Measuring and analyzing the impact of digital government development on increasing tax revenues - the UAE experience with the possibility of benefiting from it in Iraq for the period (2004-2024)

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Abstract: Iraq suffers from a low percentage of tax contributions to public revenues , as the tax system still relies on traditional methods in determining taxpayers' tax bases and collection methods, in addition to to The major problems that it suffers from, which lead to the loss of a large part of these revenues , and the problem on which the research was based is, To what extent does the digital government contribute to increasing tax revenue collection ? The aim is to demonstrate the role of the digital government in improving the tax revenue collection process in the UAE and the possibility of applying its experience in Iraq to achieve a high level of tax collection. The study concluded that the UAE has succeeded in achieving a complete digital transformation in the field of digital government , and concluded with a set of recommendations, the most important of which is the necessity of adopting a digital identity system in Iraq to reduce the phenomenon of tax evasion
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Key words:

Introduction : Tax revenues are considered an important financial resource that many countries rely on to finance their public budgets. Since taxes are a mandatory duty, many taxpayers, whether individuals or companies, seek to evade paying them, which requires governments to adopt the best means to enable them to accurately identify taxpayers' bases and determine the taxes due from them. Following the major technological developments witnessed in the current era and the entry of digital technology into various fields, many countries around the world, including the UAE, have rushed to transform to digital government due to the numerous advantages it provides in facilitating and controlling their financial and non-financial activities. In the field of public finance, many digital systems and technologies have emerged that operate within the scope of digital government, which has greatly helped to increase tax compliance, reduce evasion and fraud against tax administrations, accurately determine taxes on taxpayers, and collect them at a lower cost for the government. These digital systems also provide an easy experience for taxpayers, enabling them to pay their taxes from anywhere without the need to visit departments and wait for long periods, which has enhanced awareness among taxpayers and contributed to expanding the tax base and thus increasing revenue collection. Tax.

First :The importance of research

The importance of the research comes from The increasing role of digital transformation in governments in enhancing the efficiency and transparency of tax collection systems , Its role in improving tax compliance and reducing tax evasion through the use of modern digital technologies , by studying the UAE's experience in this field. To provide a successful model that Iraq can Benefit from it in his digital government And its tax system, which contributes to enhancing tax revenues and increasing their contribution to public revenues.

secondly : Research problem

The research problem is represented in the following questions

Does digital government contribute to enhancing the efficiency of tax collection-

How much does it contribute to increasing tax revenue collection through -digitizing tax systems Abandoning traditional methods , which enhances tax compliance and expands the tax base.

Third : Research hypothesis

The research is based on the following hypothesis

(Digital government helps In finding new methods It contributes effectively to raising tax collection by increasing efficiency and reducing tax evasion, which positively reflects on increasing its contribution to public revenues)

Fourth : Research objective

The research aims to

-Explaining the role of digital government in improving the process of collecting tax revenues in the UAE .

-Demonstrating the extent of the impact of digital technologies on the efficiency of the tax system and reducing tax evasion .

-A statement on the possibility of applying the UAE experience in Iraq Taking into account the challenges and opportunities available for its implementation.

Chapter One : The theoretical framework of digital government

Firstly : Concept of Digital Government

The term digital government refers to the transformation of government operations from traditional (paper-based) methods to digital methods through the adoption of modern digital technologies, to facilitate the provision of government services, enhance interaction between government, businesses and citizens, and provide effective and easy-to-access channels via the Internet, which improves the efficiency of government operations. This represents an important step towards facilitating procedures and improving the quality of services provided to citizens, and enhancing efficiency and transparency in government work to be more responsive and effective in the digital age .
And to benefit from it In facilitating the presentation These services meet the growing needs of the community .

Second: The requirements for establishing a digital government: The transformation requires Towards a digital government , a number of basic requirements are available, the most important of which are:-

1- Availability of the legal framework: A set of laws and legislation must be adopted to support and regulate the work of the digital government. In line with the requirements of the digital environment, such as privacy policy laws , data protection, electronic signatures, etc. [1].

2- Availability of advanced infrastructure: Digital government requires the establishment of a strong and secure infrastructure , such as communication networks, data centers, digital service platforms, and others [2] .

3-Qualifying and training human cadres : The skills of government human cadres must be developed in the fields of technology and digital transformation to raise their capabilities and enable them to manage and operate new digital services [3] .

4- Spreading digital awareness in society To empower and educate members of society on how to use the digital services provided by the government . And increase their interaction and reliability in it .

5 - Cybersecurity: The government must adopt advanced methods to combat cyber attacks on its data via the Internet. In most countries, including the UAE, independent bodies have been established to undertake data protection tasks [4] .

6 - Providing the necessary financial funding : Sufficient financial resources must be allocated to finance the requirements of the digital government and ensure its long-term sustainability [5] .

Second: Digital government systems : Digital government requires the adoption of many digital systems, the most important of which are:

1- Digital Identity System : It is a digital system that gives every citizen or private entity a unique digital identity within the digital government, through which they can access the digital system and benefit from the digital services provided by the government. This system provides: Ease and high security For companies Citizens can access government services provided online. [6] .

