


Assessing the Effectiveness of Tax Reforms in Enhancing Tax Collection and Strengthening Public Revenues: An Empirical Study in Eastern Algeria

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Received: 06/11/2025

Accepted: 25/11/2025

Published: 27/12/2025

Abstract:

This study aims to assess the effectiveness of tax reforms in improving the efficiency of tax collection within the tax administrations of Eastern Algeria. Adopting a descriptive-analytical methodology, data were gathered from a sample of 155 agents working across various regional tax offices. Statistical analysis was performed using SPSS version 26. The findings revealed statistically significant indicators confirming the implementation of tax reform plans across these administrations. Moreover, the results showed a statistically significant positive relationship between the implementation of tax reforms and improved tax collection efficiency. Specifically, the application of reforms contributed to a 72.1% increase in collection efficiency, underscoring their positive impact on the overall tax system.

Based on these findings, the study proposes several key recommendations to enhance the effectiveness of tax reforms. First, it is crucial to sustain and expand the scope of reform efforts, with an emphasis on improving current tax structures to boost system efficiency. Second, the study highlights the importance of providing continuous training for tax administration staff to ensure effective implementation of reforms and maximize their outcomes. Third, the adoption of modern technologies such as automation and big data analytics is strongly recommended to improve tax collection mechanisms.

Keywords: Tax reforms; Tax collection; Public revenues; Eastern Algeria.

JEL Classification: H21; H26; H30; H71; O23.

Introduction

Taxation remains one of the primary sources of state revenue, which gives tax reforms particular importance as a strategic tool for enhancing the efficiency of the tax system and improving revenue collection. These reforms focus on increasing transparency, simplifying procedures, and strengthening taxpayer compliance. However, despite the significant reform initiatives undertaken, questions remain regarding their real impact, especially in regions such as Eastern Algeria that face notable economic and administrative challenges.

Since 1991, Algeria has introduced multiple tax reforms involving the restructuring of tax procedures, the creation of new administrative mechanisms, and the integration of digital technologies within tax administration. Yet the outcomes of these reforms remain ambiguous in areas affected by structural constraints. This ambiguity highlights the need for an empirical evaluation of the effectiveness of tax reforms in improving tax collection and strengthening public revenues in Eastern Algeria.

Based on this context, the central research problem can be formulated as follows: To what extent have tax reforms in Eastern Algeria contributed to improving tax collection and enhancing public revenues?

Research Hypotheses

To address the main research problem and its subsidiary questions, the following hypotheses have been formulated:

H1: There are statistically significant indicators reflecting the implementation of the tax reform plan within the tax administrations of Eastern Algeria.

H2: There is a statistically significant positive relationship between tax reforms and tax collection performance in the tax administrations of Eastern Algeria.

H3: Tax reforms have a statistically significant positive effect on the efficiency of tax collection in the tax administrations of Eastern Algeria.

Research Objectives

This study aims to analyze the current state of tax reforms in Algeria, with a particular focus on the eastern region. Its main objectives are:

- Identifying the key reform efforts undertaken to improve Algeria's tax collection system;

- Evaluating the effectiveness of tax reforms in enhancing tax collection mechanisms in Eastern Algeria;

- Assessing the role of modern technologies and digitization in streamlining tax procedures and improving collection efficiency;

- Analyzing the impact of tax reforms on public revenue generation and fiscal stability in Algeria.

Significance of the Study

This study is particularly significant in the Algerian context, as tax collection represents a key pillar of a sustainable economy and fiscal stability. By assessing the effectiveness of tax reforms, it provides deeper insights into the practical performance of these policies especially in Eastern Algeria, a region marked by specific economic and administrative challenges. The findings aim to guide policymakers in optimizing tax procedures, improving legislation, and leveraging modern technologies to strengthen tax administration.

Research Methodology

The study employs a dual methodological approach. Initially, the descriptive method is applied to review and synthesize the theoretical foundations related to tax reforms, tax collection, and public revenues. In the empirical phase, a descriptive–analytical method is utilized, based on primary data collected through questionnaires administered to tax officers in Eastern Algeria’s tax administrations. The gathered data are analyzed using appropriate statistical techniques to test the proposed hypotheses concerning the effectiveness of tax reforms in enhancing tax collection efficiency and strengthening public revenue generation.

