

# Exploring the Tax Revenue–Economic Development Nexus in Iraq During 2014–2019: Evidence from World Bank and Maddison Project Data

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**ABSTRACT:** This study examines the relationship between tax revenue and economic development in Iraq during 2014–2019, using annual indicators of tax revenue as a share of GDP, GDP per capita, GDP growth, population, estimated tax revenue per capita, and estimated total tax revenue. The period is restricted to 2014–2019 because complete tax revenue observations for Iraq are available only for these years in the dataset used for the analysis. The study applies descriptive statistics, trend analysis, Pearson correlations, and simple OLS regressions to explore whether changes in taxation were associated with selected development indicators. The findings show that Iraq's tax revenue remained low and unstable, rising from 0.91% of GDP in 2014 to a peak of 2.69% in 2017 before declining to 1.34% in 2019. GDP per capita, measured in current US dollars, declined during the period, while GDP per capita, measured in purchasing-power-parity terms, increased, indicating that conclusions depend partly on the development measure used. Correlation and regression results suggest weak and measurement-sensitive associations between taxation and economic development indicators. The evidence, therefore, supports a cautious interpretation: Iraq showed limited and unstable tax capacity during 2014–2019, and economic growth did not automatically translate into sustained domestic revenue mobilization. The results highlight the importance of strengthening tax administration, widening the tax base, improving compliance, and reducing dependence on volatile revenue sources.

**Keywords:** Tax Revenue; Economic Development; GDP; Fiscal Capacity, Tax Revenue.

## I. INTRODUCTION

Tax revenue is a central element of fiscal capacity because it provides governments with the financial resources needed to deliver public services, invest in infrastructure, support social programs, and implement long-term development plans. A stable and effective tax system also strengthens the relationship between the state and citizens by linking public revenue collection with public accountability and service provision. In many developing and resource-rich economies, however, taxation remains weak because governments often rely heavily on natural-resource income rather than broad-based domestic revenue. This can reduce the incentive to modernize tax administration, widen the tax base, and improve taxpayer compliance.

Iraq represents an important case for examining these issues. The Iraqi economy is strongly influenced by oil revenue, which has historically shaped the structure of public finance and reduced the relative importance of non-oil tax revenue. At the same time, Iraq has experienced significant macroeconomic volatility, institutional challenges, security-related disruptions, and changes in economic activity. These factors can affect both the government's ability to collect taxes and the willingness or capacity of taxpayers to comply. As a result, domestic tax revenue has remained low relative to the size of national output, raising

concerns about fiscal sustainability and the ability of the state to finance development independently of volatile oil income.

Understanding the relationship between tax revenue and economic development in Iraq is therefore important for both empirical and policy reasons. Economic growth does not automatically lead to higher tax revenue if the tax base is narrow, if a large part of economic activity is informal, or if tax administration is weak. Similarly, increases in population or GDP per capita may not translate into stronger fiscal capacity unless institutions are able to convert economic activity into reliable public revenue. For this reason, the study examines tax revenue alongside several development indicators, including GDP per capita, GDP growth, population, and estimated tax revenue per capita.

This study focuses on Iraq during 2014–2019. The period is selected on methodological grounds: the available tax revenue series begins in 2014, and the analysis is restricted to years before 2020. The purpose is not to claim a long-run causal relationship, but to provide an empirically grounded examination of how tax revenue moved in relation to indicators of economic development during the years for which all required variables are available. The paper contributes a compact statistical assessment using descriptive statistics, visual trend analysis, Pearson correlations, and simple OLS regressions. Because the sample includes only six annual observations, the findings are interpreted cautiously as exploratory evidence rather than definitive causal results.

## II. LITERATURE REVIEW

Tax revenue is widely treated in the public finance literature as a core instrument for financing development, strengthening state capacity, and reducing dependence on volatile external or resource-based revenues. The IMF emphasizes that domestic revenue mobilization in developing countries requires both sound tax policy and effective tax administration, because revenue gains depend not only on rates but also on compliance, enforcement, and the breadth of the tax base [1]. Besley and Persson add that developing countries often collect less tax because of narrow formal sectors, weak institutions, limited administrative capacity, and low taxpayer compliance norms [2].

