104	0,06987199	0,05098121	0,07793445	0,07778073
0,02341084	0,07825455	0,05678861	0,02683133	0,04877285	0,06806597	0,0520753	-0,3656355	0,00234663
-0,0263454	0,00836037	0,00505852	0,01577471	-0,0135447	0,11284949	0,06345201	0,03185692	0,04839454

Source: Eviews 10 Outputs

Accounting conservatism is the independent variable. This study adopts the measurement on the accrual basis suggested by (Givoly & Hayn, 2000) to reflect the accounting accruals in the following period. Accounting conservatism results in negative accruals are negative, the company is highly conservative if the arithmetic mean is negative, in other words the company is more conservative because of the lower percentage of profits outside the cash flows.

The company is less conservative if the arithmetic mean is positive; in other hand the company is less conservative due to the presence of a high percentage of profits in non-cash form.

By looking at table (03) above, we find that there is a variation in the level of accounting conservatism for the study sample by the measure of total accruals, where:

Al-Aurassi company recorded the lowest negative mean total accruals of -0,0498924, and thus mean that the company was the most conservative during the period 2010-2019, followed by Sonatrach and NCA Rouiba companies, which recorded values negative mean of total dues of -0,04839454 and -0,03185692 respectively, followed by both Gulf Bank, Société Générale and CPA Bank, with negative mean total dues of -0,0263454, -0,0135447 and -0,00836037 respectively, which are considered the least conservative. While Biopharm recorded the highest positive mean of the total accruals of 0,11284949, this indicates the absence of a level of conservatism, followed by Saidal which recorded positive mean of total dues of 0,06345201. Followed by each of FransBank and Bank ABC with positive mean total dues of 0,01577471 and 0,00505852 , respectively. According to these results we can't accept the first hypothesis said that the Algerian companies practice conservatism. But because results are different between companies; panel data tests were run in the next stage, to confirm that the accounting conservatism level in Algerian companies exist but is lower than other countries in the same environment as shown in previous empirical evidence.

**B. Correlation test:**

Table (04) shows the correlation relationships between variables, measured by the Pearson coefficient, which indicates that all of the correlation relationships are statistically significant at 1% level.

Table No 04: Pearson correlation matrix between variables

Correlation Probability	ROA <sub>it</sub>	TACC/TA <sub>it</sub>	LnTA <sub>it</sub>
ROA <sub>it</sub>	1.000 -----		
TACC <sub>it</sub>	-0.219 0.002	1.000 -----	
LnTA <sub>it</sub>	0.069 0.003	0.043 0.000	1.000 ----

Source: Eviews 10 Outputs

Generally speaking, the size of the company affects the level of accounting conservatism when preparing financial statements. The small companies are more conservative than the big ones. This reinforces the formula that correlation coefficient is bigger in models of small companies than in big ones. To certify the test results of the company size on the level of accounting conservatism the regression model of company size, on the accrual basis was assessed. From table (04) the size variable LnTA<sub>it</sub> was

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positive at 6.9% which shows the reversal relation between the level of company size and  $ROA_{it}$ , and 4.3% between company size and accounting conservatism. These variables are statistically significant at level 5% or 1%. Consequently, the size of the company had influence on the level of accounting conservatism.

The results indicate also that accounting conservatism has a significant negative influence on return on assets (ROA). This suggests that 21.9% of the variance in ROA may be explained by conservative accounting practices and control factors. Results demonstrate a conservative accounting approach in the Algerian companies may negatively affect the ROA. Therefore, the second hypothesis is accepted.

Next step is to analyze panel data to choose the appropriate model and make sure that results are coherent with previous model results in literature review.

### C. Unit root test

Before estimating the model of the study, it must examine the stationarity of the variables, which mean the integration order of series, and testing whether they contain or not unit root. Table (05) shows results of three unit root tests at the level  $I(0)$ , under the three possible options (Individual intercept, Individual intercept and trend, None). The null hypothesis of all tests assumes the presence of unit root (non-stationary) in panel data. According to the results all the variables do not contain unit root. All tests are significant at 1% level except  $TACC/TA_{it}$  is significant at 5%.

