

## The Impact of Creative Accounting on the Quality of Financial Information in Financial Statements of Algerian Public Banks

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### Abstract:

This study aims to evaluate the impact of creative accounting practices on the quality of accounting information in Algerian public banks, from the perspective of auditors. A sample of 100 internal and external auditors working with Algerian public banks was surveyed.

The results revealed a significant negative relationship between creative accounting practices and the quality of accounting information in Algerian banks. More specifically, the main hypothesis, which assumed no relationship between the two variables, was rejected. This confirms that creative accounting negatively affects the quality of accounting information presented in the financial statements of these banks.

**Keywords:** Creative Accounting, Accounting Information Quality, Algerian Public Banks.

### Introduction

The quality of accounting information is the cornerstone of economic decision-making, particularly in financial institutions such as banks. With the increasing economic and regulatory challenges, creative accounting practices have posed a serious threat to the quality of this information. Algerian public banks play a vital role in the national economy, contributing significantly to financing investments and providing financial services to citizens and companies. Given the importance of their role, the quality of the financial information they provide is crucial for all stakeholders, including investors, creditors, depositors, and regulators. However, creative accounting practices may distort this information and lead to wrong decisions, threatening the stability of the entire financial system.

Despite the growing importance of the topic of creative accounting and its quality in accounting research, studies that have addressed this issue in the context of Algerian public banks remain limited. These studies lack a deep analysis of the implications of applying these practices on the quality of accounting information in the financial statements of these banks. Therefore, the following research question can be raised:

*To what extent does creative accounting affect the quality of accounting information in the financial statements of public banks operating in Algeria?*

To fully address the previous issue, it can be divided into the following sub-questions:

- Are there statistically significant differences at a significance level ( $\alpha \leq 0.05$ ) in the orientations of the sample members towards creative accounting attributable to differences in educational level or professional experience?
- Are there statistically significant differences at a significance level ( $\alpha \leq 0.05$ ) in the orientations of the sample members towards the quality of accounting information according to the variables of educational level or professional experience?
- Is there a statistically significant effect at a significance level ( $< 0.05 \alpha$ ) of creative accounting on the quality of accounting information in the financial reports of public banks operating in Algeria; which can be further divided into the following sub-hypotheses

To answer the previous questions, the following hypotheses can be proposed:

1. **Hypothesis 1:** There are no statistically significant differences at a significance level ( $\alpha \leq 0.05$ ) in the orientations of the sample members towards creative accounting attributable to differences in educational level or professional experience.
2. **Hypothesis 2:** There are no statistically significant differences at a significance level ( $\alpha \leq 0.05$ ) in the orientations of the sample members towards the quality of accounting information according to the variables of educational level or professional experience.
3. **Hypothesis 3:** There is no statistically significant effect at a significance level ( $< 0.05 \alpha$ ) of creative accounting on the quality of accounting information in the financial reports of public banks operating in Algeria; which can be further divided into the following sub-hypotheses:

Here are the proposed translations for the sub-hypotheses:

- **hypothesis 1:** There is no statistically significant effect at a significance level ( $< 0.05 \alpha$ ) of creative accounting on the income statement of public banks operating in Algeria.
- **hypothesis 2:** There is no statistically significant effect at a significance level ( $< 0.05 \alpha$ ) of creative accounting on the balance sheet of public banks operating in Algeria.
- **hypothesis 3:** There is no statistically significant effect at a significance level ( $< 0.05 \alpha$ ) of creative accounting on the cash flow statement of public banks operating in Algeria.
- **hypothesis 4:** There is no statistically significant effect at a significance level ( $< 0.05 \alpha$ ) of creative accounting on the statement of changes in equity of public banks operating in Algeria.

#### I. Literature Review

##### 1. Creative accounting:

Creative accounting can be defined as the use of accounting knowledge to manipulate reported financial figures while adhering to applicable accounting standards and rules. This is done to improve the financial image presented by management rather than presenting the actual performance or true position of the company (Brijesh, 2013, p. 181).

Creative accounting has been defined as "a process of transforming the financial accounting picture from what it is in reality to the desired picture according to its preparers, by taking advantage of existing accounting rules and/or ignoring some or all of them" (Mahesh, 2014, p. 194); Creative accounting has been defined as a set of accounting practices used by financial information preparers to modify or reshape the reality of this information. This is done by taking advantage of the flexibility provided by accepted accounting standards and rules, which gives data preparers multiple legal options to choose from (Al-Ajili, 2023, p. 42).

Creative accounting has been defined as a process that involves manipulating accounting numbers by exploiting loopholes in accounting principles, as well as selecting appropriate measurements and disclosures. The aim is to present financial statements in a way that users prefer to see, which may affect their perceptions of the company's financial performance (Naser, 1993, p. 59).

it has also been defined as "some or all of the steps used to play the financial numbers game including the arbitrary selection of accounting principles applications and fraud in financial reporting and any other steps taken to manage earnings or smooth income" (Milford & Comiskey, 2002, p. 13).