This argument is particularly relevant to Iraq because the economy is resource-rich and fiscal outcomes are strongly influenced by oil revenue. Crivelli and Gupta show, using a panel of 35 resource-rich countries, that higher resource revenues are associated with weaker domestic non-resource tax effort; they estimate that each additional percentage point of GDP in resource revenue is associated with about a 0.3 percentage point of GDP reduction in domestic non-resource revenue [3]. For an oil-dependent economy such as Iraq, this suggests that strong oil receipts can reduce incentives to broaden and modernize the tax system.

A second strand of the literature links tax capacity to long-run development. Gaspar, Jaramillo, and Wingender examine 139 countries and identify a tax-to-GDP tipping point of about 12.75 percent, above which growth and development outcomes tend to improve; they estimate that countries just above the threshold can have GDP per capita about 7.5 percent higher after ten years [4]. Although the threshold should not be interpreted mechanically, it provides a useful benchmark because Iraq's observed tax revenue ratio during 2014–2019 was far below this level.

Other studies stress that the composition of taxation matters. McNabb uses the ICTD/UNU-WIDER Government Revenue Dataset for a panel of 100 countries and finds that the growth effects of tax structures differ by income group; revenue-neutral increases in income taxes are generally associated with lower long-run GDP growth, while reductions in trade taxes do not always produce positive growth effects [5]. This supports a cautious interpretation of simple tax-growth relationships and justifies the present study's use of descriptive and exploratory methods rather than strong causal claims.

The reform literature also indicates that revenue mobilization is usually achieved through combined policy and administrative measures. Akitoby, Baum, Hackney, Harrison, Primus, and Salins analyze 55 large tax revenue mobilization episodes in emerging markets and low-income countries and find that indirect tax reforms, reductions in exemptions, and strengthened compliance functions are central to durable gains [6]. Abdel-Kader and de Mooij similarly argue that tax reform should balance efficiency, equity, and political feasibility to support inclusive growth rather than revenue collection alone [7].

Country-specific evidence reinforces these general findings. The World Bank's Iraq Economic Monitor reports that Iraq's non-oil tax revenue was among the lowest in the world and links weak domestic revenue to poor tax compliance, collection problems, customs exemptions, and low growth affecting income tax [8]. Therefore, the present study's focus on Iraq during 2014-2019 is consistent with the wider literature: the key question is not only whether tax revenue moved with GDP indicators, but whether Iraq had the institutional and structural capacity to convert economic activity into stable domestic tax revenue.

Additional empirical work between 2010 and 2021 strengthens this interpretation. Pessino and Fenochietto use stochastic frontier analysis to estimate tax capacity and tax effort, showing that countries differ in how much revenue they can realistically collect given their structural and institutional characteristics [9]. Keen and Mansour add that revenue mobilization in developing regions is affected by trade liberalization, tariff decline, and corporate tax competition, which means that governments need broader domestic tax bases rather than relying on narrow or externally exposed sources [10], [11].

Cross-country studies also show that taxable capacity is not determined by GDP alone. Le, Moreno-Dodson, and Bayraktar estimate tax capacity for 110 countries and emphasize the importance of development level, trade openness, productive structure, and institutional conditions [12]. Addison and Levin similarly find that tax revenue in Sub-Saharan Africa is shaped by economic structure, trade, aid, agriculture, and administrative capacity, which supports the view that tax performance depends on both macroeconomic and governance factors [13].

Later tax-effort research reinforces the institutional argument. Fenochietto and Pessino examine 113 countries and identify development, trade, education, inflation, inequality, corruption, and ease of collection as central determinants of tax capacity [14]. Bird, Martinez-Vazquez, and Torgler argue that legitimate and responsive institutions are essential for stronger tax effort because taxpayers are more likely to comply when they trust the state and perceive public finance as accountable [15].

A related group of studies focuses on tax gaps, reform implementation, and data quality. Mascagni, Moore, and McCluskey show that developing countries often lose revenue through exemptions, evasion, weak administration, and extractive-sector bargaining problems [16]. Prichard, Cobham, and Goodall highlight the need for reliable government revenue data before drawing conclusions about tax performance [17]. Morrissey, Prichard, and Torrance find that the relationship between aid and taxation is not mechanically negative or positive, suggesting that domestic revenue outcomes depend on country context and the type of support received [18]. Moore adds that tax administration reform can improve organizational capacity, but may not automatically increase revenue or strengthen statebuilding unless policy and political incentives are addressed [19].