Table No 05: Unit root test results

Met hod	Test	ROA <sub>it</sub>		TACC/TA <sub>it</sub>		LnTA <sub>it</sub>	
		Stat	Prob*	Stat	Prob*	Stat	Prob*
Individual intercept	Null: Unit root (assumes common unit root process)						
	Levin, Lin & Chu t*	-2.736	0.000	-4.983	0.000	-4.319	0.000
	<b>Null: Unit root (assumes common unit root process)</b>						
	Im, Pesaran and Shin W-stat	-2.730	0.000	-2.298	0.004	-1.887	0.029
	ADF- Fisher Chi-square	43.449	0.000	41.495	0.000	37.471	0.000
	PP- Fisher Chi-square	129.391	0.000	82.920	0.000	59.996	0.000
Individual intercept and	Null: Unit root (assumes common unit root process)						
	Levin, Lin & Chu t*	-10.039	0.000	-5.570	0.000	-1.513	0.065
	Breitung t-stat	1.6410	0.949	-0.512	0.304	0.978	0.002
	<b>Null: Unit root (assumes common unit root process)</b>						
	Im, Pesaran and Shin W-stat	-1.305	0.009	-0.487	0.312	0.434	0.668
	ADF- Fisher Chi-square	41.214	0.000	29.727	0.003	15.804	0.001
	PP- Fisher Chi-square	87.291	0.000	47.288	0.000	48.696	0.000
Non e	<b>Null: Unit root (assumes common unit root process)</b>						
	Levin, Lin & Chu t*	-6.391	0.000	-8.335	0.000	-4.755	0.000
	Null: Unit root (assumes common unit root process)						
	ADF- Fisher Chi-square	53.103	0.000	75.200	0.000	44.566	0.001
	PP- Fisher Chi-square	116.04	0.000	131.66	0.000	67.583	0.000

\*\*Probabilities for fisher tests are computed using an asymptotic chi-square distribution

Source: Eviews 10 Outputs

According to the results above showing unit root test at the level, all variables do not contain unit root due to the significance of all the three tests

(individual intercept; individual intercept and trend; none) at level 1%, except Im, Pesaran and Shin W-stat for the first model and ADF- Fisher Chi-square for the second model are significant at 5% for the  $TACC/TA_{it}$ . The non-significance of Breitung t-stat for the second model for  $TACC/TA_{it}$  and  $LnTA_{it}$  does not change the tendency of results. All the model variables series are stationary at the level  $I(0)$ .

**E. Model estimation and selection**

The model of the study was estimated by three methods of panel data which are (Pooled, Fixed and Random) as shown in the table below. Results indicates that the model is significant at 1% level under

Table No 06: Testing valid model using methods of panel data

Independent variables		Dependent variable: $ROA_{it}$			
		Estimation method			
		Pooled Regression Model	Fixed Effects Model	Random Effects Model	Effects
Constant	Coefficient	-0.010	0.207	0.019	
	t-statistic	-0.136**	0.910**	0.152**	
$TACC/TA_{it}$	Coefficient	0.285	0.207	0.239	
	t-statistic	5.778**	3.991**	4.931**	
$LnTA_{it}$	Coefficient	0.001	-0.010	0.005	
	t-statistic	0.544	-0.806**	0.099	
Adj R <sup>2</sup>		0.962	0.842	0.988	
F-statistic		17.012**	7.049**	12.038**	
Durbin Watson		0.873	1.813	1.622	
S.E of regression		0.048	0.042	0.043	
Sum squared residuals		0.225	0.162	0.180	
Log likelihood		162.772	179.333	-	
Periods included		10	10	10	
Cross-sections included		10	10	10	
Observations		100	100	100	

\*\*significant at 1% level.

Source: Eviews 10 Outputs

We used three methods of panel data. Firstly, we counted on significance to compare between the pooled regression model and the fixed or random effects model to test the valid model. Results in table n° 6, indicate that the model is significant at 1% under three methods except  $LnTA_{it}$ , which is not significant under two models (pooled regression and random effects). Durbin-Watson level suggest that the fixed effects model is the most valid, where the calculated value is close from the value 2.

To select the valid model, table (07) below show that the F-calculated value reached 7.40 is more than the F-critical value obtained from the F-distribution at the numerator degree of freedom where  $(N-1= 9)$  and denominator degree of freedom  $(NT-N-K= 86 \approx 100)$  and 1% level of significance was taken, which reached 3.25. it means that the model must be estimated using the fixed effects model or random effects model as shown below.

Table No 07: F-test results

N	T	K	$R^2_{FEM}$	$R^2_{PM}$	F'	F-critical value
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10	10	4	0.9874	0.9147	7.40	3.25
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$$F' = \frac{(R_{FEM}^2 - R_{PM}^2)/(N - 1)}{(1 - R_{FEM}^2)/(N \times T - N - K)}$$

Where F' is the F-calculated value, N is the number of sections, T is the number of periods, K is the number of estimated parameters, R<sup>2</sup><sub>FEM</sub> is the determination coefficient from the fixed effects model, R<sup>2</sup><sub>PM</sub> is the determination coefficient from the pooled regression model.