##### 2. The quality of accounting information:

disclosed in financial reports is the result of a series of systematic procedures. It must be expressed in a clear and understandable language for the reader without any ambiguity or misrepresentation. It is essential that accounting information is detailed enough to influence investors' decisions, yet concise enough to reflect the actual reality (Mohammed, p. 37). The quality of accounting information is manifested through the attributes that the information

presented in the financial statements must possess, making it useful for decision-makers. Determining the objectives of financial reporting is considered the starting point for applying a methodology that enhances the usefulness of accounting information in guiding the decisions of key external stakeholders. Therefore, good information is that which provides the greatest benefit in supporting decision-making, and which reflects the concepts of information quality, the characteristics that useful accounting information should possess. These characteristics are of great importance to officials when preparing financial reports, as they help in evaluating the quality of the information resulting from the application of alternative accounting methods and approaches (Shirazi, p. 194).

Accounting information is defined as 'the output of an accounting information system that is fed with data through its recording and processing, and outputted in the form of accounting statements. The purpose of these statements is to serve as a driving force for management to use in managing their projects. The effectiveness of management depends on the availability of this accounting information for planning and directing.' It is also defined as 'all quantitative and qualitative information related to economic events that are processed by accounting information systems and reported in financial statements provided to external parties and in operational plans and reports currently used' (Abdul Malik, 2002, p. 1

In the accounting field, the quality of accounting information is defined as 'those key characteristics that accounting information must possess. These characteristics are of great benefit to those responsible for preparing financial reports in evaluating the quality of information resulting from the application of alternative accounting methods and approaches' (Saleh, 2009, p. 32)

### **3. The Relationship Between Creative Accounting and the Quality of Accounting Information in Financial Statements:**

Creative accounting, through its various methods, impacts the quality of accounting information in financial statements (balance sheet, income statement, cash flow statement, statement of changes<sup>1</sup> in equity) in the following manner:

#### **3.1- Balance Sheet:**

The significance of the balance sheet lies in the accounting information it provides regarding the nature and size of the resources available to the company, as well as its obligations to creditors and owners. The balance sheet is a vital tool in forecasting the amounts and timing of future cash flows (Mamoun & Mohammed, 2020, p. 260). Management can use creative accounting techniques to present the balance sheet in a way that highlights the size of the entity's resources and its obligations to owners and creditors. These techniques also play a role in enhancing the ability to forecast the timing and amounts of cash flows, contributing to a positive image that aligns with what management wants to convey to users. Some examples include: (Sadi & Sheikh, 2021, p. 09)

- Not including fixed assets at their historical cost, which could lead to a reduction in the depreciation rate of assets compared to similar institutions, or vice versa, resulting in a distortion of the value of assets on the balance sheet.
- Overvaluing intangible assets such as trademarks and goodwill, or recognizing such assets in ways that violate accounting standards, such as recognizing internally generated goodwill or making unjustified changes in the impairment of such assets.
- Changing the accounting methods used for long-term investments, which may affect how assets are presented in the financial statements.
- Recognizing contingent assets before their realization, such as recording revenue expected to be collected from a lawsuit against a customer before a final judgment is issued.
- Manipulating the valuation of the securities portfolio, or overestimating price declines, which may mislead users about the true value of the portfolio.
- Including obsolete inventory in inventory listings and manipulating their prices, as well as making unjustified changes in inventory valuation methods, which affects the accuracy of the financial valuation.

### 3.2- Income Statement:

Creative accounting affects the income statement by manipulating the amount of net sales. This is done either by recognizing revenue prematurely or delaying it according to the needs of the company, in addition to selling to related parties within the group or to strategic partners. Some entities seek to increase their revenue for a specific period by selling inventory to related entities. They also use methods such as transferring future expenses to the current accounting period to cope with difficult circumstances. Among the common methods of manipulating the income statement, we find: (Sadi & Sheikh, 2021, p. 10)

- Recognizing revenue prematurely while the sale is still uncertain.
- Fictitious revenue, which involves recording fictitious or fake revenue.
- Recognizing an increase in revenue through one-time gains.
- Transferring current expenses to prior accounting periods."

(Mamoun & Mohammed, 2020, p. 261) also mention these methods and techniques used to manipulate the income statement within the framework of creative accounting:

- Recognizing revenue prematurely while the sale is still uncertain.
- Fictitious revenue, which involves recording fictitious or fake revenue.
- Recognizing an increase in revenue through one-time gains.
- Transferring current expenses to prior accounting periods

### 3.3- Cash Flow Statement:

All items in this statement are subject to creative accounting practices. This can include making fictitious changes to increase or decrease paid-in capital, as well as additional paid-in capital. These methods are sometimes used to re-estimate prior errors or losses on stock options and foreign currency balances (Jarar, 2006, pp. 65-66). The cash flow statement is considered one of the most vital financial statements, as accounting standards in many countries require companies to prepare it. It presents all cash inflows and outflows from operating, investing, and financing activities during a specific accounting period. Management resorts to using creative accounting in this statement because creditors and financial analysts rely on it to extract accurate information about the sources and uses of cash flows, which helps in assessing the soundness of the company's position and avoiding any potential financial distress (Abduldin & Al-Jubali, 2023, p. 358).

### 3.4- Statement of Changes in Equity:

The statement of changes in equity is the link between the income statement and the balance sheet, as it identifies by monitoring and tracking changes in equity items from the beginning to the end of the financial period. It is presented on an accrual basis. However, all items in this statement are subject to creative accounting practices. Fictitious changes can be made to increase or decrease paid-in capital, as well as adjust retained earnings and additional paid-in capital. These methods are sometimes used to re-estimate prior errors or losses on stock options and foreign currency balances, which negatively affects the accuracy of the financial information presented (Jabbar, 2015, p. 247).