Other studies connect tax revenue with economic structure, growth, financial development, and compliance. Angeles Castro and Ramirez Camarillo find that GDP per capita, industrial structure, and civil liberties are positively associated with tax revenue in OECD countries, while agriculture and some investment variables reduce the tax ratio [20]. Macek finds that different tax instruments have different growth effects, confirming that the composition of taxation matters for development analysis [21]. The IMF emphasizes that improving compliance is central to revenue mobilization, fairness, and statebuilding [22]. Balima, Combes, and Minea show that sovereign bond market participation can encourage domestic tax mobilization and reduce reliance on trade taxes in developing countries [23].

For the present Iraq-focused study, these additional findings imply that low tax revenue during 2014-2019 should be interpreted as a tax-capacity and institutional issue rather than a simple income-growth issue. Iraq's oil dependence, narrow non-oil tax base, administrative limitations, and macroeconomic volatility make the international literature on resource-rich and developing economies especially relevant to the interpretation of the empirical results.

**Table 1.** Comparison of selected studies on tax revenue and economic development, 2010-2021.

Study / source	Scope and method	Main findings	Relevance to this study
IMF (2011) [1]	Policy review of revenue mobilization in developing countries.	Revenue gains require sound tax policy, strong	Frames tax revenue as a development-financing and fiscal-capacity issue.

Study / source	Scope and method	Main findings	Relevance to this study
Besley & Persson (2014) [2]	Conceptual and empirical discussion of taxation in developing countries.	administration, and wider compliance. Low taxation is linked to weak institutions, narrow tax bases, informality, and compliance problems.	Explains why income growth may not automatically raise tax revenue.
Crivelli & Gupta (2014) [3]	Panel of 35 resource-rich countries, 1992-2009.	Resource revenue can crowd out domestic non-resource tax effort.	Highly relevant to Iraq's oil-dependent fiscal structure.
Gaspar et al. (2016) [4]	Cross-country threshold analysis using 139 countries, 1965-2011.	A tax-to-GDP level around 12.75% is associated with stronger development outcomes.	Provides a benchmark showing how low Iraq's tax ratio was in 2014-2019.
McNabb (2018) [5]	Panel of 100 countries using the Government Revenue Dataset.	Growth effects of tax structures differ by income group; tax-growth links are not uniform.	Supports cautious interpretation of simple correlations and OLS results.
Akitoby et al. (2018) [6]	Dataset of 55 tax mobilization episodes in emerging and low-income economies.	Durable gains often combine indirect tax reforms, fewer exemptions, and compliance improvements.	Highlights policy channels that could strengthen Iraq's revenue mobilization.
Abdel-Kader & de Mooij (2020) [7]	IMF working paper on tax design for inclusive growth.	Tax policy should balance efficiency, equity, political feasibility, and revenue needs.	Connects taxation with inclusive development rather than revenue collection alone.
World Bank (2020) [8]	Iraq Economic Monitor, country-specific fiscal analysis.	Iraq's non-oil tax revenue is very low and constrained by compliance and collection weaknesses.	Provides direct context for Iraq before and during the 2014-2019 period.
Pessino & Fenochietto (2010) [9]	Stochastic frontier model for 96 countries.	Tax effort varies according to taxable capacity and structural characteristics.	Supports benchmarking Iraq against potential tax capacity rather than GDP growth alone.
Keen & Mansour (2010a) [10]	Sub-Saharan Africa revenue dataset focused on trade reform.	Trade liberalization reduces tariff reliance and requires replacement with domestic taxes.	Relevant because Iraq needs a broader non-oil domestic tax base.
Keen & Mansour (2010b) [11]	Analysis of corporate taxation and globalization in Sub-Saharan Africa.	Corporate tax competition and exemptions can weaken revenue mobilization.	Highlights risks from tax incentives and weak corporate tax enforcement.
Le et al. (2012) [12]	Cross-country analysis of 110 countries, 1994-2009.	Tax capacity depends on income level, trade, productive structure, and institutions.	Provides a comparative framework for Iraq's low tax-to-GDP ratio.
Addison & Levin (2012) [13]	Panel study of 39 Sub-Saharan African countries, 1980-2005.	Tax revenue is shaped by economic structure, agriculture, trade, aid, and governance.	Supports inclusion of structural and administrative explanations for Iraq.