**Source:** Based on outputs of Eviews 10.

At this level of research, we used Hausman test to compare between the fixed and the random effects model from the following hypothesis:

H<sub>0</sub>: Random effects model is valid or H<sub>1</sub>: Fixed effects model is valid

As showed in table (08), the Hausman test is significant at the 1% level. So we reject the null hypothesis H<sub>0</sub> and accept the first hypothesis said that the fixed effects model is valid. The study model must be estimated using the fixed effects model, as we expected previously by comparing the Durbin-Watson value.

Table No 08: Results of the Hausman test

Correlated Random Effects – Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. D.f	Prob.
Cross-section random	7.6943	3	0.0087

Source: Eviews 10 Outputs

The outcome of the effects fixed model showed in table (06) indicates that the accounting conservatism TACC/TA and the size of companies LnTA explain about 84.2% of the variation in return on asset levels (ROA). The ROA level can be evaluated by the regression coefficient of accounting conservatism a<sub>1</sub>= 0.207. This coefficient is significant at 1% and indicated the existence of accounting conservatism practices in the Algerian companies. Also the coefficient assessed the companies size can influence negatively by a<sub>2</sub>=-0.01. So we can accept the first and the second hypothesis.

## 5- Discussion:

The purpose of this study is to investigate the effect of accounting conservatism as independent variable and the size of the company as a control variable on return on assets in Algerian Companies. The study concluded with significant results which are:

Accounting conservatism is one of the most important new accounting concepts that the financial accounting system has brought about, as it explicitly indicated in many of its articles the estimation of the circumstances of uncertainties, which clearly indicates the multiplicity of accounting options and policies. Some of which may be characterized by prudence and caution.

Despite the advantage that accounting conservatism provides to multiple parties because of its use as a mechanism to meet the information asymmetry and achieve a high degree of transparency in financial reports. However, it

was found that the level of conservatism regarding the study sample showed that the Algerian shareholding companies were not characterized by accounting conservatism and that there is a variation in the level of accounting conservatism for the study sample. We measured the level of accounting conservatism in the financial statements of Algerian companies using the accrual total basis. Therefore, the financial reports issued by these companies may have a lot of exaggeration in accounting estimating, and the preference for economic events that carry good signs and connotations. This it reduces the ability of these companies to predict future events and increases the state of uncertainty. This result is consistent with the results of some studies conducted in environments that are similar to the Algerian environment, including a study of (Alnajaar, 2014, p. 207) and study of (Hamdan, 2011, p. 428).

The study found a negative effect of the accounting conservatism on returns on assets and indicating the increase in the accounting conservatism in the Algerian companies. These will affect negatively in the improving returns on assets, but this effect is weak. Such a result did not agree with the results of previous studies conducted in similar environments like the study of (SANA'A, 2016, p. 12) and study of (El-Habashy, 2019, p. 7) as they found that positive effect of the conservatism which reflected on return on assets.

The size of the company had an influence on the level of accounting conservatism; smaller companies are more conservative than the big ones. The results reached agree with those of the study of (Hamdan & Abzakh, 2011, p. 150), and study of (SANA'A, 2016, p. 12)

Panel data analysis show that the fixed effects model was valid for the Algerian companies data, and generally we assume that Algerian companies practice more than other countries in similar environment accounting conservatism. The adjusted R in estimated model showed that accounting conservatism explained about 84.2% in the variation of ROA. According to these result we accepted the first hypothesis. We found also a negative relationship between accounting conservatism coefficient and return on asset level for the Algerian companies as shown previously and we accepted the second hypothesis.

## **6- Conclusion:**

This study sought to find an answer to the problem centered around, the extent of the commitment of Algerian companies to apply the principle of accounting conservatism in preparing financial statements and the effect on return on assets. By identifying the accounting conservatism and return on assets, by presenting the most important literature that dealt with this concept from specialized international institutions or economic researchers. As the study showed the importance of conservatism; it is an important way to deal



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with the uncertainties and risks inherent in the activities carried out by the company, as it is one of the measures taken to ensure the quality, transparency and expression of the financial reports on the actual reality of the institution. As it is one of the effective mechanisms to avoid exposure to litigation risks and reduce taxes.

Based on the foregoing, a set of recommendations can be proposed that are based on the previous results:

The adopt the appropriate procedures in order to encourage companies to commit to an acceptable accounting conservatism level.

The SCF financial accounting system is characterized by high flexibility, which can be used in the use of the principle of prudence and caution in proportion to the interest of the companies in the event of uncertainty within the limits permitted to provide transparent and objective financial reports.

The use of the accounting conservatism as a rule for the accountant in normal circumstances and in all cases, not only in times of crisis.

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