A Comprehensive Analysis of the Influence of Taxation Policies on the Financial Performance of Companies in Algeria: A Case Study on the Oil and Gas Sector in Algeria

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Abstract: - This case study analyzes the influence of taxation policies on the financial performance of companies in Algeria's oil and gas sector. A questionnaire was distributed to employees of Sonatrach, the state oil company, to gather perspectives on the relationships between taxation policies and key performance indicators. Three hypotheses were tested through linear regressions examining the impacts of taxation policy type, corporate tax rates, and fiscal incentives/tax reductions. The results supported the hypotheses, finding indirect taxes have a larger negative effect than direct taxes, higher corporate tax rates correlate with weaker performance, and fiscal incentives positively correlate with metrics like investment and job creation. Descriptive analyses also revealed an improvement in financial indicators in recent years according to respondents. The findings validate prior literature while offering implications for balanced policymaking and financial management practices in the evolving fiscal landscape **.**

Key-Words: - taxation policies, financial performance, corporate tax rates, fiscal incentives, oil and gas sector, corporate taxation, indirect taxes, direct taxes, financial indicators.

Received: October 2, 2024. Revised: March 24, 2025. Accepted: April 11, 2025. Published: May 2, 2025.

1 Introduction

1.1 Background on Taxation Policies and Financial Performance of Companies

Taxation policies have a major effect on companies' financial performance. The impact of corporate tax rates on firm performance is significantly negative. According to [1], a study that used an extensive data

set from a panel of 738 companies for 16 different countries over the years between 2000 and 2016, the impact of corporate tax rates on firm performance is considerably negative. The study revealed that factors such as financial crises, the level of a country's development, and the size of firms significantly influence this relationship. However, it's crucial to recognize that other elements, including corporate sustainability management, capital structure, and managerial compensation, also impact firm performance, [2].

Additionally, aspects like financial performance, company size, liquidity, and leverage play significant roles in determining a company's financial health, [1]. Notably, the effects of indirect taxes on stock market returns are more pronounced than those of labor taxes, and recent innovations in corporate taxation haven't shown a statistically significant impact on stock returns, [3].

Taxation policies can be defined as the measures that governments create to gather taxes, and they are intended to control financial activities. A country's economic, political, and social objectives shape the methods of tax policy at any particular historical moment, [4]. Tax policy is made to increase market efficiency, reduce unfairness, and ensure both internal and external stability, [5].

Adam Smith's Maxims of taxation influenced tax policy principles as they include equity, efficiency, and simplicity, [6]. These principles contribute in a major way to economic development, and they help to improve quality of life, with a heavy influence on political and military aspects, [7].

To evaluate a company's financial condition, financial performance is applied to analyze financial principles, [8], by evaluating critical financial ratios in order to measure a company's financial health over time, [9].

Some indicators to measure financial performance include, [10]:

- Financial Value Added (FVA).
- Refined Economic Value Added (REVA).
- Cash Value Added (CVA).
- Return on Assets (ROA).
- Return on Equity (ROE).
- Net Profit Margin (NPM).

1.2 Importance of Studying the Oil and Gas Sector in Algeria

The oil and gas sector emphasizes a critical role in the national economy in Algeria, [11], as Sonatrach, the state-run oil corporation, reported $33.2 billion of profits in 2019, [12].

The tax system in Algeria is well-known for its decentralized management and has changed to meet the demands of a market economy over the years, [13]. There are yearly adjustments to tax laws in Algeria which emphasize the dynamic nature of Algeria's taxation rules, [13]. The tax framework in Algeria includes the following, [14], [15]:

- Corporate income tax rates of 19% for manufacturing.
- Corporate income tax rates of 23% for construction.
- VAT.
- Excise taxes.
- Property taxes.
- Wealth tax.

On the other hand, there are several challenges facing the Algerian economy, which include, [16], [17]:

1. The need to diversify revenue sources.
2. The necessity to enhance employment opportunities.

Moreover, the economy in Algeria heavily depends on oil and gas profits, which makes its economy vulnerable to oil price fluctuations, affecting Algeria's ability to generate employment. For example, the hydrocarbon sector contributed roughly 19% of GDP, 93% of product exports, and 38% of budget revenues during (2016-2021), [18], [19]. To achieve sustainable declines in macroeconomic imbalances, The World Bank suggests the following, [16]:

- Diversifying the economy.
- Reducing dependence on hydrocarbon exports.
- Raising private sector job creation.

The hydrocarbon flourishing has led to infrastructural growth and poverty improvement. However, it has also caused issues like high rates in unemployment and exposure to oil price shocks, [18], [19].

To foster growth and job creation for the young population, The IMF has suggested diversifying the economy and implementing strong improvements, [20]. Thus, Algeria aims to diversify its economy to improve employment opportunities and reduce dependence on oil and gas revenues, [16].

This case study will explore the oil and gas sector in Algeria, specifically how taxation policies

influence the financial performance of companies within this sector. It aims to:

- Provide an understanding of the connection between taxation and corporate profitability.
- Conduct an in-depth analysis of how taxation policies influence the financial performance of oil and gas companies in Algeria.
- Provide a sector-specific examination of how changing tax structures influence the financial performance of oil and gas companies.

The significance of this study can be summarized in the following reasons:

- Understanding the effect of taxation policies on oil and gas companies' financial performance is fundamental as Algeria attempts to diversify its economy.
- Analyzing the implications of taxation on the success of this sector can yield valuable insights into the challenges and opportunities linked with economic diversification.
- By studying taxation policies impact in oil and gas sector, we can arise important lessons for policymaking about growth, sustainability, employment, and other macroeconomic aspects.
- The evolving nature of Algeria's tax system requires constant analysis of its effects over time.

2 Literature Review

2.1 Overview of Relevant Taxation Policies in Algeria

The standard corporate income tax (CIT) rates in Algeria's tax system are 19% for manufacturing, 23% for specific activities, and 26% for others, with a 10% reduced rate for reinvested profits in manufacturing, [20]. The personal income tax (PIT) rate stands at 35%, with returns due by April 30 and final payments due upon tax notification, [20].

The tax system has experienced improvements through the years in Algeria, especially the 1992 reform that rationalized the tax system and the 2022 Finance Act that introduced new methods for foreign companies and simplified the CIT territoriality concept, [21].

The tax system also has a value-added tax (VAT) at a standard rate of 19%, with a reduced rate of 9% for staple foodstuffs and pharmaceutics. Furthermore, there are obligatory taxable operations for VAT, including industrial, commercial, and workmanship activities, among others, [20]. The tax base outside the hydrocarbon sector remains narrow, and the tax effort has increased over the years, reflecting sustained improvement in tax administration.

In Algeria, companies are subject to various taxes, including corporate income tax and value-added tax (VAT). Corporate Income Tax (CIT) is applied to all tax resident companies in Algeria on their worldwide income. The standard CIT rates are 19% for manufacturing activities, 23% for building activities, public works, and hydraulics, as well as tourist and thermal activities, excluding travel agencies and 26% for all other activities not mentioned above, [14].

Value-Added Tax (VAT) is a tax imposed on consumer expenditure and is collected on business transactions, [22]. The standard VAT rate is 15%, but there are reduced rates of 12.5% for certain industrial, construction, and tourist activities, [23]. On the other hand, Withholding Tax (WHT) is applied to certain transactions involving profits, products, and incomes related to transactions involving property owned by companies in Algeria, [20]. Other taxes include customs tariffs, which range from 0 to 30% on imported goods, [24] and companies may also face various additional taxes such as capital duty, stamp duty, capital acquisitions tax, wealth tax, and social security contributions, [23].

The 2023 Finance Law introduced several key measures for companies, including adjustments to tax rates and regulations, mandating that companies benefiting from tax exemptions reinvest 30% of corresponding profits within four years from the fiscal year’s end, [25].

The 2023 Finance Law also reorganized the VAT exemption regime for the hydrocarbon sector, aiming to simplify and ease the tax burden on corporate income taxpayers, [26]. It increased deduction thresholds for specific expenses and clarified the CIT territoriality concept, encompassing profits generated by foreign companies from operations related to assets in Algeria, [21].

Finally, the Minister of Finance will issue an order to establish (harmonize) the allowed tax depreciation periods to avoid diverging positions, [27].

These changes reflect the Algerian government's efforts to improve the business climate, facilitate investment, and manage public finances effectively. It is vital for companies operating in Algeria to stay

updated with these changes to ensure compliance with the latest tax regulations.

2.2 Impact of Taxation on Corporate Financial Performance

Governments rely on taxation to generate revenue, which they then use to fund essential public services. However, taxes can also affect corporate financial performance. Taxes levied on businesses can broadly be categorized as direct and indirect taxes. Direct taxes like corporate income tax are directly imposed on the income or profits earned by companies. Whereas indirect taxes like value-added tax or sales tax are levied on the sale or purchase of goods and services and are ultimately borne by the end consumers, as [28] mentioned. Both direct and indirect taxes are found to impact businesses differently. Therefore:

H1: Indirect taxes have a larger negative effect on the profitability of oil and gas companies in Algeria compared to direct taxes.