Study / source	Scope and method	Main findings	Relevance to this study
Fenochietto & Pessino (2013) [14]	Stochastic frontier model for 113 countries.	Tax capacity is associated with development, trade, education, inflation, inequality, corruption, and collection costs.	Shows why weak institutions can keep revenue below potential.
Bird et al. (2014) [15]	Institutional model of tax effort in developing countries.	Legitimacy, responsiveness, and governance increase tax effort.	Explains why taxpayer compliance and trust matter for Iraq's tax system.
Mascagni et al. (2014) [16]	Policy study on developing-country revenue mobilization.	Tax gaps arise from evasion, exemptions, administrative constraints, and extractive-sector issues.	Directly relevant to Iraq's narrow and oil-dependent revenue base.
Prichard et al. (2014) [17]	Construction and assessment of the ICTD Government Revenue Dataset.	Reliable, comparable revenue data are necessary for valid tax analysis.	Supports the paper's cautious treatment of a short tax series.
Morrissey et al. (2014) [18]	Cross-country study of aid and taxation using ICTD data.	Aid does not have a simple, uniform effect on taxation.	Reinforces the need to avoid mechanical conclusions about fiscal behavior.
Moore (2014) [19]	Review of tax reform and statebuilding in Anglophone Africa.	Administrative reforms can create stronger tax agencies but may not automatically raise revenue.	Useful for interpreting why administrative reform is necessary but insufficient.
Angeles Castro & Ramirez Camarillo (2015) [20]	Static and dynamic panel analysis of 34 OECD countries, 2001-2011.	GDP per capita, industry, and civil liberties raise tax revenue; agriculture weakens it.	Shows that sectoral structure affects tax collection.
Macek (2014) [21]	Regression analysis of OECD countries, 2000-2011.	Different tax types have different effects on economic growth.	Supports examining tax composition, not only total tax revenue.
IMF (2015) [22]	Policy paper on tax compliance and revenue administration.	Noncompliance reduces revenue, fairness, and trust in the tax system.	Highlights compliance as a key policy area for Iraq.
Balima et al. (2016) [23]	Panel analysis of 119 developing countries using propensity score matching.	Sovereign bond market participation can promote domestic tax mobilization and reduce trade-tax instability.	Connects financial development with stronger domestic revenue mobilization.

The expanded table compares 23 studies and reports. It shows that the literature generally agrees that tax revenue depends on institutional capacity, tax-base diversification, compliance, economic structure, and revenue administration, not only on GDP growth. This supports the cautious interpretation of Iraq's short 2014-2019 tax-revenue series.

### III. HYPOTHESES / RESEARCH QUESTIONS

The central research question is: how did Iraq's tax revenue performance relate to indicators of economic development during 2014-2019? Three sub-questions guide the analysis. First, did tax revenue as a share of GDP increase consistently during the period? Second, how did tax revenue per capita move relative to GDP per capita, GDP growth, and population? Third, are the observed statistical relationships strong enough to support broad conclusions, or should they be treated as exploratory evidence?

#### IV. PROPOSED METHOD

The analysis uses annual data for Iraq from 2014 to 2019. The dependent fiscal variable is tax revenue as a percentage of GDP. Economic development is represented by GDP per capita in current US dollars, GDP per capita in purchasing-power-parity constant international dollars, GDP growth, and population. The empirical indicators are drawn from World Bank World Development Indicators and Our World in Data/Maddison-based GDP per capita sources, as consolidated in the uploaded empirical dataset [24], [25], [26]. Estimated tax revenue per capita is calculated as GDP per capita in current US dollars multiplied by tax revenue as a percentage of GDP and divided by 100. Estimated total tax revenue is then obtained by multiplying estimated tax revenue per capita by population and expressing the result in billions of US dollars.

The empirical strategy is deliberately conservative because the tax series contains only six annual observations. First, descriptive statistics summarize the central tendency and dispersion of each variable. Second, figures are used to examine the direction and instability of tax and development indicators over time. Third, Pearson correlations assess the strength and direction of bivariate relationships. Finally, simple OLS regressions estimate exploratory associations between tax revenue as a percentage of GDP and selected development indicators. These regressions should not be interpreted as causal tests, because the sample is too small for strong econometric inference.