2- Digital document management systems : They digitize documents and files . Government records and their management electronically Which enables the government to create, store, retrieve and share documents .

3- Online payment systems : The digital government adopts several online payment systems that facilitate the payment of taxes and government fees for citizens and companies digitally, which accept different payment methods such as

[1](Samir Yahiaoui, Malika Boukhari: Requirements for implementing digital transformation and its role in improving local government performance, Journal of Economic Studies, Vol. 16, No. 3, Cairo, 2022, p. 459.

[2](Abdul Majeed Al-Khudimi, "The Role of Digitalization of Financial Transactions in Improving the Performance of Financial Institutions," Journal of Economic Studies, Vol. 19, No. 3, Egypt, 2022, p. 7.

[3](Ahmed Kazim Baris and Roud Qassim Jabr, "Digital Transformation Technology and its Impact on Improving the Strategic Performance of Banks," Iraqi Journal of Administrative Sciences, Vol. 16, No. 65, 2022, p. 210.

[4]((Mohammed Ismail, Cybersecurity in the Banking Sector, Arab Monetary Fund, Policy Brief, Issue 4, 2019, pp. 2-5)

[5]((Ibrahim Mohammed Hatmalah, Raja Adnan Al-Saifi, Requirements of Digital Management and its Role in Improving Job Performance, Journal of Statistics and Probability Applications, Vol. 11, No. 1, Kingdom of Bahrain, 2022, pp. 360-361)

[6](Ramzi Tabaybeh, Digital Identity for Improving Banking Services, Algerian Journal of Social and Human Sciences, Vol. 11, No. 2, Algeria, 2023, pp. 20-25.

credit cards , debit cards, digital money transfer, and digital wallets, providing convenience and high flexibility for taxpayers [7] .

4 - Open data platforms: Digital government work includes providing digital platforms . For open data , Which provides easy access to government data, which enhances oversight and transparency .

5- Mobile applications: The digital government creates its own digital applications . On mobile It facilitates access to government services on smartphones and tablets , Such as government banking applications through which bank accounts can be managed, providing an easy user experience and expanding the scope of digital financial inclusion [8] .

Data protection systems : Digital government requires the adoption of effective cybersecurity systems to protect government and private data from increasing electronic threats [9] .

Third: Explaining the relationship between digital government and tax revenues:

towards digital government offers many benefits that serve the interest of enhancing public revenues, especially tax revenues, by facilitating the provision of public services , improving efficiency , and increasing citizen participation in the digital system. This helps expand the scope of digital financial inclusion and deliver government services to the excluded and remote areas, which expands the tax base and makes it easier for them to pay their financial dues to the government. It also helps integrate a large part of the informal economy into the tax system, as The digital identity system helps monitor all income and expenditure transactions carried out by the identity holder, which... It works to prevent fraud, protect privacy and ensure the integrity of online transactions, thus monitoring all taxable transactions . Tax digitization systems, such as the Mirsal system in the UAE and the global ASYCUDA system, which is adopted by more than 100 countries around the world to digitize their customs tax systems, provide accuracy, ease and efficiency in collecting tax revenues and curb tax evasion and corruption, which contributes to effectively raising the tax revenues of those countries [10] .

Government digital platforms and mobile applications also provide access to government services and information 24 hours a day , 7 days a week, allowing citizens to complete transactions , access services, and interact with government agencies at any time . From anywhere without the need to visit government departments, which gives citizens more comfort and transparency and reduces waiting times, which enhances general satisfaction with government services, strengthens confidence in government institutions and encourages citizens to pay their tax dues. The digital government also simplifies administrative processes, reduces paperwork and eliminates manual tasks required for tax revenue collection, which reduces government costs . It achieves efficiency for tax administration by collecting the largest amount of taxes at the lowest cost. Digital government also helps increase transparency and accountability in government operations and provides greater visibility into government operations . Through the open data system, citizens can view these operations and compare government services provided with taxes paid, which reduces the incentive to evade taxes and raises their level of tax awareness [11] .

Fourth: Stages of development of digital government in the UAE

In the year (2000), the Dubai e-Government project was established, which is considered the first digital government in the region . It played a major role in digitizing government operations and dispensing with traditional methods . Then , in the year (2001), the digital payment gateway was established, known as (e-Dirham), which enabled citizens and companies to pay their taxes digitally. Then, the digital government developed in the Emirates, as the (Mersal) system for customs clearance was launched in the year (2003), facilitating the customs clearance process and paying customs taxes, which played a major role in increasing tax revenues in the Emirates. Then in the year (2010) the digital government was launched in the Emirates. The official portal of the UAE government, through which the regions of the Emirates are linked to the central government. It has helped provide more advanced digital financial services, such as mobile applications and digital wallets that allow users to make payments online. In 2016, the UAE Digital Government launched... The digital identity system , which played a major role in reducing duplication and

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[7] (Ali Abdullah Shaheen, Electronic Payment Systems and Their Regulatory Mechanisms, Islamic University, Gaza, 2009, p9.