Corporate income tax, as stated by [29], is a direct tax imposed on companies, levying tax on the accounting profits earned by firms during a fiscal year. This reduces the amount of post-tax profits available for shareholders in the form of dividends. Fiscal corrections are adjustments made due to differences in the treatment of income and expenses between accounting standards and applicable tax regulations. These corrections can affect the taxable profits of a company, leading to differences in the payable income tax. [29] study on CV Karya Bhakti Sentosa found that the company's fiscal profit was higher than its commercial profit, resulting in underpaid income tax.

Taxing profits reduces the incentives for firms to earn higher pre-tax profits. Several studies have found evidence that higher corporate income tax rates are negatively associated with key profitability ratios like return on assets (ROA) and return on equity (ROE), [30], [31]. A 1-percentage point increase in the statutory corporate tax rate is estimated to lower pre-tax ROA by around 0.3-0.5 percentage points. This effect is more pronounced for less profitable firms that operate closer to the taxable income threshold. [32] said that higher taxes decrease their willingness to take risks and make investments that could boost earnings. Therefore:

H2: Higher corporate tax rates have a negative impact on the financial performance of companies in the oil and gas sector in Algeria

However, [33] argued that large and well-established multinational companies have a greater ability to employ tax avoidance strategies like shifting profits to low-tax jurisdictions that dilute the negative impact. Additionally, [34] added that tax incentives could positively affect the financial performance of companies. Therefore:

H3: Fiscal incentives and tax reductions have a positive impact on the financial performance of oil and gas companies in Algeria.

Besides corporate income tax, indirect taxes also have some bearing on profit margins. Taxes embedded in the costs of key inputs like energy and raw materials increase production costs for businesses. A part of this added cost burden is then passed on to customers in the form of higher product prices, as per, [35]. This reduces the overall demand for goods and services, squeezing revenues and margins of companies. Higher prices also make domestic products less competitive against imports.

Additionally, taxes are found to adversely affect corporate cash flows through several channels. First, taxes reduce the amount of post-tax cash available to firms from their operating profits and sales revenue as stated by [32]. By curtailing the cash surplus in hand, taxation weakens their short-term liquidity position and constrains discretionary spending.

Second, [36] stated that companies are required to make cash outlays on an ongoing basis towards estimated tax payments during the year based on their taxable income. These pre-payment of taxes drain interim cash balances of firms. It may even induce them to take on additional short-term debt to meet working capital needs.

Moreover, some taxes like property tax are payable irrespective of profitability levels. As stated by [28], losses incurred in one period cannot always be set off fully against taxes due currently. This further stresses cash flows, especially for firms facing temporary downturns or losses.

More fundamentally, [31] added that higher taxes raise the opportunity cost of internal funds for companies relative to external financing. This acts as a disincentive for firms to retain profits and pushes them towards debt financing to fund investments, weakening their financial health over the long run. Excessive reliance on leverage also amplifies distress risks during recessions.

[37] argues that one of the major consequences of taxation is that it erodes the after-tax returns available from productive business investments. Taxes discourage marginal investments that would just break even on a pre-tax basis but become unviable after accounting for tax liabilities. Empirical evidence suggests that a 1-percentage point increase in corporate tax rates is associated with around 3% decline in aggregate business investments, [38], [39].

[40] said that the tax penalty is particularly high for investments in long-term projects with payoffs realized over many years.

Besides corporate income tax, indirect taxes on capital goods purchases also push up the costs of machinery, plant, and equipment for firms, [35]. This makes new capital formation relatively expensive compared to using old vintages of capital. Over time, this constrains the modernization and technological upgrading of factories and equipment by companies.

Some taxes like property taxes add to the carrying costs of physical assets held by businesses as per, [28]. They incentivize higher asset turnover and discourage long-lived fixed investments. The tax treatment of debt interest payments also influences capital structure decisions of firms. By favouring debt-financed capital expenditures, it distorts true economic costs and benefits of projects.

Differential tax treatment across industries and regions within countries leads to the misallocation of capital away from tax-disadvantaged sectors to tax-preferred ones, as stated by [28]. This has efficiency implications on the specialization and scale of production in the economy. Heterogeneous effective tax burdens further complicate firms' long-term investment planning and decisions.

2.3 Role of Oil/Gas Sector in Algeria's Economy

The oil and gas sector plays a crucial role in Algeria's economy. [41] stated that it dominates the country's economy, with hydrocarbons representing a significant portion of its resources. [42] added that Algeria is an oil-producing country, and its strategy of development was based on state-led industrialization after it nationalized almost the whole economy in 1966. However, [43] argued that the reversal of oil and gas prices in 1986 made the situation worse, and the state-owned industrial sector remained a heavy burden for the government because of its low productivity and lack of competitiveness. Additionally, [41] added that the fluctuations in international energy prices affect politics and stability in the country.

Nonetheless, in the Algerian economy, the oil and gas sector is the leading sector and is considered more important than the electricity and water sectors. [44] stated that this sector is distinguished by its commercial characteristics and its impact on economic development and economic growth.

In recent years, several literatures have stated that Algeria has attempted to escape its oil and gas-dependent economy and diversify its economy by reducing the share of the oil and gas sector and promoting green entrepreneurship in the energy sector, [45], [46]. Despite these efforts, the contribution of green entrepreneurship in the energy sector remains weak compared to the available possibilities.

However, [44] argued that it is vital to improve the quality of learning and investment in this sector, and make significant efforts to enhance investment in education in order to accelerate the pace of growth that will generate economic development. According to the available literature, the oil and gas sector has played a significant role in Algeria's economy since the country gained independence in 1962, [42]. This sector is the leading sector in the Algerian economy and contributes significantly to the gross domestic product, exports, and government revenues, as per, [47].

On the other hand, taxes on the oil and gas sector can have significant effects on economic outcomes. According to the available literature, the oil and gas sector has had a positive impact on Algeria's GDP and government revenue, [43], [48].

[49] added that the oil and gas sector is the backbone of Algeria's economy, accounting for about 20% of the GDP and 85% of total exports. This sector is significant as the country is dependent on oil and gas exports for its fiscal and external accounts. The surge in global oil and gas prices will see Algeria's export revenues grow after a long period of decline as discussed by [50] and the government will be able to soften the impact of rising inflation by using some of the windfall to increase benefits and cut taxes.

2.4 Existing Gaps in Literature

While the available studies have significantly contributed to understanding the role of taxation policies and their impacts on corporate financial performance, some key gaps remain. First, most analyses focus on aggregate effects at the macroeconomic level rather than exploring sector-specific influences, such as in the strategically important oil and gas industry in Algeria. Second, limited research has been conducted on how the evolving tax system in Algeria has shaped profitability trends and corporate finances of oil/gas companies over the long-term, especially after major reforms.

Third, qualitative insights from industry stakeholders on their experiences regarding fiscal policies and business impacts have not been incorporated systematically. Fourth, distinguishing the impacts of direct versus indirect taxes could offer nuanced policy perspectives but has not been the focus of existing research on this relationship.

Fifth, regional differences in tax administration and their implications on investment outcomes within the oil/gas industry remain less understood.

Therefore, this study aims to address such gaps by conducting an in-depth, quantitative research investigation of taxation policies' influences specifically within Algeria's oil and gas sector.

3 Methodology

3.1 Research Design

The population consists of employees holding managerial, operational, and accounting roles in Sonatrach, Algeria's state-owned oil and Gas Company.

To test the hypotheses developed based on the literature review, a quantitative research methodology was employed. Specifically, a questionnaire was distributed to 197 employees of Sonatrach, which is the largest company in Algeria and a major contributor to the country's economy, making its employees well-positioned to provide insights on the research topic. The sample was selected through a non-probability convenience sampling method; therefore, it constitutes a non-probability or accidental sample. Employees were approached through contacts within Sonatrach and asked to voluntarily participate in the study by responding to the questionnaire. A 5-point Likert scale was used.

The questionnaire contained questions related to the three main hypotheses:

H1: Indirect taxes have a larger negative effect on the profitability of oil and gas companies in Algeria compared to direct taxes. To test this hypothesis, questions were asked to gauge the perceived impact of various direct and indirect taxes on key profitability indicators like return on assets, operating margins, etc.

H2: Higher corporate tax rates have a negative impact on the financial performance of companies in the oil and gas sector in Algeria. Questions aimed to understand if changes in corporate tax rates over time were associated with changes in performance metrics. Respondents were also asked to qualitatively describe major corporate tax rate reforms and their perceived impact.

H3: Fiscal incentives and tax reductions have a positive impact on the financial performance of oil and gas companies in Algeria. Questions focused on analyzing the relationship between specific fiscal incentives/tax holidays granted and changes observed in investment levels, revenue growth, job creation, etc.

The questionnaire was distributed both online and in hard copy to 197 employees holding managerial, operational and accounting roles in Sonatrach. Simple descriptive statistics along with qualitative analysis of open-ended responses was used to analyze the questionnaire data. The results were then used to test the validity of the hypotheses developed based on the literature review.