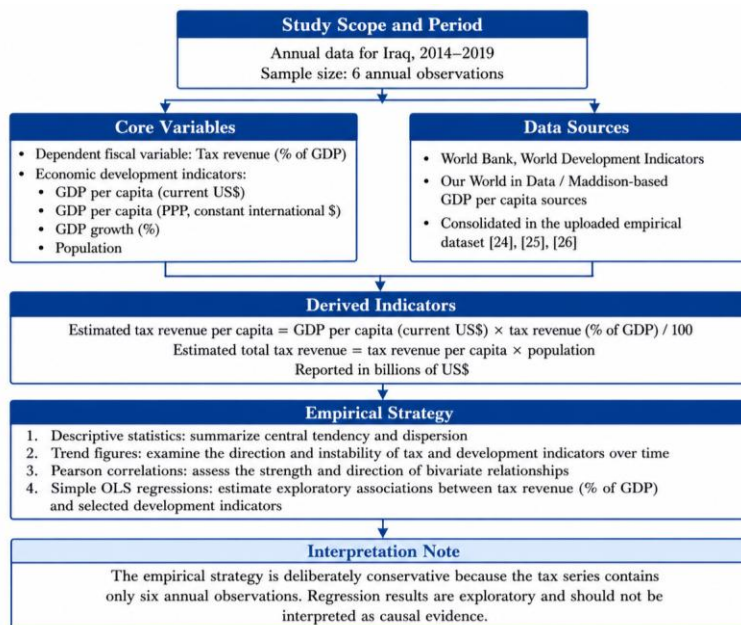


FIGURE 1. Empirical design of the study.

This figure summarizes the study design, including the sample period, main variables, data sources, derived indicators, and conservative empirical strategy.

Table 2. Variables used in the empirical analysis, Iraq, 2014-2019.

Year	Tax revenue (% GDP)	GDP (current US\$)	GDP (PPP)	GDP growth (%)	Population	Tax (US\$)	Tax revenue (US\$ bn)
2014	0.91	6,249.4	13,536.8	2.26	36,550,059	56.9	2.08
2015	1.32	4,440.1	13,516.0	2.61	37,560,535	58.6	2.20
2016	2.08	4,334.4	15,016.1	13.79	38,469,627	90.2	3.47

2017	2.69	4,759.3	14,417.6	-1.82	39,337,353	128.0	5.04
2018	1.98	5,646.7	14,456.2	2.63	40,265,624	111.8	4.50
2019	1.34	5,671.9	14,910.2	5.51	41,192,171	76.0	3.13

Tax pc is estimated from GDP per capita in current US dollars and tax revenue as a share of GDP. Estimated total tax revenue is expressed in billions of US dollars. Explanation: This table summarizes the study variables and shows how tax revenue per capita and total tax revenue were estimated from GDP per capita, population, and the tax-to-GDP ratio.

## V. RESULTS

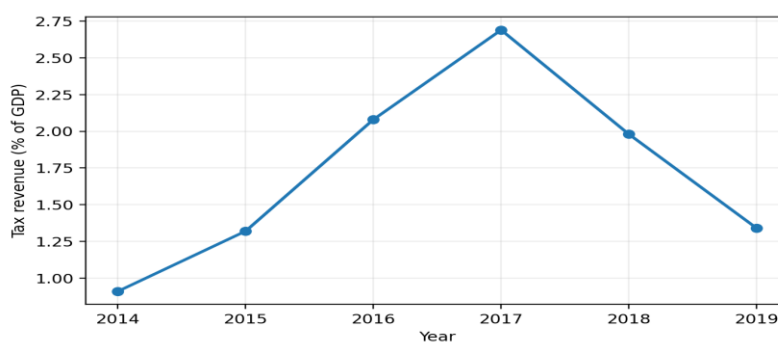
The empirical results show that Iraq’s tax revenue performance during 2014-2019 was low and unstable. Tax revenue increased from 0.91% of GDP in 2014 to 2.69% in 2017, but then fell to 1.34% in 2019. The average tax revenue ratio for the period was approximately 1.72% of GDP. This trajectory suggests that the tax system experienced a temporary improvement in revenue mobilization up to 2017, but this improvement was not sustained through the end of the period.

Economic development indicators moved unevenly over the same years. GDP per capita in current US dollars declined from about US\$6,249 in 2014 to about US\$5,672 in 2019. By contrast, GDP per capita measured in PPP-adjusted constant international dollars increased from about 13,537 to 14,910. This difference is analytically important because the current-dollar series is sensitive to exchange-rate and price movements, while the PPP-based series provides a more stable measure of real purchasing power. For this reason, both measures are retained in the analysis rather than treating one as a simple substitute for the other.