1- Literature review

The study by (Harrach, 2012) explored the modernization of tax administration as a key variable of fiscal reform, employing a descriptive approach to examine comparative experiences and an analytical method to interpret the relationship between economic variables and the tax system. However, the study remained largely theoretical and did not empirically investigate the impact of reforms on actual tax collection performance. In contrast, the current study incorporates a robust field-based statistical analysis, drawing on the perspectives of 155 tax officers from various tax departments across Eastern Algeria, thereby enhancing the credibility and practical relevance of its findings. Similarly, (Ammar, 2014) study focused on the effects of broader economic reforms on the efficiency of the tax system between 1992 and 2010, using a macro-level analysis of tax indicators. However, it did not explore the causal relationship between reform implementation and improvements in tax collection at the local administration level. The present research addresses this gap by developing a clearly defined empirical model, demonstrating a statistically significant positive relationship between tax reform implementation and improved tax collection efficiency, with an explanatory power reaching 72.1% a strong indicator of reform effectiveness in enhancing actual tax performance.

The study by (Rejashtiya, 2019) evaluated tax reform based on economic indicators using an analytical approach and some statistical tools, yet it did not directly measure the impact of these reforms on tax collection performance. Conversely, the present study adopts a quantitative, data-driven approach to measure this impact precisely, supported by field data collected directly from tax administration employees adding both practical and professional rigor to its conclusions.

Regarding the digitalization and electronic collection dimension, the studies of (Adam, 2019) and (Silini, 2021) examined the effects of e-collection mechanisms on public revenues through case studies. However, they focused on isolated aspects of digital collection without integrating it into a broader tax reform framework. The current study, by contrast, incorporates the technological dimension within a comprehensive tax reform vision, recognizing digital transformation as a central axis for improving tax efficiency and emphasizing the importance of continuous training and institutional restructuring to support these reforms.

This study offers key contributions to understanding the effectiveness of tax reforms in Algeria. It provides a unique regional focus on Eastern tax administrations and applies a solid quantitative approach using SPSS 26 to analyze data from 155 respondents. The results show that tax reforms explain 72.1% of the improvement in tax collection efficiency. The study also adopts a comprehensive framework that considers institutional, legal, human, and digital factors, and concludes with practical recommendations for modernizing institutional structures, enhancing human resources, and promoting digital transformation to strengthen tax administration performance.

2- Theoretical Foundations of the Study

This section defines the key concepts of tax reform and collection efficiency, outlines their main dimensions, and highlights the institutional mechanisms that support effective tax administration within the fiscal system.

2-1 Tax Reform: Definition, Criteria, and Key Domains

This subsection defines tax reform by outlining its key criteria and main areas of application, thereby establishing the conceptual framework underpinning reforms within the tax system.

2-1-1 Definition of Tax Reform

Tax reform has been defined in multiple ways, the most prominent of which include: Tax reform is understood as a set of structural and deep-rooted transformations aimed at addressing systemic imbalances within the tax system. It seeks to enhance the system's capacity to fulfill the state's economic and social objectives while adapting to internal and external dynamics linked to public policy changes (Qadi, 2011, p. 249).

In another definition, tax reform refers to a mechanism for improving the existing fiscal system through both quantitative and qualitative adjustments that allow it to align with evolving economic and social conditions, thereby ensuring its sustained performance, equity, and efficiency (Chaoui, 2016, p. 52).

Tax reform has also been described as the deliberate introduction of targeted changes within the tax system to correct inefficiencies, and to redirect tax policy toward greater effectiveness and fairness in alignment with the state's socio-economic development goals (Ammar S. , 2013, p. 27).

2-1-2 Criteria for Evaluating Tax Reform

Evaluating tax reform is an analytical process that examines the extent to which fiscal changes align with the state's economic and social objectives. This assessment is based on objective criteria that reflect the effectiveness of the reformed system, the most significant of which include: (Ammar S. , 2013, p. 31)

- Tax Equity: The reform's success depends on achieving horizontal equity fairness among taxpayers with similar capacities and vertical equity adjusting obligations according to ability to pay. Balancing these aspects strengthens public trust and ensures a fair distribution of the tax burden;

- Economic Efficiency: The restructured tax system should stimulate economic activity, direct resources toward productive sectors, encourage investment, and minimize distortions in individual and corporate decisions;

- Flexibility and Adaptability: An effective tax system must adjust to internal and external economic fluctuations to remain aligned with changing economic conditions;

- Clarity and Transparency: Tax legislation should be clear and accessible, reducing disputes, limiting discretionary interpretation, and promoting voluntary compliance;

- Fiscal Viability: Tax reform should ensure stable and sufficient revenues for the state while maintaining economic balance and avoiding excessive taxpayer burden;

- Administrative Efficiency: Simplified procedures, lower administrative costs, and strong institutional capacity are key indicators of reform success, as the system's effectiveness depends on the ability of tax institutions to apply legislation efficiently.