3.2 Population and Sample

The sample size consisted of 197 employees holding managerial, operational and accounting roles in Sonatrach. Table 1 presents gender and age groups for the sample.

Table 1. Age * Gender Cross tabulation (n=197)

		Gender		Total
		Female	Male	
Age	Below 25	3	22	25
	25-34	26	19	45
	35-44	20	34	54
	45-54	29	37	66
	55+	3	4	7
Total		81	116	197

Source: Conducted by authors using SPSS v25

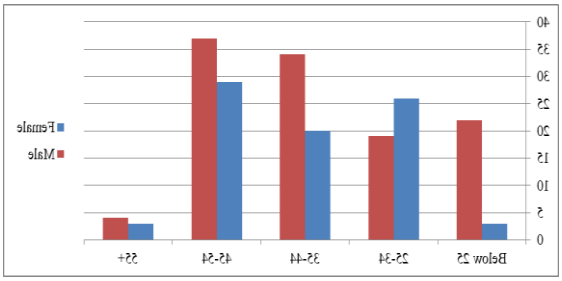

Fig. 1: Age * Gender Cross tabulation (n=197)
Source: Conducted by authors using SPSS v25

Table 1 and Figure 1 present the cross-tabulation of age and gender, showing the distribution of respondents across different age groups and genders. The table reveals that the majority of the respondents were male (58.9%), while 41.1% were female. Regarding age groups, the highest frequency was observed in the 45-54 age group, accounting for 33.5% of the sample. The 35-44 age group is the most represented in the sample, accounting for 27.4%. Following closely are those aged 25-34, who make up 22.8%. The least represented group is the 55 and older demographic, which comprises only 3.6% of respondents. These findings indicate that a significant portion of employees in Algeria's oil and gas sector, particularly within the Sonatrach sample, are in the middle-aged category.

For details on years of experience, the results can be seen in Table 2 and Figure 2.

Table 2. The Sample Years of Experience in the Oil and Gas Sector (n=197)

Group	Frequency	Percent
Less than 5 years	25	12.7
5-10 years	134	68.0
11-15 years	19	9.6
16-20 years	13	6.6
More than 20 years	6	3.0
Total	197	100.0

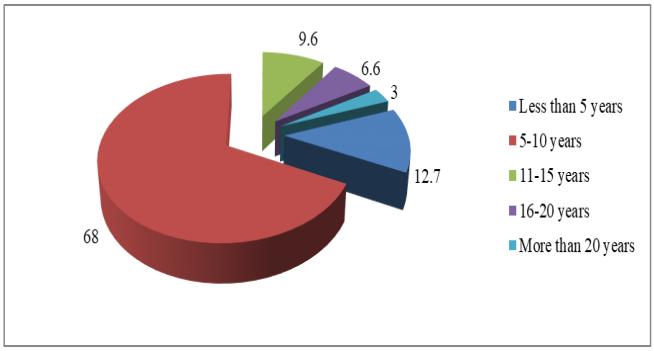

Fig. 2: Years of Experience in the Oil and Gas Sector (n=197) Source: Conducted by authors using SPSS v25

Table 2 and Figure 2 illustrate the distribution of experience among the 197 employees from Sonatrach.

A majority, about 68.0%, reported having between 5 to 10 years of experience in the oil and gas sector. This suggests that many employees have a solid grasp of industry knowledge, likely making them well-informed about taxation policies and their implications for financial performance.

In contrast, 12.7% of respondents indicated they have less than 5 years of experience, indicating a smaller group of newcomers to the industry. These individuals might have limited exposure to the complexities of taxation policies and their financial impacts.

Regarding more experienced respondents, 9.6% had between 11-15 years of experience, and 6.6% reported having 16-20 years. Only 3.0% of participants had over 20 years of experience in the oil and gas sector. Those with extensive experience are likely to possess valuable insights into how taxation policies affect financial performance due to their deep industry knowledge.

Lastly, for details about the current role the participants represent, the results are shown in Table 3 and Figure 3.

Table 3. Current Role the Participants Represent (n=197)

Role	Frequency	Percent
Manager	45	22.8
Engineer	30	15.2
Accountant	37	18.8
Administrative Staff	39	19.8
Other	46	23.4
Total	197	100.0

Source: Conducted by authors using SPSS v25

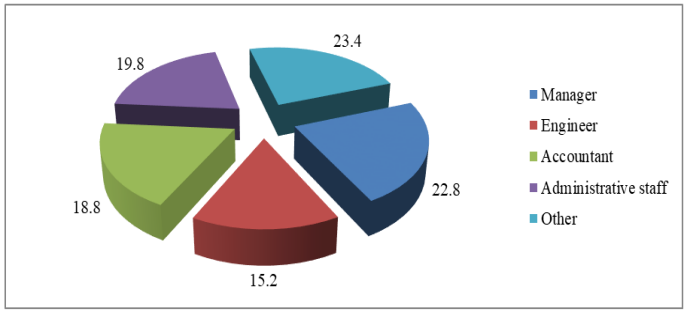

Fig. 3: Current Role the Participants Represent (n=197)
Source: Conducted by authors using SPSS v25

Table 3 and Figure 3 show the different roles among the 197 participants in this study .Among the participants, managers make up 22.8% of the sample, indicating a significant representation of leadership roles. These managers are likely involved in decision-making processes, providing insights into how taxation policies impact their organizations' financial performance.

Engineers represent 15.2% of the sample, highlighting a strong presence of technical professionals. Their expertise can enhance the understanding of technical aspects of the oil and gas sector and how taxation policies might influence financial outcomes.

Accountants make up 18.8% of the respondents. Given their roles in financial management, they can offer critical insights into the financial implications of taxation policies on company performance, particularly regarding the bottom line.

Administrative staff accounts for 19.8% of the sample, indicating their role in various organizational tasks. Their perspectives can illuminate the operational challenges related to implementing and complying with taxation policies.

The "Other" category comprises 23.4% of respondents and includes individuals in roles not specifically listed, such as legal, human resources, or marketing professionals. Their insights are essential for understanding the broader impact of taxation policies on financial performance across the organization.

3.3 Pilot Study

The pilot study aimed to evaluate the research instruments and methodology intended for the main study. Our goals included:

- Testing the questionnaire and interview guide to identify any unclear or problematic questions, ensuring effective data collection.
- Gathering participant feedback on their experience with the research instruments to make necessary adjustments.
- Estimating the average time required to complete the research process, helping us ensure the methodology is feasible and efficient.
- Identifying potential challenges in the research process to address them before the main study, enhancing overall quality.

To conduct the pilot study, we engaged 30 managers from oil and gas companies in Algeria, ensuring representation from both large national and multinational firms. This diverse sample was crucial for thoroughly evaluating our research instruments and methodology.

Participants were approached through industry contacts and received a detailed letter outlining the pilot study's purpose. We ensured ethical considerations were met by obtaining written consent before participation. They completed the draft questionnaire either in-person or through an online survey. We made note of the time taken by each participant. Upon completion, we conducted brief interviews to gather additional feedback on the questions, the response process, and any difficulties encountered during the study.

To maintain confidentiality and anonymity, the data collected from the participants was treated with the utmost care. After the pilot study concluded, we carefully analyzed the feedback received. This analysis allowed us to identify necessary changes to the research design, questionnaire, and procedures before finalizing them for the main study.

The pilot study spanned a duration of 4-6 weeks. Through this process, we aimed to enhance the reliability and validity of the research methodology planned for the main comprehensive study.

We did stability and reliability analysis for the data we got from the pilot study; the results are presented in Table 4, Table 5, Table 6, Table 7 and Table 8.

In order to assess the stability of the questionnaire used in the study, the researcher employed Cronbach's Alpha (α) formula on the pilot sample comprising 30 participants. This particular sample was excluded from the overall sample. The stability coefficients of the study tool are presented in Table 4.

Table 4. Measurement of Study Instrument Stability using Cronbach's Alpha Coefficient (n=30)

Dimension	Number of Items	Topic Stability
Taxation Policy Type	5	.727
Corporate Tax Rate	5	.712
Fiscal Incentives and Tax Reductions	5	.729
Financial Performance of Companies	5	.733
General stability of the questionnaire	20	.854

Source: Conducted by authors using SPSS v25

Table 4 presents the measurement of study instrument stability using Cronbach's Alpha coefficient. The table displays the dimensions of the study instrument, the number of items within each dimension, and the corresponding Cronbach's Alpha coefficients indicating the stability of the instrument.

The "Taxation Policy Type" dimension has a Cronbach's Alpha of .727, representing moderate reliability. The "Corporate Tax Rate" dimension shows a Cronbach's Alpha of .712, suggesting moderate reliability as well.

The "Fiscal Incentives and Tax Reductions" dimension has a Cronbach's Alpha of .729, indicating moderate reliability. The "Financial Performance of Companies" dimension has a Cronbach's Alpha of .733, indicating moderate reliability.

The general stability of the questionnaire has a Cronbach's Alpha coefficient of .854. This high value suggests that the questionnaire is a reliable tool for measuring the intended hypotheses.

To evaluate internal consistency, we used Pearson correlation coefficients to measure the relationship between individual item scores and the overall score of each dimension. The correlation coefficients for the first dimension (Taxation Policy Type) are presented in Table 5.