**Table 3.** Descriptive statistics, 2014-2019.

Variable	N	Mean	Minimum	Maximum	Std. dev.
Tax revenue (% of GDP)	6	1.72	0.91	2.69	0.65
GDP per capita (current US\$)	6	5,183.63	4,334.40	6,249.40	780.10
GDP per capita (PPP)	6	14,308.84	13,516.03	15,016.09	651.15
GDP growth (%)	6	4.16	-1.82	13.79	5.27
Population	6	38,895,895	36,550,059	41,192,171	1,721,149
Tax revenue per capita (US\$)	6	86.91	56.87	128.03	28.79
Estimated tax revenue (US\$ billion)	6	3.40	2.08	5.04	1.20

The statistics describe the six annual observations retained for the analysis. Explanation: The statistics indicate that Iraq's tax revenue ratio was low on average and varied noticeably during the short 2014-2019 period.



**FIGURE 2.** Tax revenue as a percentage of GDP, 2014-2019.

This figure shows the instability of Iraq's tax revenue ratio, which rose until 2017 and then declined by 2019.

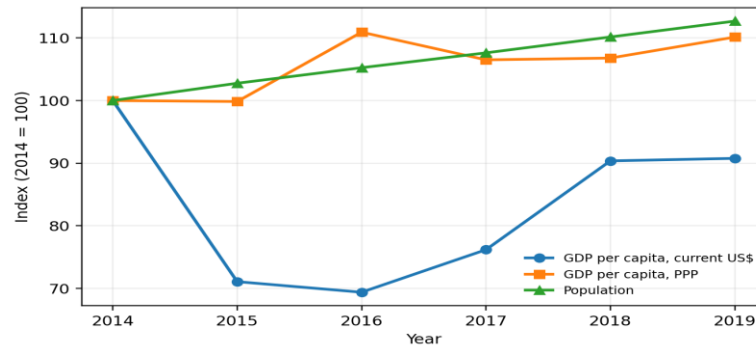


FIGURE 3. Indexed development indicators, 2014 = 100.

This figure indexes the main development indicators to 2014 = 100, making it easier to compare their relative movements over time.

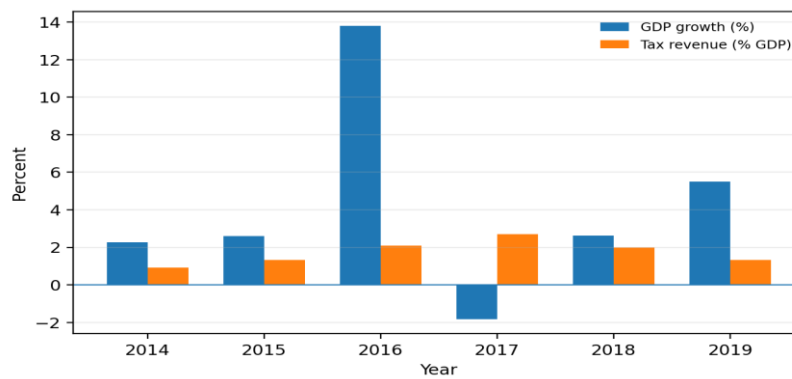


FIGURE 4. GDP growth and tax revenue as percentages, 2014-2019.

This figure compares GDP growth with tax revenue as percentages, showing that annual growth changes did not consistently translate into higher tax revenue.

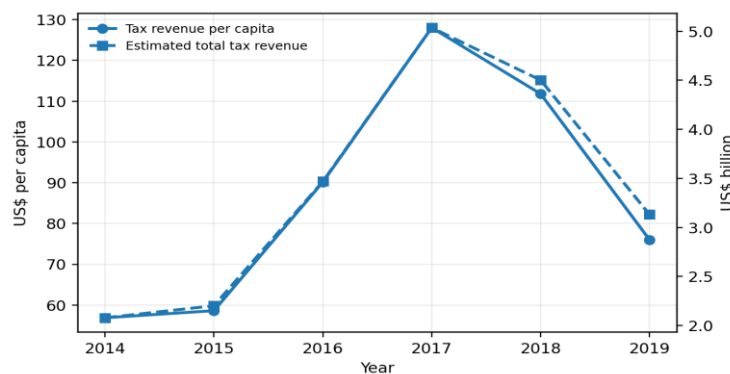


FIGURE 5. Estimated tax revenue per capita and total estimated tax revenue, 2014-2019.