## II. Previous Studies:

There are numerous studies that have addressed the research topic. Among them are the following:

- Mahsin's study (2021): This study aimed to explore the extent of creative accounting practices and their impact on the stock returns of a sample of Iraqi commercial banks during the period from 2013 to 2019. To achieve the study's objective and test the hypotheses, a set of financial and statistical methods was used, such as the Miller model, regression, and correlation. The study concluded that the listed Iraqi commercial banks practiced creative

accounting based on earnings management. The study also found a relationship and impact between creative accounting and the stock returns of these banks.

- Hamada et al.'s study (2017): This study aimed to demonstrate the impact of creative accounting on the credibility of financial statements in the Bahrain Bourse. A questionnaire was distributed to 60 employees and auditors, and 40 questionnaires were retrieved for analysis. The study concluded that the process of detecting errors and fraud is the responsibility of the auditor, especially if he/she does not perform his/her duties properly. The study also indicated that the significant challenge of creative accounting is not limited to the technical dimension but extends to the ethical dimension, which is considered more dangerous for the future of the accounting profession.
- Study by Al-Maki (2021): This study aimed to demonstrate the impact of creative accounting techniques on the quality of accounting information and its reflections on the level of confidence in financial statements in Egypt. The study used a questionnaire as a significant statistical tool, where a stratified random sample of 100 accountants, auditors, and academics was selected. The study yielded several results, most notably: the existence of an impact of manipulating the depreciation of long-term assets on the items of the balance sheet. It also indicated that hiding some items in the operating and investing cash flow statement aims to evade taxes and fees, while unrealized revenues are recorded to manipulate the profit margin.
- Study by Baghdad (2022): This study aimed to highlight the role played by governance mechanisms in shaping creative accounting, in addition to its impact on the quality of accounting information in Algeria. To achieve this objective, a questionnaire was distributed to a sample of insurance institutions operating in the provinces of Tissemsilt and Tiaret. The study concluded a number of results, including a strong negative statistically significant relationship between governance mechanisms and creative accounting. It was also found that there is a strong positive statistically significant relationship between controlled creative accounting and the quality of accounting information.
- Abdullah's Study (2015): This study aimed to measure the impact of innovative accounting used in accounting systems on the quality of accounting information in Jordanian commercial banks. To achieve this objective, 80 questionnaires were distributed to top management and external auditors responsible for auditing commercial banks in a sample of 13 commercial banks. A total of 65 valid questionnaires were retrieved and analyzed statistically. The study reached several conclusions, including: a strong relationship between the use of innovative accounting and the accounting information system used in commercial banks. The study also showed a direct impact of using innovative accounting in accounting systems on the quality of accounting information. Additionally, there was a lack of agreement among the study sample regarding the degree of use of innovative accounting tools in the design of the accounting system and their impact on the reliability of accounting information.

### III. Case study

#### 1- Research Methodology:

To grasp all aspects of the problem raised in this paper, which focuses on measuring the impact of creative accounting on the quality of financial information in public banks operating in Algeria, the researchers adopted a descriptive-analytical approach based on secondary data in the part related to the theoretical literature on both creative accounting and the quality of financial information. This was done through searching for references, sources, and previous studies that addressed the research problem either fully or partially. As for the applied aspect of the study, the experimental approach was adopted through a field study where data was collected using one of the survey tools, namely the questionnaire. Finally, an attempt was made to build a measurement model that measures the impact of creative accounting on the quality of financial information in the financial statements of public banks operating in Algeria from the perspective of their employees.

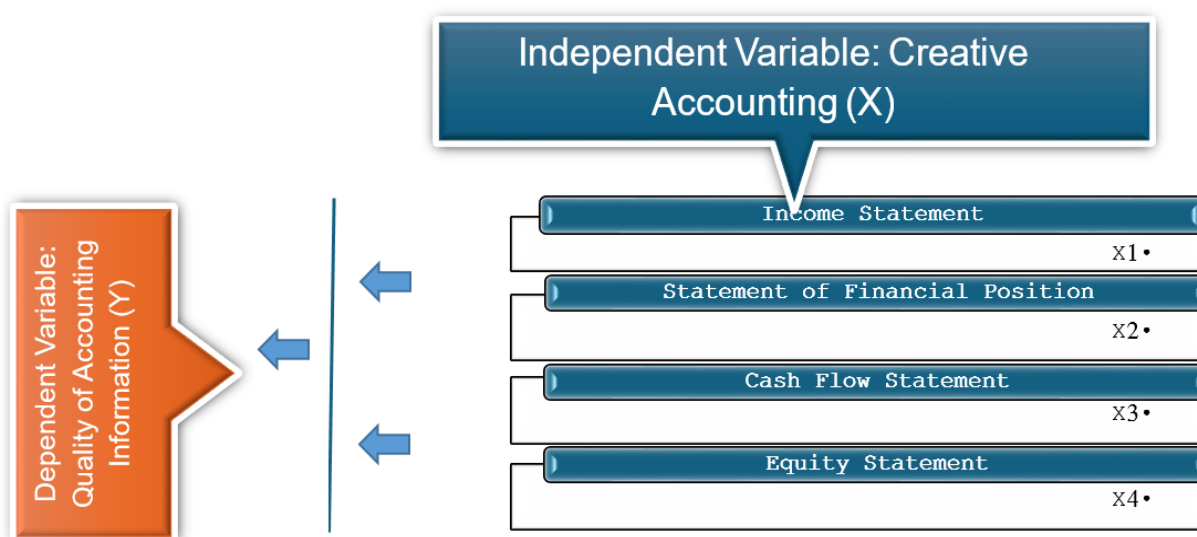
#### 2- Study Population and Sample:

The study population includes all elements of the phenomenon under investigation, meaning all individuals, units, or observations that are the subject of the study (Blankenship, 2009, p. 82), while the sample represents a part of the target population and is required to have the same characteristics as this population (Groves et al., 2009, p. 70). Given the problem

and objectives of the study, the target population consists of all employees working in public banks. Due to the lack of accurate statistics on the size of the target population and the difficulty of including all elements of the population, the researcher resorted to using a random sampling method (non-purposive or unbiased), which is considered the best sampling method as it preserves the statistical characteristics of the target population. The questionnaire was distributed electronically using Google Forms, and the collection of responses was stopped when the number reached 120 questionnaires. Only 100 questionnaires were adopted due to the lack of seriousness of the respondents in answering the canceled questionnaires. Therefore, the sample size adopted in this study is 100, which is a sufficient number to apply the statistical and measurement tests used in discussing the hypotheses presented in this study, which is assumed to be at least 30. It should be noted that the data collection process was carried out directly by the researcher joining a number of central departments of public banks in Algiers and presenting the questionnaire link directly to the respondents in the central departments and distributing the link electronically using social media and t 5.3 Research Model and Variables

The dependent variable in this study is the quality of accounting information in financial statements, which is expressed through the statements in the second axis of the questionnaire. On the other hand, the independent variable of the model adopted in this study is creative accounting, expressed through the first axis. Generally, the hypothetical form of the proposed model can be presented as follows:

Figure 1: The Hypothesized Model of the Study



Source: Prepared by the researchers based on previous studies

### 3- Research instruments:

To achieve the objectives set forth in this study, the researchers aimed to construct and design a questionnaire based on previous applied studies that addressed the research topic, such as studies by [Hamada et al, 2017], [Abdullah, 2015], and [Baghdad, 2022]. Additionally, experts in the fields of accounting and auditing were consulted. The questionnaire consisted of two main parts. The first part included questions related to the respondents' personal data (gender, job title, educational level, professional experience). The second part contained two axes. The first axis, related to creative accounting (questions 1-12), was divided into four dimensions as shown in the previous hypothetical model (Figure 1). The second axis, related to the quality of accounting information in financial statements, included questions 13-24.

Regarding the coding of respondents' answers and converting them from their abstract forms into quantitative ordinal variables that can be used in statistical modeling, the five-point Likert scale was adopted to determine the degree

of agreement of the sample members with each question in this questionnaire based on the centering of the means of respondents' answers to each question in the categories of the five-point Likert scale. (See Appendix 1).

### 3.1- Statistical Tools and Measures Used:

To process the data obtained through the questionnaire, a set of statistical and measurement tools was used, including: mean, standard deviation, Cronbach's alpha, multiple linear regression with all its tests, as well as frequencies, percentages.

### 3.2- Description of the Study Sample:

From Appendix 2, it appears that there is a kind of balance in the number of male and female employees, where the percentage of the two aforementioned categories was 56% and 44%, respectively. Also, the majority of the sample members have university degrees and higher qualifications, with a total percentage of 97%. Therefore, they represent the vast majority of the cadres responsible for managing and running the bank under study. Regarding job titles, the majority of the sample members are accountants (52%), followed by internal and external auditors (40%), and finally, managers (8%). Regarding the variable of professional experience, the most frequent category in terms of experience is (5 to less than 10 years).

## 4- Internal and External Consistency of the Study Instrument:

To verify the face, internal, and stability validity of the questionnaire used in the study, the researchers used two main measures. The first relates to the face validity of the questionnaire by seeking the help of a group of experts and academics in the field of auditing and accounting. The second relies on the internal consistency and stability of the study instrument, using Cronbach's alpha coefficient. The results of this coefficient for each axis of this questionnaire and the overall coefficient are as shown in the following table:

Table 1: Reliability Statistics

<i>Factor</i>	<i>Number of Items</i>	<i>Cronbach's Alpha</i>
<i>Overall Scale</i>	<i>24</i>	<i>0.889</i>
<i>Axis 1</i>	<i>12</i>	<i>0.982</i>
<i>Axis 2</i>	<i>12</i>	<i>0.854</i>

**Source:** Developed by the researchers using SPSS v.28

Based on the previous table, it appears that the overall reliability coefficient for all questionnaire items was 0.889, which is considered very high as it exceeds the benchmark value of 0.70. Moreover, the reliability coefficient for the creative accounting axis was 0.982, while for the second axis, it was 0.854. These results indicate that the questionnaire, across all its axes, exhibits a high degree of reliability, suggesting that the primary data collected can be relied upon with a high level of confidence.