The correlation coefficients shown in Table 5 offer important insights into how item scores relate to the total score for the first dimension, which examines different types of taxation policies. The results reveal strong connections between various items and the overall score, highlighting how different tax policies affect the profitability, revenues, cash flows, competitiveness, and essential profitability metrics of oil and gas companies.

Table 5. Correlation Coefficients between Item Scores and Total Score of the First Dimension (Taxation Policy Type) (n=30)

#	Dimension Items	Correlation Coefficients	Value of Significance
1	Indirect taxes such as VAT have a larger negative effect on the profitability of oil and gas companies compared to corporate income tax.	.636**	.000
2	Changes in indirect tax rates such as customs duties have a bigger impact on company revenues than changes in corporate tax rates.	.636**	.000
3	Indirect taxes are more detrimental to company cash flows than direct taxes.	.804**	.000
4	Higher indirect taxes reduce the competitiveness of local oil and gas companies more than higher direct taxes.	.820**	.000
5	On average, increases in indirect tax rates lead to larger declines in key profitability metrics like ROA than similar increases in corporate tax rates.	.529**	.003

***. Correlation is significant at the 0.01 level (2-tailed)*
Source: Conducted by authors using SPSS v25

The first and second items indicate that indirect taxes, such as VAT and customs duties, negatively impact the profitability and revenues of these companies more than corporate income tax and changes in tax rates. The significant positive correlation coefficient of .636** underscores the need to consider indirect taxes when evaluating the financial performance of oil and gas firms.

The third and fourth items have high correlation coefficients of .804** and .820** suggesting that the increase in indirect taxes has a more noticeable negative effect than the increase in direct taxes, which proposes that policymakers should carefully evaluate how indirect tax policies influence the financial health and competitive edge of these firms.

The fifth item has a moderate correlation coefficient of .529** and a small p-value of .003 indicate that higher indirect tax rates lead to more significant declines in ROA compared to similar increases in corporate tax rates. This emphasizes the importance for companies to stay vigilant about indirect tax policies, as they can greatly affect profitability.

The correlation coefficients between each item within the second dimension (Corporate Tax Rate) and the total score of that dimension are presented in Table 6.

Table 6. Correlation Coefficients between Item Scores and Total Score of the Second Dimension (Corporate Tax Rate) (n=30)

#	Dimension Items	Correlation Coefficients	Value of Significance
1	Higher corporate tax rates negatively impact the return on assets (ROA) of oil and gas companies.	.585**	.001
2	An increase in corporate tax rates would reduce the profit margins of oil and gas companies.	.688**	.000
3	Lowering corporate tax rates would encourage more re-investments and capacity expansions in the oil and gas sector.	.637**	.000
4	Higher corporate taxes weaken the cash flows and liquidity position of oil and gas companies.	.734**	.000
5	Major corporate tax rate increases in the past were associated with declines in key financial metrics of oil and gas companies.	.867**	.000

***. Correlation is significant at the 0.01 level (2-tailed)*
Source: Conducted by authors using SPSS v25

In Table 6, we see the correlation coefficients for the second dimension, which focuses on corporate tax rates.

The first item shows a significant negative correlation coefficient of .585**, indicating that as corporate tax rates rise, ROA for oil and gas companies tends to decrease. This highlights how corporate tax rates can affect the financial performance of these firms. The second item also reflects a strong negative correlation of .688**, suggesting that higher corporate tax rates can lead to lower profit margins, indicating the potential strain high taxes place on profitability.

The third item suggests that reducing corporate tax rates could positively impact the oil and gas sector. A correlation coefficient of .637** indicates that lower tax rates may promote reinvestments and capacity expansion, which suggests that satisfactory corporate tax policies can motivate growth and investment in the industry.

The fourth item shows a significant negative correlation of .734**, suggesting that elevated corporate taxes may deter their financial flexibility.

The fifth item reveals a strong positive correlation coefficient of .867**, highlighting that significant changes in corporate tax rates can have a substantial impact on financial performance.

The correlation coefficients between each item within the third dimension (Fiscal Incentives and

Tax Reductions) and the total score of that dimension are presented in Table 7.

Table 7. Correlation Coefficients between Item Scores and Total Score of the Third Dimension (Fiscal Incentives and Tax Reductions) (n=30)

#	Dimension Items	Correlation Coefficients	Value of Significance
1	Tax incentives and holidays have a positive impact on investment levels in the oil and gas sector.	.568	.001
2	Fiscal incentives help boost the revenue growth of oil and gas companies.	.836	.000
3	Tax reductions encourage oil and gas companies to create more local jobs.	.655	.000
4	Removal of existing tax incentives would discourage capital expenditure in the oil and gas industry.	.626	.000
5	Specific tax preferences have aided the expansion and modernization of operations in the oil and gas sector.	.784	.000

***. Correlation is significant at the 0.01 level (2-tailed)*
Source: Conducted by authors using SPSS v25

Table 7 presents correlation coefficients for the third dimension, which looks at fiscal incentives and tax reductions.

The first item shows a moderate positive correlation of .568, suggesting that when tax breaks are offered, investment in the industry tends to rise.

The second item indicates a strong positive correlation of .836, suggesting that fiscal incentives are crucial in boosting revenues for oil and gas companies.

The third item highlights a moderate positive correlation of .655, indicating that implementing tax cuts can lead to more job opportunities in the oil and gas sector.

The fourth item shows a notable correlation of .626, suggesting that removing existing tax incentives can deter investment in the sector.

Lastly, the fifth item shows a strong positive correlation of .784 between specific tax preferences and the expansion and modernization of operations in the oil and gas industry, indicating that targeted tax incentives effectively facilitate growth and modernization.

The correlation coefficients between each item within the fourth dimension (Financial Performance of Companies) and the total score of that dimension are presented in Table 8.

Table 8. Correlation Coefficients between Item Scores and Total Score of the Fourth Dimension (Financial Performance of Companies) (n=30)

#	Dimension Items	Correlation Coefficients	Value of Significance
1	The financial performance of oil and gas companies in Algeria has improved over the past 5 years	.578**	.001
2	Profitability ratios like return on assets (ROA) and return on equity (ROE) of oil and gas companies have generally increased in recent years.	.625**	.000
3	The cash flow position and liquidity of oil and gas companies are stronger now compared to 5 years ago.	.759**	.000
4	Oil and gas companies in Algeria are more profitable now than they were 10 years ago.	.825**	.000
5	The financial performance metrics like the net profit margins of oil and gas companies have improved over the last 10 years.	.722**	.000

***. Correlation is significant at the 0.01 level (2-tailed)*
Source: Conducted by authors using SPSS v25

Table 8 illustrates the correlation coefficients for the fourth dimension, focusing on the financial performance of oil and gas companies. The findings provide insights into trends and improvements in financial performance metrics over recent years.

The first item indicates a positive correlation of .578**, suggesting that the financial performance of oil and gas companies in Algeria has improved over the past five years. This reflects positive industry trends and potential growth in this sector. Similarly, the second item reveals a strong positive correlation of .625** between profitability ratios—like ROA and return on equity (ROE)—and overall financial performance, indicating that these ratios have generally increased, showcasing enhanced profitability for these companies.

The third item shows a notable correlation of .759** between cash flow and liquidity, suggesting that oil and gas companies are in a stronger financial position now than five years ago. The fourth item highlights a significant positive correlation of .825** between current financial performance and performance from ten years ago, indicating that higher corporate tax rates are associated with lower profitability and narrower profit margins.

Lastly, the fifth item reveals a strong positive correlation coefficient (.722**) between financial performance metrics, specifically net profit margins, and the performance of oil and gas companies over

the last 10 years. This finding suggests an improvement in net profit margins, which further underscores the positive trajectory of financial performance within the industry.

Therefore, considering the stability and internal consistency results presented in the preceding tables, it is clear that the research instrument (questionnaire) exhibits a high level of stability and internal consistency. This indicates that it can be reliably employed with the entire sample.

4 Results

4.1 Descriptive Statistics

The descriptive analysis offers a comprehensive summary of the questionnaire responses for each question item, presenting a detailed overview. It encompasses crucial statistical measures such as the mean and standard deviation, which provide valuable insights into the central tendency and variability of the responses.

Table 9 presents the mean and standard deviation for each item within the first dimension (Taxation Policy Type).

Table 9 provides insights into the relationship between taxation policy type and its impact on the profitability of oil and gas companies. The mean value of 3.26 indicates that respondents recognize indirect taxes to have a significant impact on the success of oil and gas companies.

Moreover, changes in indirect tax rates are reported to have a larger influence on company revenues than changes in corporate tax rates, as indicated by a mean value of 2.87, even though it is a moderate value.

Additionally, indirect taxes are more damaging to company cash flows than direct taxes, with a mean value of 3.13, suggesting that the weight imposed by indirect taxes on the cash flow of oil and gas companies is perceived to be higher compared to direct taxes.

Similarly, higher indirect taxes are perceived to reduce the competitiveness of local oil and gas companies more than higher direct taxes, as indicated by the mean value of 2.86.