2-1-3 Domains of Tax Reform

The 1991 Algerian tax reform comprehensively restructured the fiscal framework to address systemic inefficiencies, modernize regulations and

administration, and align taxation with economic realities. It focused on enhancing tax collection efficiency and ensuring a fair distribution of the fiscal burden.

-Reform of Taxes Imposed under the Algerian Fiscal System: The 1991 tax reforms led to a radical restructuring of the Algerian fiscal framework, marked by the introduction of several new taxes that brought the system closer to international standards. These changes resulted in the adoption of three key taxes with significant international dimensions. The following subsections present and analyze these taxes, examining the rationale for their adoption and their impact on the fiscal system as a whole: (Ghmima, 2021, pp. 134-135)

a. The Personal Global Income Tax (IRG) Introduced by the 1991 Finance Act, Article 1 of the Direct Taxes and Equivalent Duties Code established “a single annual tax on total net income.” This tax is levied on the taxpayer’s (natural person’s) aggregate net income and is structured as a progressive direct tax, with rates increasing in proportion to income levels;

b. Corporate Income Tax (IBS): Introduced in the 1991 reforms, this tax applies to the total profits of companies and other legal entities. Its main objectives were to integrate public enterprises into the tax system alongside private companies and to tax profits comprehensively. Since its introduction, it has undergone amendments to improve corporate taxation, encourage investment, reduce business tax burdens, and secure necessary state revenue;

c. Value Added Tax (VAT): Introduced by the 1991 Finance Act, VAT replaced outdated production and service duties. It is an indirect tax levied on the value added at each production stage, calculated as the difference between total production and intermediate consumption. Taxable entities include producers, wholesalers, retailers, and importers, with certain exemptions. The taxable base covers the value of goods, services, or works performed, including related costs and duties, excluding VAT itself.

-Reform of Tax Administration Structures: The reform of tax administration structures constitutes a strategic step toward establishing an integrated administrative model. This reform involves a comprehensive review of the components of tax administration and benchmarking them against best administrative practices to guide reform decisions. The model is built upon effective standards that aim to enhance administrative performance, primarily through the establishment of more efficient and responsive tax administration structures. Administrative reform entails redesigning the organizational and functional components of the tax authority using modern administrative techniques adopted by leading institutions, while tailoring these standards to align with current realities and emerging

global trends. It also seeks to equip the tax system to face future challenges effectively. This reform process takes into account both external environmental variables and the internal capacity and resources available to the administration. According to (Abbad, 2022, pp. 68–69), the overarching goals of this reform focus on enhancing the operational efficiency and effectiveness of tax administration by removing performance-related obstacles such as time delays, procedural complexity, and excessive costs. These reforms also aim to streamline administrative procedures, strengthen the functional competencies of tax officials, and align administrative practices with contemporary governance requirements, thereby ensuring a more modern and responsive tax administration

-Tax Regimes: As part of Algeria’s tax reforms, two main tax regimes were introduced: the real regime and the lump-sum regime: (Beljelali & Beniya, 2018, pp. 203–204) The real regime applies to taxpayers with annual turnover exceeding 8,000,000 DZD (2022 Finance Act) and requires comprehensive bookkeeping to report income, revenues, and expenses accurately, making it suitable for large-scale businesses. The lump-sum regime, targeting taxpayers with turnover below 8,000,000 DZD, involves simplified record-keeping of purchases and sales and a basic tax declaration, allowing estimated taxable income. This regime facilitates compliance for small businesses while reducing administrative burdens for both taxpayers and the tax authority.

2-2 Tax Collection: Definition, Objectives, Methods, and Guarantees

This section examines tax collection as a core pillar of the fiscal system, outlining its definition, primary objectives, key methods, and the legal and procedural safeguards that ensure its effectiveness in sustaining state revenues.

2-2-1 Definition of Tax Collection

Tax collection refers to the set of procedures and mechanisms through which tax liabilities are transferred from the taxpayers to the public treasury, in accordance with established legal and fiscal frameworks (Mehrazzi, 2008).