## IV. Results and Discussion:

### 1- Statistical analysis of questionnaire items:

Referring to Appendix 3, which shows the sample's response to the statements of the first axis related to creative accounting, it appears that the weighted mean of this axis was 2.25, which is relatively low, with a standard deviation of 1.41825, which is relatively high as it is greater than 1, and thus there is a noticeable dispersion in the respondents' answers towards the statements of this axis. The relative weight of the respondents' agreement with the statements of the first axis

in general was 45.11%, which is a low percentage, less than 50%, confirming the disagreement of the respondents with the practices of creative accounting in the sample of banks where they work. The low mean and high standard deviation indicate a large dispersion in the opinions of the respondents regarding creative accounting practices in the banks where they work. This dispersion reflects significant differences in views regarding the prevalence of these practices and their impact. Question number 6 ranked first: "Does your agency include operating expenses in investment expense items?" with a mean of 2.50 and a low standard deviation of 1.37, indicating a dispersion in the respondents' answers to this question because the standard deviation is much greater than 1, and the percentage of respondents agreeing with this question was 50.00%, which confirms a clear divergence in the respondents' answers about trying to include operating expenses as an item of investment expenses. This question obtained the highest average, indicating that respondents believe that there is a tendency for some agencies to include operating expenses in investment expenses, which is a form of creative accounting aimed at improving apparent financial performance. While question number 9 ranked last: "Does the agency rely on the practice of adjusting exchange rates as a tool to improve the financial position?" with a mean of 2.14 at a moderate level, with a standard deviation of 1.36, and therefore there is some dispersion in the respondents' answers towards this question, and the relative weight of this statement was 42.80%, which is a low degree considering that it is less than 50%. In general, it reflects the disagreement of the sample members regarding the manipulation of exchange rates and the manipulation of the financial position of the institution and the bank where they work. This question obtained the lowest average, indicating that respondents generally disagree with using exchange rate adjustments as a tool to improve the financial position. This result is positive and indicates the awareness of the respondents of the negative effects of this practice on transparency and financial credibility.

Referring to Appendix 4, the weighted mean of the second axis, which addresses the quality of accounting information in financial statements, was a very high 4.297, with a relatively low standard deviation of 0.81, indicating a lack of dispersion in respondents' answers regarding the statements of the second axis. Meanwhile, the relative weight of the second axis was a high 85.95%, reflecting almost unanimous agreement among respondents on the quality of accounting information in their institution's financial statements. The results indicate that respondents perceive the quality of accounting information in their institutions' financial statements to be generally high. This conclusion is supported by the high mean and low standard deviation, indicating a wide agreement among respondents on this assessment; Question number 16 ranked first in this axis: "Financial information allows for comparison between our agency's performance and that of competing institutions, helping to identify strengths and weaknesses and develop performance improvement strategies." With a mean of 4.59, a very low standard deviation of 0.58, and an agreement rate exceeding 91.8%, the high average and wide agreement among respondents indicate that they recognize the value of financial information in comparing institutions. This demonstrates a good understanding of the importance of this information in supporting decision-making; On the other hand, question number 22 ranked last in this axis: "Our agency relies on the comparability of financial data between different periods and other entities to facilitate analysis and decision-making," with a mean of 3.91 and a higher standard deviation of 1.10. Although the overall average for this question is high, the high standard deviation indicates greater variability in the opinions of respondents on this aspect. This variability may be due to differences in respondents' understanding of the concept of comparability, or due to challenges in applying this concept in some institutions.

## **2. Hypothesis Testing and Discussion:**

### **2.1 Results of Difference Tests:**

Before conducting tests to compare means, it was necessary to verify the normality of the data distribution. The purpose of the previous step is to determine the type of tests used to compare means. One-way analysis of variance (ANOVA) is used if the normality assumption is met for the study axes, and non-parametric tests are used in the opposite case, i.e., if the assumption is not met. The results of the normality tests are shown in the following tables and figures:

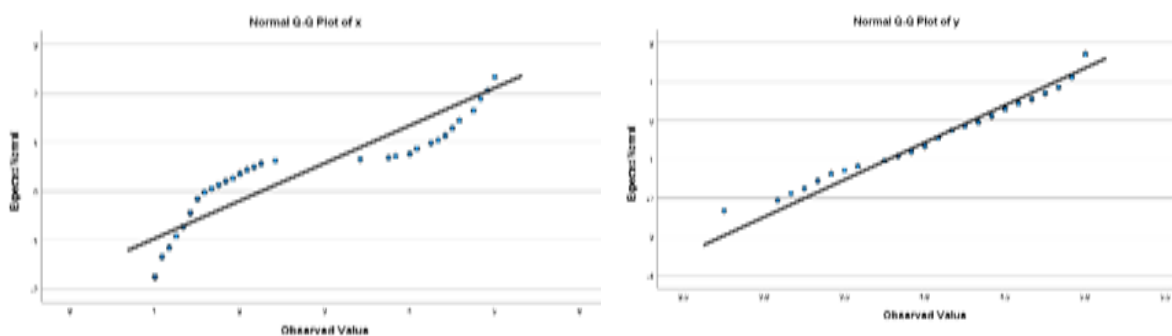


Table No. 2: Normality Tests

Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
x	0.238	100	0.000	0.775	100	0.000
y	0.089	100	0.050	0.949	100	0.001
a. Lilliefors Significance Correction						

Source: Prepared by the researchers using SPSS 28.

Figure 2: QQ Plots for Study Variables



Source: Prepared by the researchers using SPSS 28.