[8]) Jassim Al-Manai, Mobile Payment Systems: Dimensions and Required Standards, Arab Committee for Payment and Settlement Systems, Arab Monetary Fund, 2013, pp. 2-7)

[9]((Shamaran Obaid Khalaf Al-Amir, The Impact of Digital Transformation on Accounting Disclosure in Iraqi Commercial Banks in Light of Cybersecurity Risks, Al-Kut Journal of Economic and Administrative Sciences, Vol. 14, Issue 45, 2022, pp. 495-496)

[10](Fatih Miroud, Digitalization of Public Finance in Arab Countries, Algerian Journal of Public Finance, Vol. 12, Issue 1, 2022, p. 554)

[11](Hisham Salem Abu Amera, Measuring the Impact of Digitalization on Improving Egyptian Tax Revenue, Faculty of Political Science and Economics Journal, Issue 20, Egypt, 2023, pp. (368-369).

fraud and reducing tax evasion , then in In 2019, it was launched. Blockchain to exchange digital documents with government departments Without submitting paper documents, the so-called "Year of the Fiftieth" was launched, meaning the start of the next fifty years in developing the infrastructure for the digital government . Consequently, the UAE became the first Arab country to not use paper 100% [12] . The UAE ranked first globally in the index of low tax evasion. [13] . Figure (1) shows the main axes of the digital government in the Emirates [14] .

Figure (1) shows the main axes of the digital government in the Emirates.

Main axes of digital government					
Laws and policies	Building digital capabilities	Participation and communication	Infrastructure and services	Unified Digital Enablers	unified digital platform
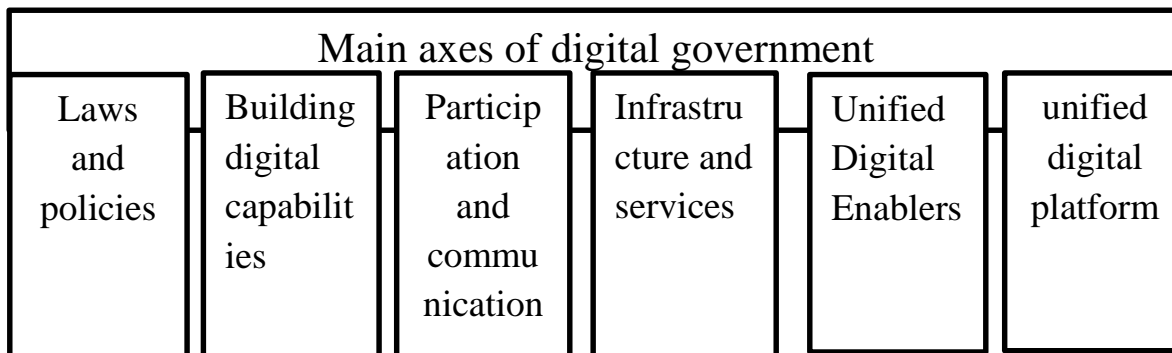
Source : UAE Government Portal, UAE Digital Government Strategy, website : https://u.ae/ar-AE/about-the-uae/strategies-initiatives

Fifth: Digital government measurement indicators

1- Government Development Index (EGDI)

This indicator was prepared by the United Nations and is used to measure the percentage of The development of digital government in countries, and includes several standards related to information and communications technology, internet service , and cybersecurity. The index value ranges between (0) for the lowest level and (1) for the highest level of digital government development. The (EGDI) index is considered an important tool for measuring the extent of governments' development and transformation. It consists of: The indicator It has three main components[15] :

A - The scope of the availability of online services, expressed by the Internet Service Index (OSI).

B - The development of the communications infrastructure, expressed by the Telecommunications Infrastructure Index (TII).

C - Human capital, expressed by the Human Capital Index (HCI).

2 - E-Participation Index: This index measures the level of participation of community members in using digital technologies to complete transactions, instead of traditional methods . The higher the index percentage, the higher the level of development of the digital government, which is reflected in the intensity of the use of its digital technologies by citizens and companies in completing daily transactions. The index value ranges from zero for the lowest to one for the highest . The index consists of: Electronic information , to provide citizens with general information and obtain information without request or upon request, electronic consultation , to participate citizens in formulating public policies and services, and electronic decision-making to enable citizens to determine the components of the service and the methods of providing it [16] .

Section Two: Analysis of the Reality of Tax Revenues in Iraq and the UAE

First: Analysis of the reality of tax revenues in Iraq

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[12] (Yassin Nadib Ali, The Role of Financial Digitalization in Achieving Fiscal Stability: Experiences of Selected Countries and Their Potential Application in Iraq, Thesis submitted to the College of Administration and Economics, University of Karbala, 2025, pp. 72-73).

[13] (Federal Competitiveness and Statistics Authority Report, UAE Statistics, Issue 4, Dubai, 2022, p. 11.

[14] ((UAE Government Portal, UAE Digital Government Strategy, available at https://u.ae/ar-AE/about-the-uae/strategies-initiatives)

[15] (Qusay Al-Jabari, Wafaa Al-Mahdawi, Digitalization of Public Finance and its Impact on the Effectiveness of Fiscal Policy, Al-Gharri Journal of Economic and Administrative Sciences, Special Issue of the Scientific Conference of the College of Administration and Economics, 2022, pp. 20-21.