The term encompasses all activities aimed at transferring du amounts from taxpayers to the state’s coffers. Based on this definition, tax collection can be considered the final stage in the tax cycle, whereby all preceding phases are directed toward enabling the successful completion of this stage (Slimani & Kara, 2023, p. 339).

2-2-2 Objectives of Tax Collection

The process of tax collection plays a pivotal role across various economic, social, and political domains. Its principal objectives can be summarized as follows: (Mebarki, 2021, p. 1076)

- Supporting Economic Stability: By ensuring a continuous flow of funds to the state budget, it secures the financial sustainability necessary for implementing public policies;
- Achieving Fiscal Balance: Tax collection contributes to providing the state's annual revenues, thus promoting equilibrium between available financial resources and government expenditures;
- Combating Tax Evasion: Through the implementation of legal measures and sanctions, this objective aims to deter illegal practices that result in non-compliance with tax obligations;
- Fostering Economic Development: By encouraging savings and curbing unproductive consumption through progressive taxation, and by employing tax instruments to incentivize investment via subsidies and exemptions;
- Protecting Public Health: Through the imposition of high taxes on goods harmful to health such as those contributing to chronic diseases thereby discouraging their consumption and enhancing societal well-being.

2-2-3 Methods of Tax Collection: Effective Mechanisms for Revenue Generation

Tax collection constitutes a fundamental function of the tax administration, securing government revenue from economic activities while employing systematic methods to ensure efficient transfer of funds from taxpayers to the public treasury.

a. Direct Remittance: Direct remittance refers to the voluntary payment of taxes by the taxpayer, without the need for coercive action by the tax authority. It represents the standard method of tax settlement and can take two main forms: (Boujriou & Harraq, 2022, p. 75)

- Full One-Time Payment: Where the taxpayer settles the full amount in a single installment;

- Advance Installment Method: Considered one of the most efficient approaches, this method accommodates the taxpayer's financial capacity when a lump-sum payment is not feasible. It also ensures a regular inflow of cash to the treasury. Tax is paid in periodic installments throughout the fiscal year, calculated based on the previous year's tax liability, with a final adjustment made at a set deadline;

b. Withholding at Source: Under this method, the tax is withheld directly from the taxpayer's income by a third party typically the employer at the time of salary or dividend payment. The withheld amounts are then transferred to the public treasury. In this case, the generation of income not its receipt triggers the tax obligation. This method is commonly applied to wages, salaries, and income from securities (Feroum, 2021, pp. 48–49).

2-2-4 Guarantees of Tax Collection

To safeguard the recovery of the state's fiscal rights, the Algerian legislator has established a set of legal guarantees that ensure the priority of public treasury claims and compel taxpayers to meet their obligations. These guarantees include: (Issa, 2021, pp. 20–21)

- Preferential Right of Tax Claims: This principle establishes tax claims as having priority over other debts, enabling the public treasury to pursue and recover its dues, even in cases of taxpayer bankruptcy;

- Tax Liability is Inherent, Not Demanded: According to this principle, the taxpayer is legally obliged to settle their tax dues spontaneously, without requiring prior notification or intervention by the tax administration;

- Administrative Sanctions: In cases of payment default, the tax administration may impose administrative measures such as garnishment of profits or freezing of bank accounts to compel compliance;

- Pay-Then-Claim Principle: This rule stipulates that the taxpayer must first fulfill the payment of the tax liability before challenging its amount or legality. It ensures the continuity of treasury operations, even if the taxpayer lodges an appeal or dispute regarding the tax.

2-3 Tax Reform Efforts to Improve Collection Methods

As part of its tax reform efforts, Algeria has pursued the digitalization of tax administration, emphasizing electronic tax collection. To support economic growth and improve efficiency, multiple e-government platforms and digital initiatives have been implemented to streamline tax procedures:

- Creation of the Tax Administration Website: The official website of the General Directorate of Taxes (<https://www.mfdgi.gov>) serves as a central component of Algeria's tax reform, providing a vital digital gateway for taxpayer engagement and access to a variety of administrative services (Bouzekri, 2021, p. 462).

- Online Tax Identification Number (TIN) Registration: To simplify administrative procedures and improve accessibility for economic operators, the General Directorate of Taxes launched a remote TIN registration service on May 8, 2016 (under Internal Directive No. 1120 of 2016). This digital service allows pre-verified taxpayers to obtain their TIN through the platform (<https://nifenligne.mfdgi.gov.dz>), fostering digital interaction and minimizing reliance on traditional paperwork (Bouzekri, 2021, p. 462).