Lastly, the data shows that, on average, increases in indirect tax rates lead to larger declines in key profitability metrics like return on assets (ROA) compared to similar increases in corporate tax rates. This is reflected by a mean value of 3.54, suggesting that oil and gas companies experience more significant declines in profitability when indirect tax rates are increased.

Table 9. Descriptive Statistics for the First Dimension (Taxation Policy Type) (n=197)

#	Dimension Items	Mean	Std. Deviation
1	Indirect taxes such as VAT have a larger negative effect on the profitability of oil and gas companies compared to corporate income tax.	3.26	.931
2	Changes in indirect tax rates such as customs duties have a bigger impact on company revenues than changes in corporate tax rates.	2.87	.970
3	Indirect taxes are more detrimental to company cash flows than direct taxes.	3.13	1.044
4	Higher indirect taxes reduce the competitiveness of local oil and gas companies more than higher direct taxes.	2.86	1.005
5	On average, increases in indirect tax rates lead to larger declines in key profitability metrics like ROA than similar increases in corporate tax rates.	3.54	.805

Source: Conducted by authors using SPSS v25

Table 10 presents the mean and standard deviation for each item within the second dimension (Corporate Tax Rate).

Table 10 provides descriptive statistics that shed light on the relationship between corporate tax rates and their impact on the performance of oil and gas companies. The findings indicate that higher corporate tax rates have a negative effect on the return on assets (ROA) of these companies, as reflected by a mean value of 3.61. This suggests that increased corporate tax rates are perceived to reduce the profitability of oil and gas companies.

Furthermore, the data suggests that an increase in corporate tax rates would also lead to a reduction in the profit margins of oil and gas companies, as indicated by a mean value of 3.46. This implies that higher corporate tax rates are associated with decreased profitability and narrower profit margins for companies operating in the oil and gas sector.

Conversely, lowering corporate tax rates appears to positively influence the industry, as reflected in a mean value of 3.91. Respondents believe that reduced corporate tax rates would encourage reinvestment and expansion, fostering growth in the sector. Additionally, data reveals that higher corporate taxes weaken cash flows and liquidity, with a mean value of 3.86 indicating a negative impact on financial health.

Finally, past increases in corporate tax rates correlate with declines in key financial metrics, as indicated by a mean value of 3.39. This suggests that significant tax rate hikes have historically

negatively affected the financial performance of oil and gas companies.

Table 10. Descriptive Statistics for the Second Dimension (Corporate Tax Rate) (n=197)

#	Dimension Items	Mean	Std. Deviation
1	Higher corporate tax rates negatively impact the return on assets (ROA) of oil and gas companies.	3.61	.917
2	An increase in corporate tax rates would reduce the profit margins of oil and gas companies.	3.46	.912
3	Lowering corporate tax rates would encourage more re-investments and capacity expansions in the oil and gas sector.	3.91	.768
4	Higher corporate taxes weaken the cash flows and liquidity position of oil and gas companies.	3.86	.793
5	Major corporate tax rate increases in the past were associated with declines in key financial metrics of oil and gas companies.	3.39	.883

Source: Conducted by authors using SPSS v25

Table 11 summarizes the mean and standard deviation for items within the fiscal incentives and tax reductions dimension. It provides descriptive statistics that help clarify the relationship between these incentives and their effects on the oil and gas sector.

The findings suggest that tax incentives and holidays positively impact investment levels, with a mean value of 3.50 indicating that respondents view these incentives as effective in encouraging investment in the industry .

Furthermore, fiscal incentives are seen as crucial for boosting revenue growth, as shown by a mean value of 3.35, while tax reductions are acknowledged as catalysts for job creation, with a mean value of 3.21 suggesting they incentivize local job creation.

Additionally, the data indicates that removing existing tax incentives could hinder capital expenditure, reflected by a mean value of 3.27. This reinforces the importance of maintaining favorable tax policies to encourage investment. Finally, specific tax preferences have facilitated growth and modernization in the oil and gas sector, as shown by a mean value of 3.64.

Table 12 presents the mean and standard deviation for items related to the financial performance of companies.

Table 11. Descriptive Statistics for the Third Dimension (Fiscal Incentives and Tax Reductions) (n=197)

#	Dimension Items	Mean	Std. Deviation
1	Tax incentives and holidays have a positive impact on investment levels in the oil and gas sector.	3.50	.907
2	Fiscal incentives help boost the revenue growth of oil and gas companies.	3.35	.939
3	Tax reductions encourage oil and gas companies to create more local jobs.	3.21	.878
4	Removal of existing tax incentives would discourage capital expenditure in the oil and gas industry.	3.27	.982
5	Specific tax preferences have aided the expansion and modernization of operations in the oil and gas sector.	3.64	.872

Source: Conducted by authors using SPSS v25

Table 12. Descriptive Statistics for the Fourth Dimension (Financial Performance of Companies) (n=197)

#	Dimension Items	Mean	Std. Deviation
1	The financial performance of oil and gas companies in Algeria has improved over the past 5 years	3.23	.873
2	Profitability ratios like return on assets (ROA) and return on equity (ROE) of oil and gas companies have generally increased in recent years.	3.71	.870
3	The cash flow position and liquidity of oil and gas companies are stronger now compared to 5 years ago.	3.60	.956
4	Oil and gas companies in Algeria are more profitable now than they were 10 years ago.	3.62	.937
5	The financial performance metrics like the net profit margins of oil and gas companies have improved over the last 10 years.	3.34	1.001

Source: Conducted by authors using SPSS v25

The statistics suggest a positive trend in the financial performance of oil and gas firms in Algeria over the past few years. The data indicates that these companies have improved financially, with a mean value of 3.23 reflecting a perceived positive shift in performance .

Profitability ratios like ROA and ROE have also generally increased, with a mean value of 3.71 indicating enhanced profitability. The cash flow position and liquidity of these companies are viewed as stronger than five years ago, as shown by a mean value of 3.60.

Moreover, respondents feel that the profitability of oil and gas companies in Algeria is better now than it was ten years ago, as indicated by a mean value of 3.62, suggesting a long-term positive trend. Financial metrics, including net profit margins, have also improved over the last decade, with a mean value of 3.34 indicating perceived progress.

Table 13 and Figure 4 present descriptive statistics for each dimension of the questionnaire.

Table 13. Descriptive Statistics for Questionnaire Dimensions (n=197)

Dimension Items	Mean	Std. Deviation
Taxation Policy Type	3.13	.569
Corporate Tax Rate	3.64	.609
Fiscal Incentives and Tax Reductions	3.39	.613
Financial Performance of Companies	3.50	.693

Source: Conducted by authors using SPSS v25

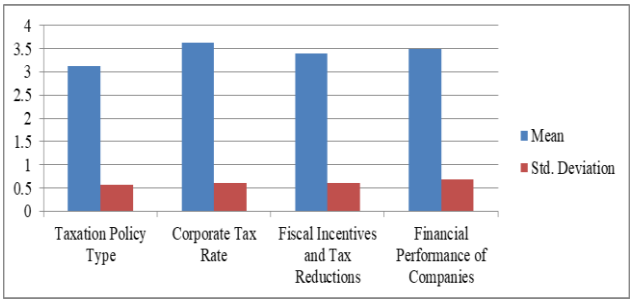

Fig. 4: Mean and Standard Deviation for Questionnaire Dimensions (n=197)
Source: Conducted by authors using SPSS v25

The descriptive statistics presented in Table 13 and Figure 4 provide an overview of the respondents' perceptions regarding various dimensions related to taxation policy. In terms of Taxation Policy Type, the mean score was 3.13, suggesting a moderate level of agreement or satisfaction with the existing taxation policy types. The dimension of Corporate Tax Rate received a slightly higher mean score of 3.64, indicating a relatively favorable perception of the current corporate tax rates.

Fiscal Incentives and Tax Reductions, another important dimension, received a mean score of 3.39. This suggests that respondents perceive some level of effectiveness or benefit from fiscal incentives and tax reductions provided by the government.

Lastly, the dimension of Financial Performance of Companies obtained a mean score of 3.50. This indicates a relatively positive perception of the financial performance of companies, possibly implying that respondents view the overall economic situation as stable or promising.

The standard deviation values reflect the degree of variability or dispersion in the responses for each dimension. The lower standard deviations observed in this table (ranging from 0.569 to 0.693) suggest that the responses tend to cluster around the mean, indicating a certain degree of agreement among the respondents.

Overall, based on the descriptive statistics results, it can be concluded that the respondents generally hold moderate to positive perceptions regarding taxation policy types, corporate tax rates, fiscal incentives and tax reductions, as well as the financial performance of companies.

4.2 Hypotheses Testing

This section presents the statistical analyses conducted to test the three hypotheses developed based on the literature review. Linear regression modeling was employed to quantitatively examine the relationships proposed in each hypothesis. Testing these hypotheses through statistical analyses allows objective evaluation of the proposed relationships and determines if the hypotheses are supported or not supported by the data.

H1: Indirect taxes have a larger negative effect on the profitability of oil and gas companies in Algeria compared to direct taxes.