[16] (United Nations e-Government Study, Department of Economic and Social Affairs, Future of Digital Government, New York, 2022 ,p (40-42)

Table (1) shows the percentage of tax revenues' contribution to public revenues, which reached (1.1) in (2004), then increased slightly until it reached (7.4) in (2009) as a result of the financial crisis in (2008), which then caused a decline in public revenues due to the decline in oil prices, then it declined to (1.9) in (2024) as a result of ISIS's control over some governorates, including their tax resources, then it gradually rose until it reached (8.1) in (2017), which is its highest percentage during the study period, after which it gradually declined until the end of the study period. Therefore, we note that the percentage of tax contribution to public revenues is very low and does not match the size of the Iraqi economy and the large amount of imports, which reflects the backwardness of collection methods, waste, and large tax evasion, and the inability of the current tax system to accurately reach tax bases.

Table (1) The percentage of tax contribution to public revenues in Iraq for the period (2004-2022) (million dollars)

(%) Percentage of tax revenue in total revenue (3)	Tax revenue (2)	Total revenue (1)	year
1.1	238	22452	2004
0.5	108	22392	2005
1.2	336	27516	2006
1.2	469	38755	2007
2.4	1018	43157	2008
7.4	2476	33529	2009
2.2	1285	58619	2010
1.3	1203	92957	2011
1.9	1981	102702	2012
2.2	2159	97574	2013
1.9	1622	83725	2014
2.9	1728	59753	2015
7.0	3268	46401	2016
8.1	5329	65513	2017
5.3	4807	90103	2018
3.7	3396	91004	2019
7.5	3915	52448	2020
4.2	3106	74713	2021
2.4	2678	110751	2022
2.5	2699	112452	2023
2.6	2986	115327	2024

Source:
1- Column (1): Central Bank of Iraq, Statistics and Research Department, Annual Statistical Bulletins (2004-2022).
2- Column (2): Arab Monetary Fund, Economic Database, for the years (2004-2022).
3- Column (3): Data compiled by the researcher.

Second : Analysis of the level of development of digital government and tax revenues in the UAE:

We note from Table (2) that the digital government development index in the UAE reached (0.47) in (2004) and its percentage continued to rise until it reached (0.63) in (2008) with a growth rate of (5%), which was reflected in the rise in the values of the digital participation index, which rose from (0.04) in (2004) to (0.29) in (2008). This is a result of the intensive use of digital government systems to complete various transactions and the gradual abandonment of traditional methods of completing them. In contrast, this is matched by a gradual rise in the percentage of tax revenues to public revenues, as its percentage rose from (7.6%) in (2004) to (9.4%) in (2008), which confirms the important role of digital government in enhancing the efficiency of tax collection, reducing evasion, and expanding the tax base as a result of digital transformation. In (2009, 2010), we note a slight decline in the values of digital government indicators, and the reason for this may be due to several matters, including the financial crisis. The global (2008) which affected many countries, including the UAE, which may have a significant impact on investment in projects and digital infrastructure. After that, the percentages of digital government indicators began to gradually rise, as the percentage of digital government development reached (0.95) in 2024 and the percentage of digital participation index reached (0.98) in the same year. In contrast, there was a consistent increase in the percentage of tax revenues to public revenues during the same period, as the percentage of tax revenues to public revenues reached (55%) in (2024). Thus,

the UAE has become a completely digital country that does not use paper by 100% [17] , and all government operations and work, including the process of collecting tax revenues, are completed digitally. Tax revenues have developed significantly with the increase in the volume of public revenues and the expansion of economic activity in the UAE in harmony with the percentage of development in digital government, reflecting the effective role of digital technologies in enhancing the collection of public revenues and reducing waste and loss in these important resources.

Table (2) Digital government indicators and tax revenues in the UAE for the period (2004-2024)

Tax Revenue as a Percentage of Total Revenue (%) (7)	tax Revenue (Million USD) (6)	Total Revenue (Million USD) (5)	Annual Growth Rate (%) (4)	Digital Participation Index (3)	Annual Growth (%) Rate (2)	Digital Government Development Index (1)	year
7.6	2102	27800	....	0.04	....	0.47	2004
8.2	3194	39184	100.0	0.08	10.6	0.52	2005
9.1	4786	52776	50.0	0.12	9.6	0.57	2006
9.2	4997	54287	75.0	0.21	5.3	0.60	2007
9.4	49883	531543	38.1	0.29	5	0.63	2008
9.7	58977	610846	-27.6	0.21	-7.9	0.58	2009
10.0	67125	670514	-42.9	0.12	-8.6	0.53	2010
14.8	15274	103506	258.3	0.43	18.8	0.63	2010
26.8	30139	112458	69.8	0.73	15.8	0.73	2012
40.8	45797	112280	6.8	0.78	-1.3	0.72	2013
43.3	61264	141349	7.7	0.84	-1.3	0.71	2014
43.1	44817	103917	-6.0	0.79	0	0.71	2015
45.1	49588	109830	-6.3	0.74	5.6	0.75	2016
45.9	50211	109309	14.9	0.85	5.3	0.79	2017
48.3	58047	120173	11.8	0.95	3.7	0.82	2018
48.7	63273	129829	0.0	0.95	2.4	0.84	2019
51.1	51195	100236	1.1	0.96	1.1	0.85	2020
53.6	51528	96138	0.0	0.96	3.5	0.88	2021
53.8	89562	166444	1.0	0.97	3.4	0.91	2022
54.7	98372	179856	0.0	0.97	2.2	0.93	2023
55.0	99745	181243	1.1	0.98	2.2	0.95	2024

Source: 1- Columns (1) and (3): Reports on the Digital Government Development Index, United Nations, New York, for the years 2004-2022.