- E-Tax Services: As part of the broader tax system modernization, the tax administration has been integrated with information and communication technologies, providing a comprehensive online portal with access to tax laws, finance acts, practical guides, tax bulletins, and other resources. The

platform fosters information dissemination and facilitates interactive engagement between the tax authority and taxpayers (Ramadlia & Goudri, 2020, p. 475).

- Service Reference Framework System: Established under General Instruction No. 01 dated June 7, 2004, this system aims to improve service quality across tax offices. It includes internal and external benchmarks to ensure efficient service delivery—from personalized reception to communication via email and telephone, including accommodations for taxpayers with special needs (Saidi & Kouman, 2020, p. 266).

- "Jibayatek" E-Filing and Payment System: This platform is a key component of Algeria's tax reform and enables large taxpayers under the Directorate of Large Enterprises (DGE) to file and pay taxes remotely in a user-friendly digital environment. It incorporates user feedback to continuously improve service delivery through adaptive tools and functionalities (Toumi & Benamara, 2019, p. 240).

- "Moussahamatak" E-Declaration and Payment Portal: Designed to expand access in regions lacking physical tax centers, this portal allows taxpayers to submit declarations and payments online. It plays a critical role in simplifying procedures and improving efficiency in tax revenue collection.

2-4 The Relationship Between Tax Reforms, Tax Collection, and the Enhancement of Public Revenues

Tax reforms particularly the adoption of digital technologies and the restructuring of tax systems significantly enhance tax collection efficiency. Improving transparency, accountability, and simplifying procedures contributes to higher tax compliance and stronger revenue mobilization (Gupta, 2014, p. 237). The capacity of tax institutions, including human resources, technological infrastructure, and legal frameworks, remains a key determinant of administrative effectiveness (Slemrod, 2019, p. 45). Moreover, digital tools such as electronic filing and online payment systems reduce tax evasion, raise compliance rates, and improve transparency, thereby strengthening revenue collection (Auriol & Warlters, 2014, p. 45).

This theoretical framework can be illustrated by examining the evolution of the Algerian tax system over the period 1990–2019. The tax reforms enacted in 1992 represented a pivotal turning point in the trajectory of tax collection, both from petroleum-related sources and from sectors outside hydrocarbons. Prior to the reforms, ordinary tax collection was relatively weak, amounting to only 71.2 billion DZD in 1990, reflecting a limited tax base and inefficient collection mechanisms. Following the 1992 reforms, a marked improvement in tax collection was observed, with ordinary collections rising to 121.4 billion DZD in 1993, an increase of 50.2 billion DZD compared to the pre-reform period. This growth underscores the

expansion of the tax base and the strengthening of collection instruments. Nevertheless, petroleum revenues continued to dominate ordinary collections throughout the period, accounting for over 60.58% of total public revenues between 1990 and 2019, indicating that the reforms did not fundamentally alter the composition of public revenues in favor of non-hydrocarbon taxation (Bouhafis & Benchellate, 2021, p. 300).

3- The Field Aspect of Assessing the Effectiveness of Tax Reforms in Improving Tax Collection and Enhancing Public Revenues of Tax Administrations in Eastern Algeria

This fieldwork aims to assess the impact of implemented tax reforms on tax collection performance and public revenue. The evaluation is based on an empirical study of tax officers across several administrations in Eastern Algeria, analyzing their insights and perceptions.

3-1 Methodological Procedures of the Study

The methodological framework underpins the study's scientific rigor, following established standards for field research. It involved defining the population and sampling method, developing and validating the measurement tool, and applying advanced data analysis techniques suited to the research context.

3-1-1 Study Population and Sample

The study targeted tax officers in Eastern Algerian administrations to evaluate the effectiveness of tax reforms on collection efficiency and public revenue. Using purposive sampling, 158 questionnaires were distributed, yielding 155 valid responses (98.25%), reflecting strong engagement and relevance to their professional duties.

3-1-2 Data Collection Tool

The study employed a structured questionnaire, developed from a comprehensive review of literature on tax reforms and tax collection efficiency. It comprised two sections: the first on tax reforms (15 items) and the second on tax collection efficiency (15 items), with responses measured on a five-point Likert scale. The instrument was validated and refined by academic experts and senior tax officers, and tested for reliability and robustness using advanced statistical methods.