Based on the findings from the linear regression analysis presented in Table 14 (Appendix), it can be concluded that the first hypothesis, which states that indirect taxes have a larger negative effect on the profitability of oil and gas companies in Algeria compared to direct taxes, is supported.

The model summary indicates that the predictor variable "Taxation Policy Type" accounts for approximately 18.4% of the variance in the financial performance of companies. The adjusted R-square value suggests that the model has a good fit, considering the number of predictors.

The ANOVA results show that the regression model is statistically significant ($p < .001$), indicating that there is a relationship between the taxation policy type and the financial performance of companies. The coefficient for the "Taxation Policy Type" variable is positive (0.522) and statistically significant ($p < .001$), indicating that there is a significant positive relationship between indirect taxes and financial performance.

The conclusion is further supported by the confidence interval for the coefficient, which does not include zero, suggesting that the effect of taxation policy type on financial performance is unlikely to be due to chance. Additionally, the residual statistics indicate that the predicted values

are close to the mean, and the standard deviations of the residuals are relatively low.

Therefore, based on the statistical analysis, it can be concluded that indirect taxes have a larger negative effect on the profitability of oil and gas companies in Algeria compared to direct taxes.

$$\hat{Y} = 1.867 + 0.522\ X$$

H2: Higher corporate tax rates have a negative impact on the financial performance of companies in the oil and gas sector in Algeria.

Table 15. Linear Regression Analysis for the Second Hypothesis

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.599[a]	.359	.355	.55689	1.964

a. Predictors: (Constant), Corporate Tax Rate
b. Dependent Variable: Financial Performance of Companies

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.813	1	33.813	109.029	.000[b]
	Residual	60.475	195	.310		
	Total	94.289	196			

a. Dependent Variable: Financial Performance of Companies
b. Predictors: (Constant), Corporate Tax Rate

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.017	.241		4.218	.000	.541	1.493
	Corporate Tax Rate	.682	.065	.599	10.442	.000	.553	.811

a. Dependent Variable: Financial Performance of Companies

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.6988	4.4259	3.5025	.41535	197
Residual	-1.52598	1.53766	.00000	.55547	197
Std. Predicted Value	-4.343	2.223	.000	1.000	197
Std. Residual	-2.740	2.761	.000	.997	197

a. Dependent Variable: Financial Performance of Companies

Source: Conducted by authors using SPSS v25

Based on the results of the linear regression analysis presented in Table 15, it can be concluded that the second hypothesis, which suggests that higher corporate tax rates have a negative impact on the financial performance of companies in the oil and gas sector in Algeria, is supported.

The model summary indicates that the predictor variable "Corporate Tax Rate" accounts for approximately 35.9% of the variance in the financial performance of companies. The adjusted R-square value suggests that the model provides a good fit to the data.

The ANOVA results demonstrate that the regression model is highly significant ($p < .001$), indicating a relationship between the corporate tax rate and the financial performance of companies. The coefficient for the "Corporate Tax Rate" variable is positive (0.682) and statistically significant ($p < .001$), indicating a significant positive relationship between higher corporate tax rates and financial performance.

The confidence interval for the coefficient also supports this conclusion, as it does not include zero. This suggests that the effect of the corporate tax rate on financial performance is unlikely to be due to chance. Furthermore, the residual statistics indicate that the predicted values are close to the mean, and the standard deviations of the residuals are relatively low.

Therefore, based on the statistical analysis, it can be inferred that higher corporate tax rates have a negative impact on the financial performance of companies in the oil and gas sector in Algeria.

$$\hat{Y} = 1.017 + 0.682\ X$$

H3: Fiscal incentives and tax reductions have a positive impact on the financial performance of oil and gas companies in Algeria.

Based on the results of the linear regression analysis presented in Table 16 (Appendix), it can be concluded that the third hypothesis, which posits that fiscal incentives and tax reductions have a positive impact on the financial performance of oil and gas companies in Algeria, is supported.

The model summary indicates that the predictor variable "Fiscal Incentives and Tax Reductions" accounts for approximately 38% of the variance in the financial performance of companies. The adjusted R-square value suggests that the model provides a reasonably good fit to the data.

The ANOVA results demonstrate that the regression model is highly significant ($p < .001$), indicating a relationship between fiscal incentives and tax reductions and the financial performance of companies. The coefficient for the "Fiscal Incentives and Tax Reductions" variable is positive (0.698) and statistically significant ($p < .001$), indicating a significant positive relationship between these incentives and financial performance. The confidence interval for the coefficients supports this conclusion, as it does not include zero, suggesting that the effects of fiscal incentives and tax reductions on financial performance are likely not due to chance. The residual statistics indicate that predicted values closely align with the mean, and the standard deviations of the residuals remain

relatively low. Thus, the statistical analysis implies that fiscal incentives and tax reductions positively influence the financial performance of oil and gas companies in Algeria.

$$\hat{Y} = 1.133 + 0.698\ X$$

In conclusion, the linear regression analyses support all three hypotheses. The data indicates that indirect taxes have a more significant negative impact on financial performance than direct taxes, affirming the first hypothesis. Higher corporate tax rates correlate with diminished financial performance, supporting the second hypothesis. Lastly, fiscal incentives and tax reductions display a notable positive relationship with financial performance, validating the third hypothesis.

5 Discussion

The findings from the statistical analyses provide valuable insights into understanding the influence of taxation policies on the financial performance of oil and gas companies in Algeria. This discussion further elaborates on the key results, relating them to the existing body of literature while highlighting important implications.

The first hypothesis tested the relationship between taxation policy type and financial performance. The significant positive association found between indirect taxes and performance supports prior research arguing that indirect taxes have a larger negative impact than direct taxes, [28], [35]. Indirect taxes affect the costs of inputs and weaken competitiveness to a greater extent by raising product prices, [35]. This could explain respondents perceive indirect taxes like VAT as more detrimental to cash flows, revenues, and profitability metrics than corporate income tax.

Additionally, changes in indirect tax rates were seen to exert a bigger impact on revenues compared to corporate tax rate changes. This aligns with [3] finding that indirect taxes have a larger effect on stock market returns. Prior studies have highlighted the complex burden of indirect taxes, which partly gets passed on to consumers via higher costs, [28]. This "tax-shifting" ability makes adjustments in indirect tax rates more visible and disruptive for companies' revenue generation.

Interestingly, the survey results showed increases in indirect tax rates lead to larger declines in ROA than similar changes in corporate rates. This agrees with quantitative studies establishing the tax penalty as higher for less profitable firms operating close to the income threshold, [32], [38]. For such firms in the Algerian oil and gas sector, marginal increases in indirect rates could severely affect their returns.

The second hypothesis found corporate tax rates to negatively correlate with financial performance, validating several prior works, [30], [31], [38]. Higher tax rates reduce post-tax profits available for reinvestment, weakening firms' long-term growth potential, [31]. Respondents viewed corporate tax hikes as detrimental to key metrics like ROA and margins, reflecting their profit-reducing nature. Interestingly, lowering rates was perceived to encourage more investment, echoing, [34] finding that tax incentives boost financial metrics.

The third hypothesis established a positive link between fiscal incentives and performance, backing studies indicating their role in stimulating investments, cash flows, and modernization, [33], [34], [32]. Respondents saw incentives as growth-boosting tools for job creation, revenue growth, and capacity expansion. This aligns with concepts that targeted preferences minimize taxation distortions, incentivizing desirable economic activities, [37], [40]. Based on respondents' favorable perceptions, it appears Algeria's incentives are indeed effective in achieving their aims of supporting sectorial growth.

In terms of performance trends, respondents assessed a general improvement across several financial indicators like profitability ratios and cash flows, reflective of quantitative studies finding an improving trajectory, [9], [10]. The assessment lends some support to the World Bank's assessment of macroeconomic stability despite structural challenges, [18]. This could be attributed to prudent economic management as well as stability in oil prices supporting fiscal and external accounts, as argued by [49].

However, certain limitations need consideration. First, the use of a questionnaire restricts objective assessment of performance metrics. Relying on perceptions makes the findings susceptible to potential biases like optimism. Second, the cross-sectional nature implies performance relationships are merely correlational rather than causal in nature. Third, variability in regional tax administration and its sectoral impacts remain less explored. Lastly, assessments depend on the sample composition and may not fully represent all viewpoints within the diverse oil and gas sector.

5.1 Implications

1. Lower tax rates incentivizing investment should remain a priority while continually assessing the relative burden of direct versus indirect levies.

2. Maintaining targeted incentives supporting expansion plans, job creation, and modernization facilitates the oil and gas sector's contribution to growth and diversification goals.
3. Companies need to closely monitor indirect tax reforms given their discernible revenue and cash flow impacts.
4. The negative toll of corporate rates on key performance indicators implies a need for prudent financial management to sustain profitability in higher tax environments, [33], [36].
5. The insights from a crucial extractive industry add to the scarce empirical literature exploring tax-performance dynamics at the industry level.

6 Conclusion

This study aimed to analyze how taxation policies influence the financial performance of companies in Algeria's oil and gas sector, by using a quantitative research approach that involved surveying employees of Sonatrach.