2- Columns (5) and (6): Arab Monetary Fund, Economic Database, for the years 2004-2022.

3- Columns (2), (4), and (7): Data compiled by the researchers.

Third : Measuring the relationship between the development of digital government and tax revenues in the UAE for the period (2004-2024)

1- Description of the standard model For the tax revenue function (RE) in the UAE

The model on which all tests will be conducted in the Emirates has been formulated and described as follows:

RE = b0 + b1DG + b 2 DP + ui ...... (1)

$$\Delta RE = c + \lambda RE_{t-1} + \beta_1 DG_{t-1} + \beta_2 DP_{t-1} + \sum_{i=1}^{n} \alpha_1 \Delta RE_{t-i} + \sum_{i=0}^{m} \alpha_2 \Delta DG_{t-i} + \sum_{i=0}^{m} \alpha_3 \Delta DP_{t-i}\ \mu_t \dots\dots (2)$$

Table (3) Symbols used in standard analysis

Variable symbol	Variable name	Variable type
RE	Tax revenue as a percentage of general revenue	dependent variable

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[17]((United Nations, Government Survey Report on the Future of Digital Government, New York, 2022, pp. 69-70)

DG	Digital government development rate	independent (explanatory) variable
DP	Digital engagement rate	independent (explanatory) variable
ui	random variable	random variable*

* Includes Variables that are difficult to measure or for which sufficient data are not available.

The relationship between the independent variables (ratio The development of digital government , The digital participation rate (DPR) and the dependent variable (the ratio of tax revenues to general revenues) are in a positive (direct) relationship, meaning that when the ratio of one or both of the independent variables increases, the ratio of the dependent variable will increase in the same direction. * - Convert the time series data format of the variables included in the test to the natural logarithm to obtain accurate and unbiased estimates.

2 - Unit Root of Stationarity Test

Table (4) Extended Dickey-Flore (ADF) test for unit root of the standard model in the UAE

UNIT ROOT TEST RESULTS TABLE (ADF)				
Null Hypothesis: the variable has a unit root				
		At Level		
		RE	DG	DP
With Constant	t-Statistic	-0.9142	1.4153	-1.4163
	Prob.	**0.7594**	**0.9979**	**0.5511**
		n0	n0	n0
With Constant & Trend	t-Statistic	-3.6349	-3.7950	-2.4107
	Prob.	**0.0270**	**0.0432**	**0.3629**
		**	**	n0
Without Constant & Trend	t-Statistic	0.8567	5.3923	1.0167
	Prob.	**0.8865**	**1.0000**	**0.9113**
		n0	n0	n0
		At First Difference		
		d(RE)	d(DG)	d(DP)
With Constant	t-Statistic	-2.9489	-5.5740	-4.1786
	Prob.	**0.0593**	**0.0004**	**0.0052**
		*	***	***
With Constant & Trend	t-Statistic	-2.8961	-6.1947	-3.1119
	Prob.	**0.1861**	**0.0008**	**0.1366**
		n0	***	n0
Without Constant & Trend	t-Statistic	-1.7974	-0.2620	-2.7792
	Prob.	**0.0694**	**0.5746**	**0.0082**
		*	n0	***
Notes: (*)Significant at the 10%; (**)Significant at the 5%; (***) Significant at the 1% and (no) Not Significant				

Source : Prepared by the researcher based on the results of the Eviews10 program.

Table (4) shows the augmented Dickey-Flower (ADF) test for the unit root of the estimated standard model in the Emirates, for the tax revenue function to demonstrate the inductivity of the time series and their degree of integration, as The time series of the variables (DG-RE) were stationary at the level (Level) whether there was a categorical or a categorical and a general trend at a significance level (5%), and they are integrated of degree (I(0) , thus they are free of unit root and do not contain spurious regression. As for the digital participation variable (DP), it was not stationary , so the test was conducted after taking its first difference (First-difference), and then it became stable at a significance level (1%), and integrated of degree (1) I , whether there was a categorical or a categorical and a general trend. After the stability of all variables at the level and the first difference, the autoregressive distributed lag (ARDL) model will be suitable for estimating the functional relationship between the digital government variables and the variable of the ratio of tax revenues to output in the Emirates.

3- Estimating the functional relationship of the model : The (ARDL) model was estimated for the tax revenue function (RE) in the Emirates, and by specifying optimal lag periods (2), we obtained the results in Table (5) .