3-1-3 Reliability Testing of the Measurement Instrument

The questionnaire's internal consistency was assessed using Cronbach's Alpha, a widely recognized measure of reliability. The results are summarized in the following table:

Table number (01): Cronbach's Alpha Coefficient Values

Dimension	Number Items	Cronbach's Alpha	Stability Level
Tax Reforms	15	0.783	Good Reliability
Tax Collection	15	0.754	Good Reliability
Full Questionnaire	30	0.768	Moderate Reliability

Source: Prepared by the researcher based on SPSS V. 26 outputs.

These findings indicate that the measurement instrument demonstrates an acceptable level of statistical reliability. All Cronbach's Alpha values exceed the widely accepted minimum threshold of 0.70, which confirms that the data collected via this questionnaire can be deemed dependable for hypothesis testing and achieving the objectives of the study.

3-2 Descriptive Statistics and Hypothesis Testing

This section analyzes respondents' orientations across the questionnaire's two axes and statistically tests the previously formulated hypotheses to validate or refute them based on empirical evidence.

3-2-1 Description the Demographic Characteristics of the Study Sample

Table number (02): Demographic Characteristics of the Study Sample

Variable	Category	Frequency	Percentage
Professional Rank	Technical Staff	91	58.71%
	Administrative Staff	64	41.29%
Age Group	21 to less than 31 years	38	24.52%
	31 to less than 41 years	77	49.68%
	41 years and above	40	25.80%
Educational Level	Vocational Degree	12	7.74%
	Licence	95	61.29%
	Master's Degree	40	25.81%
	Doctorate	8	5.16%

Source: Prepared by the researcher based on SPSS V. 26 outputs

The demographic distribution (Table number 2) reflects a balanced representation of professional and academic backgrounds, supporting the objectivity of the analysis on tax reforms and collection efficiency. Technical staff, directly involved in tax operations, constitute 58.71% of the sample, while administrative staff represent 41.29%, contributing to policy execution and oversight. Age-wise, the majority are 31–41 years (49.68%), followed by 41 and above (25.80%) and 21–30 years (24.52%), combining experience with adaptability. Regarding education, 61.29% hold a bachelor's degree, 25.81% à master's, 7.74% vocational, and 5.16% doctoral degrees, ensuring a diverse knowledge base and professional expertise.

3-2-2 Descriptive Measures of the Study Variables

This section provides a descriptive analysis of respondents' average ratings on the questionnaire items. Mean scores from the five-point Likert scale were interpreted according to the following categories:

[1–1.80]: Strongly Disagree; [1.80–2.60]: Disagree; [2.60–3.40]: Somewhat Agree; [3.40–4.20]: Agree; [4.20–5]: Strongly Agree;

- Descriptive Statistics for the Tax Reforms

The data in Table number 3 indicate strong overall agreement among respondents regarding the effectiveness of the implemented tax reforms.

Table number (03): Descriptive Statistics for the Tax Reforms

Statement	Mean	Std. Dev.	Comment
Tax reforms in Algeria aim to improve the efficiency of the tax system.	4.28	0.61	Strongly Agree
Tax reforms have simplified administrative procedures for taxpayers.	4.12	0.68	Agree
Tax reforms have enhanced transparency in fiscal dealings.	4.05	0.75	Agree
Tax reforms have helped reduce tax evasion and improve tax compliance.	4.21	0.64	Strongly Agree
The adoption of modern technologies in the tax system has improved the delivery of tax services.	4.36	0.59	Strongly Agree
Tax reforms have narrowed the gap between taxpayers and the tax administration.	3.97	0.81	Agree
Recent legislative amendments have enhanced the effectiveness of the tax system.	4.19	0.66	Agree
Tax reforms have improved the fairness of tax burden distribution among taxpayers.	3.88	0.78	Agree
The modernization of the tax system has improved the investment climate and attracted investors.	4.15	0.74	Agree
Tax reforms have reduced the complexities facing taxpayers.	3.85	0.83	Agree
Recent amendments have boosted state revenue from indirect taxes.	3.90	0.76	Agree
New tax policies contribute to stimulating the formal economy and reducing the informal sector.	4.02	0.70	Agree
The modernization of the tax system has improved trust between taxpayers and the tax administration.	4.11	0.69	Agree
Tax reforms have expanded the tax base and increased the number of registered taxpayers.	3.93	0.82	Agree
Tax reforms contribute to financial sustainability and help achieve balance in the public budget.	4.09	0.71	Agree
Overall Mean for the Tax Reforms	4.07	0.72	Agree

Source: Prepared by the researcher based on SPSS V. 26 outputs.