This figure presents estimated tax revenue per capita and total estimated tax revenue, highlighting the 2017 peak and the subsequent decline.

Population increased steadily from approximately 36.6 million people in 2014 to 41.2 million in 2019. In principle, a growing population can expand the potential tax base. However, the data do not show a

continuous increase in tax revenue as a share of GDP. This finding implies that demographic growth alone did not automatically produce stronger tax collection. Administrative capacity, compliance, the size of the informal economy, the composition of output, and the role of oil-related public finance are likely to be important contextual factors.

Estimated tax revenue per capita increased from about US\$56.9 in 2014 to US\$128.0 in 2017 before falling to about US\$76.0 in 2019. Estimated total tax revenue followed the same pattern, rising from roughly US\$2.08 billion in 2014 to US\$5.04 billion in 2017, then declining to about US\$3.13 billion in 2019. The year 2017 therefore appears as the strongest observation in the short sample, while the subsequent decline indicates that tax capacity remained fragile.

**Table 4.** Correlations with tax revenue as a share of GDP.

Variable compared with tax revenue (% of GDP)	Pearson correlation
GDP per capita (current US\$)	-0.534
GDP per capita (PPP)	0.527
GDP growth (%)	-0.064
Population	0.393
Tax revenue per capita (US\$)	0.936
Estimated tax revenue (US\$ billion)	0.916

Correlations are based on six annual observations. They indicate bivariate association, not causality. Explanation: These correlations show the direction and strength of simple relationships with tax revenue, but they should not be treated as proof of causation.

**Table 5.** Exploratory OLS regressions.

Model	Intercept	Slope	R-squared	p-value	N
Tax revenue (% GDP) ~ GDP per capita (current US\$)	4.016984	-0.000443	0.285	0.2756	6
Tax revenue (% GDP) ~ GDP per capita (PPP)	-5.788071	0.000525	0.278	0.2823	6
Tax revenue (% GDP) ~ Population	-4.037728	0.000000	0.155	0.4405	6

The dependent variable is tax revenue as a percentage of GDP. The regressions are exploratory because N = 6. Explanation: The regression results are used only to describe patterns because the small number of yearly observations does not support strong statistical inference.

## VI. DISCUSSION

The correlation results reinforce the importance of measurement choice. Tax revenue is negatively correlated with GDP per capita measured in current US dollars, but positively correlated with GDP per capita measured in PPP terms. This contrast does not mean that one relationship is necessarily correct and the other is incorrect; rather, it shows that different measures of economic development capture different dimensions of Iraq's macroeconomic environment. The current-dollar measure reflects nominal and exchange-rate conditions, while the PPP measure is closer to real purchasing-power capacity. The weak relationship with GDP growth suggests that annual growth did not translate mechanically into higher tax revenue mobilization.

The OLS results should be interpreted as exploratory evidence only. The simple regressions produce modest explanatory power and statistically weak slope estimates. The small number of observations makes it inappropriate to draw strong causal conclusions. Nevertheless, the results remain useful for identifying patterns: tax revenue was not strongly or consistently linked to growth, income, or population during the short pre-2020 period for which tax data are available. The evidence therefore points to a structural fiscal issue rather than a purely cyclical one.

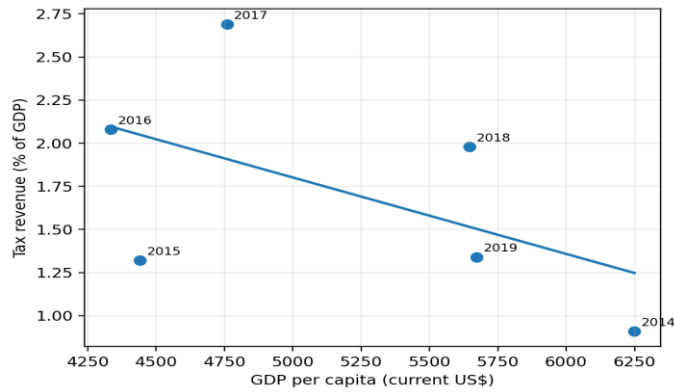


FIGURE 6. Tax revenue and GDP per capita measured in current US dollars.

This figure illustrates the relationship between tax revenue and current-dollar GDP per capita, which is affected by nominal and exchange-rate conditions.