Three hypotheses were tested and they focused on the impacts of different types of taxation policies, corporate tax rates, and fiscal incentives or tax reductions.

The statistical analyses revealed that indirect taxes have a more substantial negative effect on profitability compared to direct taxes. Also, higher corporate tax rates were linked to weaker financial performance, while fiscal incentives showed a positive correlation.

Descriptive analyses showed that respondents remark improvements across various financial indicators in recent years. However, there are limitations, like potential biases related to subjective observations and challenges regarding establishing causativeness. It's also important to consider the diverse viewpoints of stakeholders, which require further exploration.

The results affirmed theoretical connections recognized in previous literature, such as: Indirect taxes have a more harmful impact on revenues, cash flows, and ROA than corporate income tax, changes in policy rates affect financial outcomes more significantly than alterations in corporate tax rates. Targeted incentives have been effective in stimulating activities like capacity expansion within the Algerian oil and gas sector.

Several important implications emerge from this study. Thoughtful tax policies that encourage investment and job growth through competitive direct rates, while carefully assessing the impacts of indirect taxes, can create an optimal business environment. Continuous reforms that maintain targeted incentives are essential for facilitating the sector's economic contributions. At the same time, proactive financial management in the face of higher tax obligations is crucial for ensuring sustained profitability.

This research addresses existing gaps by providing an in-depth sectoral analysis and incorporating diverse perspectives. In doing so, it offers empirical evidence that can guide balanced policymaking, supporting both industry growth and broader macroeconomic objectives. The study contributes valuable insights into optimizing the complex interplay between dynamic fiscal policies and corporate operations within Algeria's vital oil and gas industry.

Acknowledgment:
The authors extend their appreciation to the Deanship of Scientific Research at King Khalid University for funding this work through a large-group Research Project under grant number (RGP.2/141/46)".

Declaration of Generative AI and AI-assisted Technologies in the Writing Process

During the preparation of this work, the authors used Perplexity AI in order to enhance paragraphs, improve readability, and assist in searching for research papers. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

References:

[1] Oz-Yalaman, G., *The Effects of Corporate Tax Rate on the Firm Performance. In Handbook of Research on Strategic Fit and Design in Business Ecosystems,* 2020, pp 640-669). IGI Global, [Online]. https://avesis.ogu.edu.tr/yayin/f8643dd1-a8a9-4ef5-8fa0-fa5657d62d83/the-effects-of-corporate-tax-rate-on-the-firm-performance (Accessed Date: November 11, 2024).

[2] Ma, H. Y., & Park, S. J, Relationship between corporate sustainability management and sustainable tax strategies. *Sustainability*, 2021, vol.13, No.13, pp74–29. https://doi.org/10.3390/su13137429.

[3] Colombo, J. A., & Caldeira, J. F. , The role of taxes and the interdependence among

corporate financial policies: Evidence from a natural experiment. *Journal of Corporate Finance,* 2018, vol.50, pp402-423. https://doi.org/10.1016/j.jcorpfin.2017.09.007.

[4] Boadway, R., & Cuff, K,. *Tax Policy: Principles and Lessons* (Elements in Public Economics). Cambridge: Cambridge University Press.2022 https://doi.org/10.1017/9781108954426.

[5] Stash, Z. N., Tax policy as a factor in ensuring the economic security of the state. *Electronic Network Multi-Thematic Journal "Scientific works of KubSTU"*, 2018, vol.6, pp, 388-394.

[6] Slepkova, T. I., Basnukaev, M. S., & Zangionov, A. N. , Directions and mechanism for implementing the tax policy of the Russian Federation at the present stage of development. *Scientific Library,* 2023, 336.025. https://doi.org/10.36871/ek.up.pr2023.01.02.018.

[7] Shaidurova, N., & Homokyová, M., The Methodology of Tax Records for the Support of Tax Management. *Multidisciplinary Aspects of Production Engineering,* 2020, vol.3, No.1, pp720–731, [Online]. https://yadda.icm.edu.pl/baztech/element/bwmeta1.element.baztech-f11cae8c-cc8d-49e4-9d05-e9d3dfec8b3c (Accessed Date: October 27, 2024).

[8] Ramadhani, A. A., & Pratiwi, D., Comparative Analysis of Financial Performance at PT Siloam International Hospitals Tbk Before and After the Covid-19 Pandemic (Analisis Perbandingan Kinerja Keuangan Pada Pt Siloam International Hospitals Tbk Sebelum Dan Sesudah Adanya Pandemi Covid-19). BALANCING: *Accountancy Journal*, 2023, VOl.33, No.1, pp., 42-54.

[9] Lolo, I. M., Karamoy, H., & Maradesa, D., Financial Performance Analyisi Using Financiali Value Added, Refined Economic Value Added, and Cash Value Added in Banking Sub-Sector Companies on the Indonesia Stock Exchange for the 2019-2021 Period. *Indonesian Journal of Business* Analytics, 2023, VOl.3, No.1, pp. 75-84, [Online]. https://www.researchgate.net/publication/368993074_Financial_Performance_Analyisi_Using_Financiali_Value_Added_Refined_Economic_Value_Added_and_Cash_Value_Added_in_Banking_Sub-Sector_Companies_on_the_Indonesia_Stock_Exchange_for_the_2019-2021_Period (Accessed Date: October 27, 2024).

[10] Gumelar, G., & Evianti, D., Profitability and Solvency Ratio Analysis to Assess Financial Performance (Analisis Rasio Profitabilitas dan Solvabilitas Untuk Menilai Kinerja Keuangan). *Jurnal Ilmiah Akuntansi Kesatuan,* 2022 VOl.10, No.3, pp. 509-522. https://jurnal.ibik.ac.id/index.php/jiakes/article/view/1489

[11] U.S. Department of State. (2023, July 26). Algeria - United States Department of State. Retrieved November 20, 2023, from United States Department of State, [Online]. https://www.state.gov/reports/2023-investment-climate-statements/algeria (Accessed Date: November 3, 2024).

[12] Statista. (2019). Algeria: leading companies by revenue, Statista. Retrieved November 20, 2023, [Online]. https://www.statista.com/statistics/1301607/companies-with-highest-revenue-in-algeria/ (Accessed Date: November 3, 2024).

[13] Conrad, E. A. (1993). *Algeria: A National Approach to Market-Oriented Tax Reform. In Transition to Market.* International Monetary Fund.

[14] PwC. (2023). Algeria - Corporate - Taxes on corporate income. Retrieved November 21, 2023, [Online]. https://taxsummaries.pwc.com/algeria/corporate/taxes-on-corporate-income (Accessed Date: November 3, 2024).

[15] PwC. (2023). Algeria - Corporate - Other taxes. Retrieved November 20, 2023, [Online]. https://taxsummaries.pwc.com/algeria/corporate/other-taxes (Accessed Date: November 3, 2024).

[16] World Bank. (2022, April 18). Algeria's Economic Update — April 2022. Retrieved November 21, 2023, [Online]. https://www.worldbank.org/en/country/algeria/publication/economic-update-april-2022 (Accessed Date: November 3, 2024).

[17] Chibi, A., Chekouri, S. M., & Benbouziane, M., The dynamics of fiscal policy in Algeria: sustainability and structural change. *Journal of Economic Structures,* 2019, vol.8, No.1, pp. 28-38

[18] World Bank. (2023). The World Bank in Algeria - Overview. Retrieved November 21, 2023, [Online]. https://www.worldbank.org/en/country/algeria

/overview (Accessed Date: November 3, 2024).

[19] IMF. (2011, January 26). IMF Survey: Algeria Should Reduce Reliance on Oil, Create More Jobs, Says IMF. Retrieved November 21, 2023, [Online]. https://www.imf.org/en/News/Articles/2015/09/28/04/53/soint012611a (Accessed Date: November 3, 2024).

[20] IMF. (2016, May 19). IMF Survey: Algeria Seeks to Diversify, Reshape Economy as Oil Revenues Decline. Retrieved November 21, 2023, [Online]. https://www.imf.org/en/News/Articles/2015/09/28/04/53/sonew052016a (Accessed Date: November 10, 2024).

[21] EY. (2022). Algeria's 2022 Finance Act introduces new tax measures. Retrieved November 21, 2023, [Online]. https://taxnews.ey.com/news/2022-0151-algerias-2022-finance-act-introduces-new-tax-measures (Accessed Date: November 10, 2024).

[22] Grant Thornton. (2022). Indirect tax - Algeria. Retrieved November 21, 2023, from Grant Thornton International Ltd, [Online]. https://www.grantthornton.global/en/insights/indirect-tax-guide/indirect-tax---Algeria/ (Accessed Date: November 10, 2024).

[23] TFX. (2023). Expat Algeria: US Tax Preparation Guide | US Expat Tax Service. Retrieved November 21, 2023, [Online]. https://www.taxesforexpats.com/country-guides/algeria/us-tax-preparation-in-algeria.html (Accessed Date: November 18, 2024).