The findings presented in Table number (03) clearly demonstrate a broad consensus among respondents on the effectiveness of tax reforms in improving the tax system. Statements related to technology, transparency, and administrative simplification received the highest mean scores, reflecting the critical role of digital transformation in enhancing tax system efficiency.

Conversely, items addressing the fairness of tax burden distribution and the expansion of the tax base received relatively lower mean scores, highlighting areas that require further policy attention and development. This indicates a need for targeted actions to achieve a more equitable and effective expansion of the tax base.

- Descriptive Statistics for the Tax Collection

This section introduces the descriptive analysis of the tax collection axis, highlighting respondents' evaluations of the reforms and their perceived impact on the efficiency of tax collection.

Table number (04): Descriptive Statistics for the Tax Collection

Statement	Mean	Std. Dev.	Comment
Tax reforms have contributed to improving tax collection processes.	4.31	0.62	Strongly Agree
Digitization within the tax administration has reduced errors in tax collection.	4.44	0.65	Strongly Agree
Incentive measures have contributed to increased taxpayer compliance.	4.12	0.71	Agree
Strict penalties for tax evasion have enhanced the effectiveness of tax collection.	4.05	0.77	Agree
Improving collection mechanisms has led to an increase in state tax revenues.	4.28	0.66	Strongly Agree
Reforms have helped reduce the gap between assessed and actual tax collection.	3.95	0.79	Agree
Electronic payment facilities have improved tax collection.	4.18	0.74	Agree
Awareness campaigns have enhanced tax compliance culture and increased collection.	3.98	0.83	Agree
The development of human resources in the tax administration has improved collection efficiency.	4.15	0.76	Agree
Reforms have contributed to reducing tax disputes between the administration and taxpayers.	3.85	0.88	Agree
Modern collection policies have helped reduce tax evasion rates.	4.12	0.70	Agree
Enhanced transparency in the tax system has increased trust between taxpayers and the tax administration, leading to greater collection.	4.19	0.68	Agree
Reducing bureaucratic procedures has improved the speed of tax collection.	3.88	0.81	Agree

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Tax incentives encourage taxpayers to settle their obligations within the set deadlines.	3.92	0.79	Agree
Improved tax collection has positively impacted the state's general revenues.	4.36	0.63	Strongly Agree
Overall Mean for the Tax Collection	4.12	0.68	Agree

Source: Prepared by the researcher based on SPSS V. 26 outputs

The results shown in Table number (04) indicate that the tax collection reforms have led to notable improvements, particularly in operational efficiency and taxpayer compliance. Statements related to digitization, human capital development, and incentive mechanisms emerged as the key contributors to enhancing the collection process. This highlights digital transformation and continuous training of human resources as fundamental pillars in the success of these reforms. However, responses to items concerning dispute reduction between taxpayers and the administration, and the enhancement of transparency, showed some variation. This suggests that further efforts are required to bridge the communication gap and build stronger trust between stakeholders in the tax system.

3-3 Hypothesis Testing

The hypotheses of this study were examined using a set of statistical tests, selected in accordance with the nature of each proposed hypothesis.

3-3-1 Testing the First Hypothesis:

The first hypothesis posits the following: There are statistically significant indicators of the implementation of the tax reform plan in the tax administrations of Eastern Algeria. To verify this, both the null and alternative hypotheses were formulated as follows:

H₀: There are no statistically significant indicators of the implementation of the tax reform plan in the tax administrations of Eastern Algeria at the 0.05 significance level.

H₁: There are statistically significant indicators of the implementation of the tax reform plan in the tax administrations of Eastern Algeria at the 0.05 significance level.

Table number (05): T-Test Results for the Implementation of the Tax Reform Plan in Eastern Algeria

Variable	T-Value	Significance Level	Evaluation
Implementation of the Tax Reform Plan	58.32	0.000	Statistically significant

Source: Prepared by the researcher based on SPSS V. 26 outputs.

As shown in Table number (05), the T-value for the variable "implementation of the tax reform plan" is 58.32, with a p-value of 0.000, which is below the 0.05 threshold. This result provides strong statistical

evidence against the null hypothesis. Consequently, the null hypothesis is rejected in favor of the alternative hypothesis. This confirms the presence of statistically significant indicators regarding the implementation of the tax reform plan in the tax administrations of Eastern Algeria.