Table (5) Estimation of the functional relationship using the ARDL model in the Emirates Tax revenue function

| Dependent Variable: RE Method: ARDL Dynamic regressors (2lags, automatic): DG- DP				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.***
RE(-1)	0.427453	0.116419	3.671677	0.0023
DG	3.936759	11.08742	0.355065	0.0727
DP	21.91271	5.691285	3.850222	0.0016
DP(-1)	11.17723	7.350651	1.520577	0.1492
C	2.513189	5.588560	0.449702	0.6594
R-squared	0.990838	**Mean dependent var**		34.03000
Adjusted R-squared	0.988395	**S.D. dependent var**		19.10062
S.E. of regression	2.057644	**Akaike info criterion**		4.493318
Sum squared resid	63.50848	**Schwarz criterion**		4.742251
Log likelihood	-39.93318	**Hannan-Quinn criter.**		4.541913
F-statistic	405.5561	**Durbin-Watson stat**		1.608493
Prob(F-statistic)	0.000000			

Source: Prepared by researchers based on the results of the Eviews10 program.

Table (5) shows that the value of (R^2 = 0.990838), which means that the independent variables in the model (DG - DP) explained the changes in the dependent variable (RE) by (99%) and the value of (Adjusted R-squared = 0.988395), and the calculated F value was (405.5561), which is greater than its table value according to the Prob value , which confirms the significance of the estimated model at a significance level of 5%, so we reject the null hypothesis 0) = : b H0 (, and we accept the alternative hypothesis (0 ≠ :b H1).

4 - Optimal deceleration test For the tax revenue function:

The optimal model is the one that gives the lowest deceleration periods according to the (AIC) criterion, and the optimal deceleration periods for the estimated model are (1, 0, 1), as shown in Figure (2).

Figure (2) Optimal slowdown periods Tax revenue function
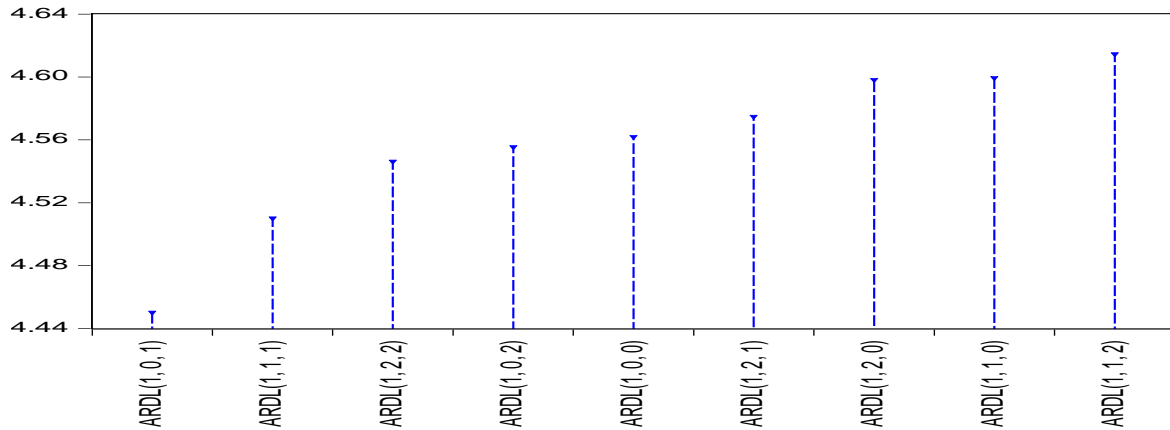
Source: Researchers' work based on Eviews 10

5 - Bound Test Tax revenue function

Through this test, the presence or absence of a joint integration relationship - a long-term equilibrium relationship between the variables is known. Table (6) shows that the calculated (F) value, which is (10.40082), is greater than the tabular (F) value at the minimum and maximum level of significance (5%), which is (3.87). Therefore , we reject the null hypothesis (H0), the absence of a long-term equilibrium relationship , and accept the alternative hypothesis (H1), the presence of a long-term equilibrium relationship between the variables.

Table (6) Bound test for the estimated model in the Emirates Tax revenue function

ARDL Bounds Test		
Test Statistic	**Value**	**K**
F- Statistic	10.40082	2
Significance	I(0) Bound	I(1) Bound
%10	2.63	3.35
%5	3.1	3.87
%2.5	3.55	4.38
%1	4.13	5

Source: Prepared by researchers based on the results of the Eviews10 program..

6 - Diagnostic tests :

A- The problem of autocorrelation between residuals - B- The problem of heteroscedasticity

Table (7) shows: The estimated model is free of The problem of autocorrelation between the residuals , as the calculated value of (F) and the value of (Chi-square) are not significant at a significance level of (5%), therefore We will accept the null hypothesis (H0), which states that there is no autocorrelation between the residuals, and reject the alternative hypothesis (H1) , which states that there is autocorrelation between the residuals.