[24] International Trade Administration. (2023). Algeria - Customs Regulations. Retrieved November 21, 2023, from International Trade Administration, [Online]. https://www.trade.gov/country-commercial-guides/algeria-customs-regulations (Accessed Date: November 18, 2024).

[25] EY. (2023). Algeria introduces Finance Law 2023, Key measures applicable to companies. Retrieved November 21, 2023, [Online]. https://www.ey.com/en_gl/technical/tax-alerts/algeria-introduces-finance-law-2023---key-measures-applicable-to (Accessed Date: November 18, 2024).

[26] PwC. (2023). Algeria - Overview. Retrieved November 21, 2023, [Online]. https://taxsummaries.pwc.com/algeria (Accessed Date: November 18, 2024).

[27] Orbitax. (2023). Tax Measures of Algeria's Finance Law for 2023 — Orbitax Tax News & Alerts. Retrieved November 21, 2023, [Online]. https://orbitax.com/news/archive.php/Tax-Measures-of-Algerias-Fina-51751 (Accessed Date: November 18, 2024).

[28] Auerbach, A. J., & Hines Jr, J. R., Taxation and economic efficiency. *In Handbook of public economics*, 2002, Vol. 3, pp. 1347-1421). Elsevier. https://doi.org/10.1016/S1573-4420(02)80025-8.

[29] SUPIT, S. S. B., LAMBE, R. Y., & Priscilia, W. E. K. U. , Fiscal Correction Analysis Of Profit And Loss Reports In Determining Corporate Income Tax At CV Karya Bhakti Sentosa. *Journal of Governance, Taxation and Auditing*, 2022, vol.1, No.2, pp. 234-240. https://doi.org/10.38142/jogta.v1i2.509.

[30] Gupta, S., & Newberry, K. , Determinants of the variability in corporate effective tax rates: Evidence from longitudinal data. *Journal of accounting and public policy*, 1997, vol.16, No.1, pp. 1-34. https://doi.org/10.1016/S0278-4254(96)00055-5.

[31] Chen, S., Chen, X., Cheng, Q., & Shevlin, T., Are family firms more tax aggressive than non-family firms?. *Journal of financial economics,* 2010, vol.95, No.1, pp. 41-61. https://doi.org/10.1016/j.jfineco.2009.02.003.

[32] Mooij, R. A. d. (2011). The Tax Elasticity of Corporate Debt: A Synthesis of Size and Variations, IMF Working Papers, 2011(095), A001. Retrieved Nov 21, 2023, from https://doi.org/10.5089/9781455253340.001.A001.

[33] Desai, M. A., & Dharmapala, D.,Corporate tax avoidance and firm value. *The review of Economics and Statistics*, 2009, vol.91, No.3, pp. 537-546. https://doi.org/10.1162/rest.91.3.537.

[34] Arin, K. P., Mamun, A., & Purushothman, N., The effects of tax policy on financial markets: G3 evidence. *Review of Financial Economics*, 2009, vol.18, No.1, pp.33-46. https://doi.org/10.1016/j.rfe.2008.05.001.

[35] Fullerton, D., & Metcalf, G. E. (2002). Tax incidence. *Handbook of public economics,* 4, 1787-1872. https://doi.org/10.1016/S1573-4420(02)80005-2.

[36] Graham, J. R., Raedy, J. S., & Shackelford, D. A., Research in accounting for income taxes. *Journal of Accounting and Economics,* 2012,

vol.53, No.1-2, pp. 412-434. https://doi.org/10.1016/j.jacceco.2011.11.006.

[37] Auerbach, A. J., Taxation and corporate financial policy. *Handbook of public economics*, 2002, vol.3, pp. 1251-1292. https://doi.org/10.1016/S1573-4420(02)80023-4.

[38] Mintz, J., & Smart, M., Income shifting, investment, and tax competition: theory and evidence from provincial taxation in Canada. *Journal of public Economics*, 2004, vol.88, No.6, pp. 1149-1168. https://doi.org/10.1016/S0047-2727(03)00060-4.

[39] Desai, M. A., & Dharmapala, D.,Corporate tax avoidance and high-powered incentives. *Journal of financial Economics*, 2006, vol.79, No.1, pp. 145-179. https://doi.org/10.1016/j.jfineco.2005.02.002.

[40] Devereux, M. P., Griffith, R., & Klemm, A., Corporate income tax reforms and international tax competition. *Economic policy*, 2002, vol.17, No.35, pp. 449-495. https://doi.org/10.1111/1468-0327.00094.

[41] Willis, M. J., Politics and Economics: Hydrocarbons, Clientelism and Corruption', Algeria: Politics and Society from the Dark Decade to the Hirak (Online ed.). *Oxford Academic*, 2023. https://doi.org/10.1093/oso/9780197657577.003.0005.

[42] Begga, C., & Merghit, A., Attempts to Industrial Reforms in Algeria: Do they fit the Logic of Globalization?. *Topics in Middle Eastern and North African Economies*, 2014, vol.16, [Online]. https://ecommons.luc.edu/meea/191/ (December 22, 2024).

[43] Bobrova, Anna & Abassi, Abderraouf., Instruments for adjusting Algeria's fiscal policy to market economy. *Finance and Management*, 2020, 31-44. doi: 10.25136/2409-7802.2020.2.30164.

[44] Moulay B. & Allam A., The effect of Investment in Human Capital on Economic Growth in Algeria. A standard study within the period of: 1970 – 2015. *Journal of Economics and Administrative Sciences*, 2019, vol.25, No.110, p. 332. https://doi.org/10.33095/jeas.v25i110.1610.

[45] Rahmane, A., Zergoune, M., & Lazhar, A. Z. Z. A., Green entrepreneurship in the Algerian renewable energy sector: opportunities and challenges. *Dirassat Journal Economic Issue*, 2019, vol.10, No.1, pp.349-364. https://doi.org/10.34118/djei.v10i1.214.

[46] Redjeb, Y., Kaabeche-Djerafi, K., Stoppato, A., & Benato, A., The IRC-PD Tool: A Code to Design Steam and Organic Waste Heat Recovery Units. *Energies*, 2021, vol.14, No.18, p.5611. https://doi.org/10.3390/en14185611.

[47] Rezgallah, E. A., & Bourenane, B., Structure and functionality of the control authority for the hydrocarbon sector in Algeria. *Dirassat Journal Economic Issue*,2018, vol.9, No.2, pp. 147-159. https://doi.org/10.34118/djei.v9i2.153.

[48] Benramdane, A., Oil price volatility and economic growth in Algeria. Energy Sources, Part B: *Economics, Planning, and Policy*, 2017, vol.12, No.4, pp.338-343.

[49] Camporeale, C., Del Ciello, R., & Jorizzo, M., *Beyond the Hydrocarbon Economy: The Case of Algeria.* Sustainable Energy Investment: Technical, Market and Policy Innovations to Address Risk, 2021, 165.

[50] Oxford Analytica. (2022). Algeria will make the most of the oil and gas windfall. *Emerald Expert Briefings,* (oxan-db). https://doi.org/10.1108/OXAN-DB268075.

Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

Sources of Funding for Research Presented in a Scientific Article or Scientific Article Itself

No funding was received for conducting this study.

Conflict of Interest

The authors have no conflicts of interest to declare.

APPENDIX

Table 14. Linear Regression Analysis for the First Hypothesis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.429[a]	.184	.180	.62817	2.123

a. Predictors: (Constant), Taxation Policy Type
b. Dependent Variable: Financial Performance of Companies

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.341	1	17.341	43.946	.000[b]
	Residual	76.948	195	.395		
	Total	94.289	196			

a. Dependent Variable: Financial Performance of Companies
b. Predictors: (Constant), Taxation Policy Type

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.867	.251		7.445	.000	1.372	2.361
	Taxation Policy Type	.522	.079	.429	6.629	.000	.367	.678

a. Dependent Variable: Financial Performance of Companies

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.3893	4.2700	3.5025	.29745	197
Residual	-1.73860	1.47933	.00000	.62657	197
Std. Predicted Value	-3.743	2.580	.000	1.000	197
Std. Residual	-2.768	2.355	.000	.997	197

a. Dependent Variable: Financial Performance of Companies

Source: Conducted by authors using SPSS v25

Table 16. Linear Regression Analysis for the Third Hypothesis

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.617[a]	.380	.377	.54738	2.008

a. Predictors: (Constant), Fiscal Incentives and Tax Reductions
b. Dependent Variable: Financial Performance of Companies

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35.862	1	35.862	119.688	.000[b]
	Residual	58.427	195	.300		
	Total	94.289	196			

a. Dependent Variable: Financial Performance of Companies
b. Predictors: (Constant), Fiscal Incentives and Tax Reductions

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.133	.220		5.150	.000	.699	1.567
	Fiscal Incentives and Tax Reductions	.698	.064	.617	10.940	.000	.572	.823

a. Dependent Variable: Financial Performance of Companies

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.8310	4.6216	3.5025	.42775	197
Residual	-1.68211	1.93183	.00000	.54598	197
Std. Predicted Value	-3.908	2.616	.000	1.000	197
Std. Residual	-3.073	3.529	.000	.997	197

a. Dependent Variable: Financial Performance of Companies