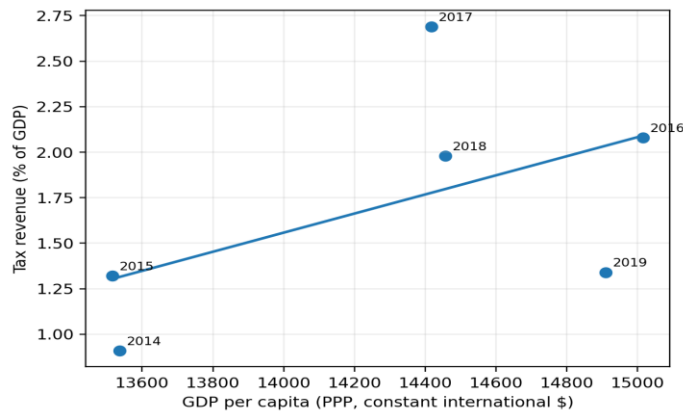


FIGURE 7. Tax revenue and GDP per capita measured in PPP terms.

This figure illustrates the relationship between tax revenue and PPP-adjusted GDP per capita, which better reflects real purchasing-power conditions.

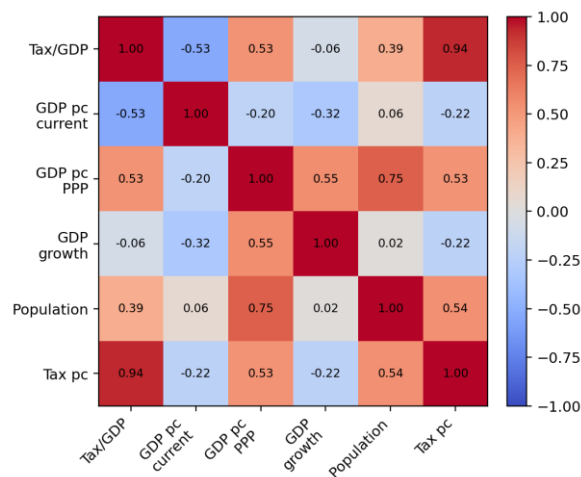


FIGURE 8. Correlation matrix for the main variables.

This matrix summarizes the direction and strength of correlations among the main variables; the results are descriptive and should not be interpreted as causal evidence.

Taken together, the evidence indicates that Iraq's tax system during 2014-2019 did not fully convert economic activity and population growth into stable domestic tax revenue. The temporary increase in tax revenue up to 2017 suggests that improvement was possible, but the decline after 2017 shows that such improvement was not durable. The findings are consistent with the view that tax capacity depends not only on income and growth, but also on institutional quality, enforcement, administrative modernization, taxpayer compliance, and the diversification of the revenue base.

## VII. CONCLUSION

This study examined the relationship between tax revenue and economic development in Iraq during 2014-2019. The analysis was restricted to this period because it is the interval for which tax revenue observations are available alongside the required economic indicators. The main finding is that Iraq's tax revenue as a share of GDP remained low and unstable. Tax revenue improved between 2014 and 2017, but the increase was not sustained, and the ratio declined again by 2019.

The findings also show that economic development cannot be represented by a single indicator. GDP per capita in current US dollars declined during the period, while GDP per capita in PPP terms increased. This divergence explains why the paper uses both indicators. The current-dollar measure reflects nominal macroeconomic pressures, while the PPP measure better captures real purchasing-power conditions. Despite these changes, neither income growth, GDP growth, nor population growth produced a stable increase in tax revenue relative to GDP.

The policy implication is clear: strengthening tax capacity in Iraq requires more than economic expansion. It requires stronger tax administration, broader and more diversified tax bases, improved compliance, and reduced reliance on narrow or volatile revenue sources. Improving non-oil tax revenue would help support fiscal sustainability and provide more predictable resources for development policy.

The principal limitation is the small sample size. With only six annual observations, the statistical results should be interpreted as descriptive and exploratory rather than causal. Future research should extend the analysis using longer fiscal datasets from national sources, IMF fiscal statistics, or specialized government-revenue datasets. A longer series would make it possible to apply more advanced econometric methods and to test whether the patterns observed here persist over a broader historical period.

## Author Contributions

The author conducted the conceptualization, methodology, data analysis, investigation, writing, review, editing, and final approval of the manuscript.

## Funding

This research received no external funding.

## Data Availability

The dataset will be available from the author upon reasonable request.

## Conflicts of Interest

The author declares no conflict of interest.

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