Table (7) Test of autocorrelation and heteroscedasticity of variance for the estimated model in the UAE Tax revenue function
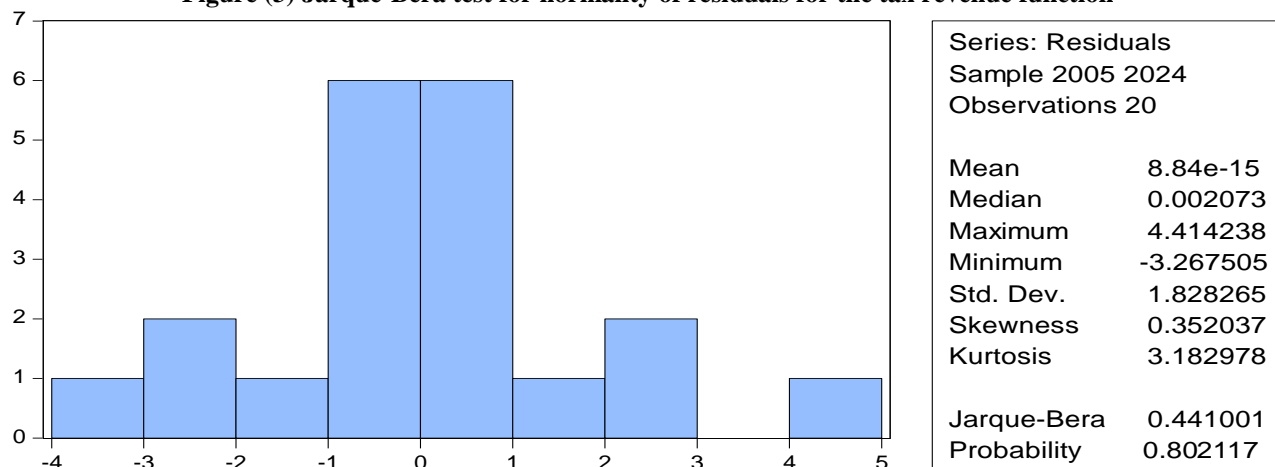
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.635493	Prob. F	0.2325
Obs*R -square	4.020636	Prob. Chi -square	0.1339
Heteroskedasticity Test: Harvey			
F-statistic	2.095771	Prop. F	0.1321
Obs*R -square	7.170213	Prob. Chi -square	0.1272
Scaled explained SS	10.24689	Prob. Chi -square	0. 3065

Source: Prepared by researchers based on the results of the Eviews10 program.

The model is also free from the problem of heterogeneity of variance, as the calculated value of (F) and the value of (Chi-square) are not significant at a significance level of (5%). Therefore, we will accept the null hypothesis (H0) , that there is no problem of heteroscedasticity, and reject the alternative hypothesis (H1), which confirms the existence of a problem of heteroscedasticity.

C - Model quality test:

- Test of normal distribution of residuals (distribution of random errors) Jarque-Bera : The result of this test in Figure (3) shows that the value of (Jarque-Bera) of (0.441001) is not significant at a significance level of (5%), as the probability (Prob) of (0.802117) is greater than a significance level of (5%), thus the residuals follow The normal distribution

Figure (3) Jarque-Bera test for normality of residuals for the tax revenue function

Series: Residuals	
Sample 2005 2024	
Observations 20	
Mean	8.84e-15
Median	0.002073
Maximum	4.414238
Minimum	-3.267505
Std. Dev.	1.828265
Skewness	0.352037
Kurtosis	3.182978
Jarque-Bera	0.441001
Probability	0.802117

Source: Researchers' work based on Eviews 10

7 - Testing the structural stability of the estimated model parameters in the UAE Tax revenue function

To ensure that the data used in the model are free of any structural changes, we will test the cumulative sum of residuals (CUSUM) and the cumulative sum of squares of residuals (CUSUM SQ), as shown in Figure (4) .

Figure (4) Testing the structural stability of the model parameters
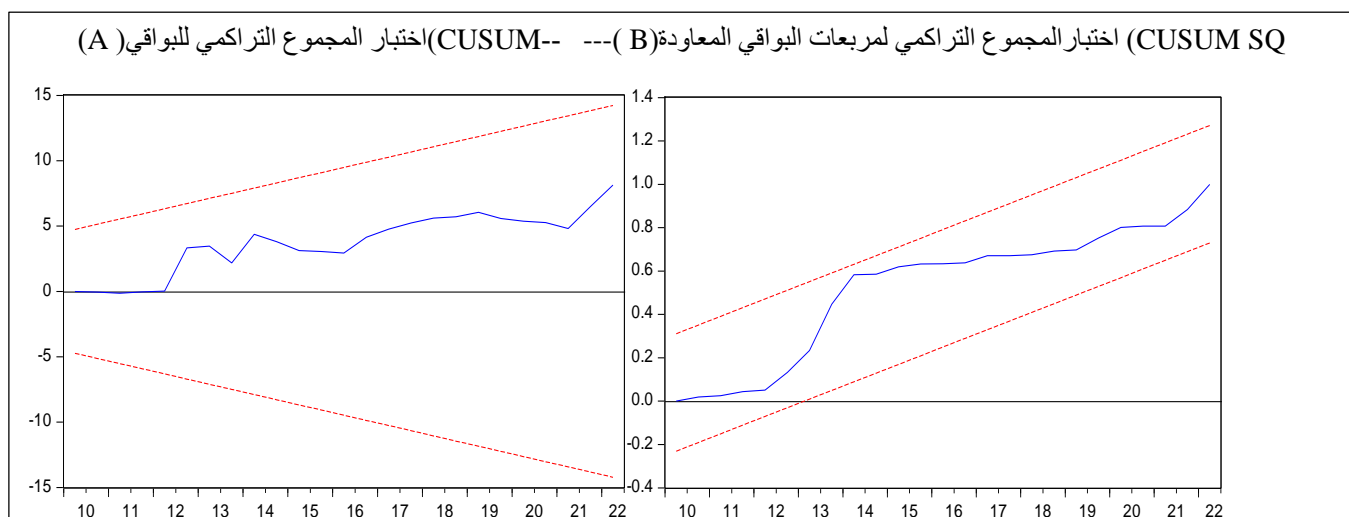
Prob), meaning that increasing the percentage of digital participation by one unit leads to an increase in the percentage of tax revenues by (21.91271) units, ...lity of the UAE economy and the analytical aspect of the research , as the high level of digital participation means an increase in the volume of transactions recorded within the system. Digital government Like transactions The commercial, production and service sectors on which taxes must be due, which works to expand the tax base and reduce the incentive to evade taxes and reach the actual volume of transactions of individuals and companies with ease. As for the error correction parameter (1- CointEq), it reached (-0.572547) and is significant at a significance level of (1%), meaning that the deviations in the short term will be corrected by (5 7%) towards the equilibrium relationship in the long term during the same year, thus the speed of adaptation is high in the model, so It will be done Reject the null hypothesis , And accept the alternative hypothesis that there is a short-term equilibrium relationship.