Referring to the previous table and figures, the alternative hypotheses for the Shapiro-Wilk and Kolmogorov-Smirnov tests, which state that the data does not follow a normal distribution, can be accepted. The probability values for both tests, for the study variables, are significantly less than the critical value (0.05). Furthermore, this result is supported by the QQ plots, which do not follow a straight line. Therefore, non-parametric tests like Kruskal-Wallis can be used for comparing means. The results of these tests are presented in the following table:

Table 3: Results of [Kruskal-Wallis H] for educational level and professional experience variables

	Creative accounting	Accounting information quality		Creative accounting	Accounting information quality
Kruskal-Wallis H	4.483	2.430	Kruskal-Wallis H	0.035	1.253
Df	3	3	Df	2	2
Asymp. Sig.	0.214	0.488	Asymp. Sig.	0.983	0.616
a. Kruskal Wallis Test			a. Kruskal Wallis Test		
b. Grouping Variable: Professional experience			b. Grouping Variable: Academic qualifications		

Source: Prepared by the researchers using SPSS 28

Based on the previous table, the null hypothesis regarding the differences between sample members in their orientations towards both creative accounting and the quality of financial statement information, as per their educational level and work experience, can be accepted. This is because the p-value of Fisher's statistic in all four tests is significantly greater than the critical value of 0.05. Consequently, there are no statistically significant differences in the opinions of

sample members regarding both creative accounting and the quality of financial statement information attributed to the demographic variables representing differences in educational level or work experience in public banking institutions.

**Based on the above, the first and second hypotheses, which state that:**

There are no statistically significant differences at the significance level ( $\alpha \leq 0.05$ ) in the orientations of sample members towards creative accounting attributed to differences in educational level or professional experience.

There are no statistically significant differences at the significance level ( $\alpha \leq 0.05$ ) in the orientations of sample members towards the quality of accounting information according to the variables of educational level or professional experience. can be accepted. The study results showed no statistically significant differences between the different groups of respondents (based on educational level and work experience) in their orientations towards creative accounting and the quality of accounting information. This means that academic background and work experience do not have a significant impact on individuals' opinions about these two concepts in the studied context. This homogeneity in opinions may reflect a shared understanding of the basic concepts of accounting or the influence of other common factors among the respondents.

## 2.2 Results of the Estimated Model's Statistical and Quantitative Analysis

In the following, we will attempt to test the main hypothesis proposed by this study by estimating a model to measure the impact of creative accounting on the quality of financial statement information in the sample of public banks included in the study. This will be done using the Ordinary Least Squares (OLS) method, which requires a set of assumptions that must be met in the estimation residuals. Therefore, in the first stage, we will verify the statistical efficiency of the estimated model according to the aforementioned method. Based on these statistical and quantitative tests, we will discuss the main hypothesis proposed in this study, which is formulated as follows:

- There is no statistically significant impact at the significance level ( $\alpha \leq 0.05$ ) of creative accounting on the quality of financial statement information in Algerian public banks; this will be discussed based on the sub-hypotheses derived from it, and the results will be generalized to the main hypothesis.

Referring to Appendix 5, which presents the results of the estimation process using the Ordinary Least Squares (OLS) method, it is evident that the simple linear correlation coefficient between the dimensions of creative accounting and the dependent variable, represented by the quality of accounting information, is -0.63. This indicates a relatively strong negative correlation between the two axes related to creative accounting and the dependent variable. According to this indicator, an increase in the level of creative accounting leads to a decrease in the quality of accounting information. On the other hand, the coefficient of determination or explanatory power of the model under study reached 58%, which is considered a moderate but statistically acceptable percentage. This suggests that the quality of financial statement information is not solely explained by creative accounting, while the remaining 42% is attributed to other factors not included in the model but accounted for by the error term.

In the same context, the F-statistic value was [ $F_{STAT} = 25.73$ ] with a p-value of [ $PROP - F_{STAT} = 0.00$ ]. Therefore, the calculated value for the one-way analysis of variance (ANOVA) test is statistically significant as the p-value associated with this statistic is much less than the critical value of 0.05. In other words, the alternative hypothesis of this test, which states that there is a statistically significant linear relationship between the explanatory variable (creative accounting) and the dependent variable (quality of accounting information), can be accepted.

Regarding the partial significance, the results shown in Appendix 5 indicate that all estimated parameters in the model and the four dimensions of the creative accounting variable are statistically significant at the 5% significance level. The t-statistics for the aforementioned parameters were [ $T_{STAT} = 44.34 ; -3.40$ ] with p-values equal to [ $PROP - T_{STAT} =$

0.00], which are less than the critical value of 0.05. Therefore, the alternative hypothesis of the t-test can be accepted for all parameters, which states that these parameters are statistically significant at the 5% significance level.

By looking at the table for estimating the model's parameters presented in Appendix 5, the Durbin-Watson statistic (DW) value was 1.86, which is close to 2 and falls within the acceptance region, indicating the absence of autocorrelation among the errors in the model and is bounded between 2.154 and 1.815. This means that we accepted the alternative hypothesis of the DW test, which states that the residuals are independent. This was confirmed by the two figures showing the normal distribution of residuals presented at the bottom of Appendix 5. Moreover, the independent variables representing the dimensions of creative accounting are not perfectly correlated, and this conclusion was reached based on the tolerance and variance inflation factor (VIF) values. All tolerance values are greater than 0.05, while all VIF values are less than the reference value of 10.