3-3-2 Testing the Second Hypothesis

The second hypothesis proposes the following: There is a statistically significant positive relationship between tax reforms and tax collection in the tax administrations of Eastern Algeria. To test this assumption, the following null and alternative hypotheses were formulated:

H₀: There is no statistically significant positive relationship between tax reforms and tax collection in the tax administrations of Eastern Algeria at the 0.05 significance level.

H₁: There is a statistically significant positive relationship between tax reforms and tax collection in the tax administrations of Eastern Algeria at the 0.05 significance level.

Table number (06): Regression ANOVA, Correlation, and Determination Coefficients Relationship between Tax Reforms and Tax Collection in Eastern Algeria

Source	Sum Square	Degrees Freedom	Mean Square	F	Sig.	R	R ²
Regression	34.212	1	34.212	312.67	0.000	0.763	0.582
Residual	15.842	153	0.064				
Total	50.054	154					

Source: Prepared by the researcher based on SPSS V. 26 outputs.

The results presented in Table number (06) show a calculated F-value of 312.674, exceeding the critical value of 3.84, with a p-value of 0.000, confirming the model's validity. The correlation coefficient (R = 0.763) indicates a strong positive relationship between tax reforms and tax collection, with R² = 0.582, meaning 58.2% of the variance in tax collection is explained by tax reforms. This confirms the existence of a statistically significant positive relationship between tax reforms and tax collection in the tax administrations of Eastern Algeria.

3-3-3 Testing the Third Hypothesis

The third hypothesis proposes the following: There is a statistically significant positive effect of tax reforms on tax collection in the tax administrations of Eastern Algeria. To verify this hypothesis, the following null and alternative hypotheses were formulated:

H₀: There is no statistically significant positive effect of tax reforms on tax collection in the tax administrations of Eastern Algeria at the 0.05 significance level.

H₁: There is a statistically significant positive effect of tax reforms on tax collection in the tax administrations of Eastern Algeria at the 0.05 significance level.

Table number (07): Significance Test of the Simple Linear Regression Coefficients Effect of Tax Reforms on Tax Collection

Model	Coefficients	Standard Error	Bêta	T	Sig.
Constant (A)	0.832	0.170		3.514	0.000
Regression Coefficient (B)	0.689	0.042	0.625	23.256	0.000

Source: Prepared by the researcher based on SPSS V. 26 outputs.

As indicated in Table number (07), how that both the constant (A) and regression coefficient (B) are statistically significant ($p < 0.05$). The regression coefficient ($B = 0.689$) indicates that a one-unit increase in tax reforms results in a 68.9% increase in tax collection. The T-statistic (23.256) confirms that tax reforms exert a statistically significant positive effect on tax collection in the tax administrations of Eastern Algeria.

Conclusion

At the conclusion of this study, it can be asserted that the tax reforms implemented in Algeria in recent years aimed at modernizing the tax system and improving tax collection mechanisms have demonstrated a certain degree of effectiveness in enhancing fiscal performance, particularly through the integration of digital technologies in tax administration. However, the findings indicate that several challenges continue to hinder the full achievement of these reforms' intended objectives, especially in regions such as Eastern Algeria, where complex economic and administrative conditions prevail. Despite the considerable efforts made by the state to develop the tax system, persistent barriers such as low tax compliance, widespread tax evasion, and limited tax awareness in certain areas continue to undermine the effectiveness of these reforms. Furthermore, the full reliance on modern technologies still requires further development and refinement to ensure equitable access to digital systems and to enhance transparency in tax transactions.

Study Recommendations

Based on the findings of this study, a number of recommendations can be proposed as follows:

- Conduct targeted awareness campaigns to educate taxpayers on the importance of compliance and its impact on the national economy, focusing on regions with low tax literacy;

- Expand and optimize digital tax systems and e-collection portals to ensure transparency, ease of use, and efficient handling of taxpayer feedback;
- Strengthen monitoring of sectors prone to tax evasion, particularly the informal economy, using advanced technologies for tracking and analyzing tax data;
- Upgrade Algeria's digital tax infrastructure by improving software, user interfaces, and accessibility to enhance taxpayer engagement;
- Broaden tax reforms to include indirect taxes and property taxation, and align legislation with international standards for consistency and efficiency;
- Enhance inter-agency coordination among key government bodies to ensure effective and harmonized implementation of tax reforms;
- Introduce targeted tax incentives for investors to encourage job creation, productivity, and expansion of the tax base;
- Promote tax equity by designing balanced tax structures that reflect taxpayers' ability to pay, reducing evasion and fostering a sense of fairness.

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