Table (8) Results of the error correction model and the long- and short-term relationship for the tax revenue function

ECM Regression				
		Case 2: Restricted Constant and No Trend **- short term**		
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(DP)	21.91271	3.765171	5.819846	0.0000
CointEq(-1)*	-0.572547	0.081032	-7.065687	0.0000
EC = RE - (6.8759*DG + 57.7943*DP + 4.3895) معادلة تصحيح الخطأ				
Case 3: restricted Constant and No Trend - Long term				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
DG	6.875874	19.99419	0.343894	0.0375
DP	57.79430	8.082659	7.150407	0.0000
C	4.389491	10.15474	0.432260	0.6717

Source: Prepared by researchers based on the results of the Eviews10 program.
The long-term relationship shows that all independent variables have a positive significant effect. On the dependent variable at a significance level (5 %) , so the increase in one or both of them It leads to an increase in the percentage of tax revenues to public revenues , i.e. when the rate of digital government development increases by one unit, it leads to an increase The percentage of tax revenues to public revenues is (6.875874), and an increase in the percentage of digital participation by one unit leads to an increase in the percentage of tax revenues to public revenues by (57.79430), and this is consistent with the economic theory and the reality of the UAE, which has reached a level of Very high digital development, therefore all activities and operations in the Emirates are carried out digitally and under the supervision of the digital government, which increases the government's ability to impose its control over all activities and operations. Whether at the individual level or Companies or state institutions , This facilitates the precise identification of tax bases and the collection of taxes due from them with ease and at the lowest cost. Consequently, digital transformation prevents the waste of these financial resources and contributes to maximizing state revenues .

Third : The possibility of benefiting from the UAE's experience in Iraq: Iraq can benefit from the UAE's experience in the field of digital government transformation to enhance tax revenues and raise their contribution to public revenues through a group of The steps are inspired by the policy adopted by the UAE, which has contributed significantly to expanding the tax base, reducing the cost of collection, and reducing the rate of tax evasion, as shown below :

a. Enacting laws and legislation that support digital transformation .
b. Allocate sufficient financial resources for the digital transformation process.
c. Develop a plan targeting the gradual transition to digital government.
d. Encouraging investment in digital fields and strengthening partnerships with the   private sector in this field.
e. Adopting modern digital systems for digitizing the tax system, such as the global ASYCUDA system .
f. Adopting a digital identity system so that every citizen or company has its own digital identity through which all its activities can be monitored and recorded.
g. Training government sector employees on the use and operation of digital systems.
h. Educating the community to use digital methods to complete their transactions instead of traditional methods.
i. Establishing an independent cybersecurity authority to protect data in the government's digital system and enhance confidence in the digital system.

Conclusions and recommendations

First: Conclusions
1- The study proved the validity of the hypothesis that (digital government helps in finding new methods that contribute effectively to raising tax collection by increasing efficiency and reducing tax evasion, which is positively reflected in increasing its contribution to public revenues).
2- The UAE's success in achieving a complete digital transformation in the field of digital government by adopting the latest digital technology systems and establishing an advanced digital infrastructure, positioning it among the leading countries in this field.

3- The standard results were significant and consistent with the economic theory and the UAE reality and with what was reached in the analytical aspect. They confirmed the existence of a long-term balanced relationship between the development of digital government and tax revenues and its positive role in enhancing tax revenues. And increase its contribution to the formation of public revenues.

Second: Recommendations

1- Develop a strategic plan for a specific period of time, to be implemented in phases, aiming to achieve a complete transformation of the digital government in Iraq, providing sufficient financial resources, updating supporting legal legislation, and providing security protection from digital threats to achieve the goals of the digital government.

2- The necessity of adopting a digital identity system to monitor and record all activities undertaken by individuals and companies to reduce the phenomenon of tax evasion.

3- Digitizing the tax system, especially the customs system, by adopting the ASYCUDA global system to link all border crossings to the central government to control the entry and exit of goods and collect taxes on them with ease and accuracy.

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