In conclusion, based on the statistical tests conducted (comparison of means using one-way ANOVA) and the results of the statistical and quantitative analysis of the study model, which confirm the efficiency and quality of the estimated model from both statistical and quantitative perspectives, the main hypothesis and sub-hypotheses proposed in this study can be discussed with a high degree of accuracy and reliability.

The third main hypothesis, which states that "there is no statistically significant impact at the significance level ( $<0.05 \alpha$ ) of creative accounting on the quality of accounting information in financial reports of public banks operating in Algeria," and its four sub-hypotheses are rejected. This is due to the significance of the parameters associated with the explanatory variables (income statement, balance sheet, cash flow statement, and statement of changes in equity) at the 5% significance level. Since the parameters associated with the dimensions of creative accounting (X) were statistically significant, the first main hypothesis was rejected, which means that there is a statistically significant negative impact of creative accounting with its four dimensions (income statement, balance sheet, cash flow statement, and statement of changes in equity) on the quality of accounting information in the financial reports of commercial banks operating in Algeria. This implies that the way financial reports are prepared in Algerian banks (creative accounting) significantly affects the accuracy and reliability of these reports. In other words, when accountants try to "beautify" numbers or hide certain information, this negatively affects the quality of information obtained by investors and decision-makers.

The results indicate a significant negative relationship between creative accounting and the quality of accounting information in Algerian banks. This means that the use of non-transparent or misleading accounting practices leads to a deterioration in the quality of information provided in financial reports. The rejection of the sub-hypotheses confirms that all accounting dimensions studied (income statement, balance sheet, cash flow statement, and equity) are affected by creative practices. Therefore, any attempt to beautify numbers or hide information in any of these dimensions will affect the quality of the overall picture presented by the financial reports.

## Conclusion

This study concludes that creative accounting practices significantly impact the quality of accounting information presented in the financial statements of Algerian public banks. The analysis has shown that these practices distort the true picture of these banks' performance, reducing the transparency of information and negatively affecting stakeholders' ability to make sound economic decisions. The study also revealed a negative relationship between the level of creative accounting application and the quality of accounting information.

Based on the results of this study, which showed a significant negative relationship between creative accounting practices and the quality of accounting information in Algerian banks, a number of important conclusions and recommendations can be drawn.

The results of the statistical analysis confirmed the rejection of the main hypothesis, which assumes that there is no relationship between creative accounting and the quality of accounting information. Therefore, the study reached a

definitive conclusion that creative accounting practices have a significant negative impact on the quality of accounting information presented in the financial reports of Algerian banks. The results also showed that all dimensions of creative accounting studied (income statement, balance sheet, cash flow statement, and changes in equity) contribute significantly to the deterioration of the quality of this information.

These results can be explained as a reflection of various pressures faced by managers and employees in Algerian banks, which may drive them to resort to creative accounting practices in order to improve the financial image of the banks in the short term, even at the expense of the accuracy and reliability of the information provided.

### **Recommendations:**

Based on the results obtained, a number of recommendations can be proposed to address the problem of creative accounting in Algerian banks. The most important of these are:

- Strengthening internal control: Banks should strengthen their internal control systems to ensure the accuracy of accounting information.
- Implementing International Financial Reporting Standards (IFRS): Banks should adopt IFRS to ensure the comparability of their financial statements with those of other banks.
- Strengthening the role of regulatory bodies: Financial regulatory bodies should enhance their role in monitoring the work of banks and detecting any illegal practices.
- Raising stakeholder awareness: Stakeholders should be made aware of the importance of high-quality accounting information and how to assess it.
- Strengthening penalties: Penalties for violators of accounting and financial control laws should be strengthened.
- Building a culture of transparency: A culture of transparency and integrity should be built within banks, encouraging reporting of any violations.

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- **Appendix:**

**Appendix 1: Likert Scale and Corresponding Numerical Values**

Weighted Mean	Level
1.00 - 1.70	Very Low
1.80 - 2.59	Low
2.60 - 3.39	Medium
3.40 - 4.19	High
4.20 - 5.00	Very High

**Note:** The table presents the conversion of Likert scale values to corresponding levels.

**Appendix 2: Sample Demographics**

Years of Experience			Educational Level		
%	N		%	N	
18.00%	18	Less than 5 years	3.00%	3	Secondary
37.00%	37	5-10	58.00%	58	University
26.00%	26	10-15	39.00%	39	Postgraduate
19.00%	19	More than 15 years	Job Title		
Gender			%	N	
%	N		52.00%	52	Accountant
56.00%	56	Male	40.00%	40	Auditor
44.00%	44	Female	8.00%	8	Manager

Source: SPSS v28 output

**Appendix 3: Descriptive Statistics for Creative Accounting Items**

Num	Statement	Percentage Agreeing	Mean	Standard Deviation	Ranking
1	Your agency defers the recording of purchase invoices received at the end of the current fiscal year to the beginning of the following fiscal year.	43.8%	2.19	1.398	9
2	The practice of recording fictitious sales transactions at the end of the accounting period to inflate apparent profits is one of the most prominent methods of manipulating financial statements.	43.6%	2.18	1.344	10
3	The practice of not recording revenues earned at the end of the accounting period is one of the most prominent methods of tax evasion.	43.8%	2.19	1.594	8
4	Overstating the value of fixed assets to present a better financial position for the company is a violation of accounting and tax laws.	45.4%	2.27	1.462	4
5	Potential legal claims, which may result in the collection of funds, are considered probable assets and are recorded in the financial statements.	44.8%	2.24	1.471	6
6	Banks substitute their short-term debts with long-term debts to postpone repayment and reduce the financial pressure on them.	44.0%	2.20	1.421	7
7	Your agency includes operating expenses within investment expense items.	50.0%	2.50	1.374	1
8	Your agency insists on adding losses before tax to the calculation of operating cash flows.	45.6%	2.28	1.393	3
9	The agency relies on the practice of adjusting exchange rates as a tool to improve its financial position.	42.8%	2.14	1.326	12
10	The agency relies on practices that involve making fictitious adjustments to capital, which alter the true picture of its financial position.	43.8%	2.19	1.440	11

11	The agency's expansionary policy relies on using reserves for the purpose of developing the agency's business.	48.6%	2.43	1.328	2
12	The agency resorts to inflating its current profits by adding revenues from previous years.	45.1%	2.256	1.418	5
Weighted Mean		45.11667	2.255833	1.41825	

**Source:** Developed by the researchers using SPSS v28

#### Appendix 4: Descriptive Statistics for Financial Information Quality Items

	Statement	Percentage Agreeing	Mean	Standard Deviation	Ranking
13	Your agency adheres to the principle of timeliness of financial information, ensuring that it is provided in a timely manner to maintain its relevance and usefulness in decision-making.	88.0%	4.40	0.752	3
14	Comprehensive and accurate financial information in the agency provides a solid foundation for conducting advanced financial analyses and accurate future forecasts.	87.2%	4.36	0.948	5
15	Financial information enables comparison between our agency's performance and that of competing organizations, helping to identify strengths and weaknesses and develop performance improvement strategies.	91.8%	4.59	0.588	6
16	Our agency adheres to the principle of consistency in applying accounting policies over time to ensure comparability of financial data between different periods.	91.0%	4.55	0.642	1
17	Our agency is committed to preparing comprehensive financial statements in accordance with generally accepted accounting standards to ensure a true and fair view of the financial position and performance.	88.0%	4.40	0.651	2
18	Financial information in our agency is characterized by objectivity and neutrality, as it is prepared without any influence of personal interests or external pressures.	83.4%	4.17	0.888	4
19	Our agency ensures the integration and consistency of different financial data, and is keen to cover all economic events affecting the financial position and performance of the bank.	84.2%	4.21	0.769	10
20	Our agency adheres to the principle of compatibility and consistency in financial information, so that analyses and reports prepared by different parties lead to consistent and identical results.	85.0%	4.25	0.783	9
21	Our agency relies on the comparability of financial data between different periods and between other entities to facilitate analysis and decision-making.	78.2%	3.91	1.102	7
22	Our agency adheres to the principle of consistency in applying accounting policies to enhance the reliability of financial statements and increase user confidence.	84.8%	4.24	0.830	12
23	Our agency is committed to complying with generally accepted accounting standards to ensure the application of the principle of consistency in accounting policies and financial decision-making.	83.4%	4.17	0.943	8
24	The agency adheres to the principle of consistency in applying accounting policies to enhance the reliability of financial statements and increase user confidence.	85.95%	4.2975	0.81125	11
Weighted Mean		85.95%	4.2975	0.81125	

**Source:** Developed by the researchers using SPSS v28

**Appendix 5: Multiple Linear Regression Results**

**Model Summary<sup>b</sup>**

Model R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Sig. F Change	Durbin-Watson
				R Square Change	F Change	df1	df2		
1	.630 <sup>a</sup>	.585	.48042	.585	25.379	4	95	.001	1.863

a. Predictors: (Constant), x4, x3, x1, x2

b. Dependent Variable: y

**ANOVA<sup>a</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.966	4	1.242	5.379	.001 <sup>b</sup>
	Residual	21.926	95	.231		
	Total	26.892	99			

a. Dependent Variable: y

b. Predictors: (Constant), x4, x3, x1, x2

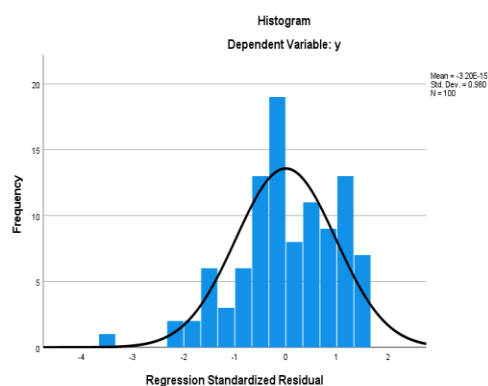
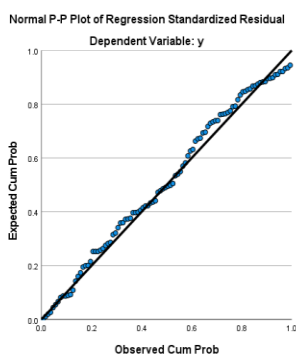
**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	4.503	.102		44.349	.000		
	x1	-.122	.020	-1.957	-10.169	.000	.586	1.578
	x2	-.333	.022	-.901	-15.136	.000	.378	2.778
	x3	-.135	.040	-.929	-3.409	.000	.158	6.341
	x4	-.120	.023	-.993	-5.217	.000	.487	1.495

a. Dependent Variable: y

**Source:** Developed by the researchers using SPSS v28

**Appendix 6; Error Distribution Plot**



**Source:** SPSS v28 output