

Measuring the impact of the economic balance goals on the economic growth of the Iraqi economy for the period (1990-2023)

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Received:
21/07/2024

Revised:
03/08/2024

Accepted:
18/08/2024

Published:
30/01/2025

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Citation: Faraj, S. J. (2025). Measuring the impact of the economic balance goals on the economic growth of the Iraqi economy for the period (1990-2023). *Journal of Economic, Administrative and Legal Sciences*, 9(1), 123 – 136. <https://doi.org/10.26389/AJSRP.C240724>

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Abstract: Achieving economic balance is a multifaceted and ongoing goal. Its achievement requires effective policy making and strategic investments capable of adapting to changing economic conditions. It is a dynamic goal that governments and policy makers around the world seek to achieve for the benefit of their countries by implementing a set of strategies and plans that will Achieving a more balanced and resilient economy, ultimately leading to greater prosperity and improved quality of life for the community. The research aims to determine the impact of the objectives of economic balance (national income, unemployment rate, inflation rate) on economic growth in the Iraqi economy for the period (1990-2023), and to determine the impact of inflation, unemployment, and national income as objectives of economic balance and how they affect economic growth. The researcher relied on the descriptive analytical method.

The study also recommended the need for coordination and harmonization between monetary and financial policy so that there is no contradiction between the goals and the possibility of achieving stability, reducing inflation and unemployment rates, and achieving economic growth through testing the limits of co-integration within the autoregressive methodology of distributed time lag based on the existence of a long-term equilibrium relationship between the rate of economic growth and national income. And the rate of unemployment and inflation, although the decline in economic growth was mainly caused by wrong policies and the state's control over the overall economic activity and the accompanying mismanagement and the inability to diagnose the effective factors in achieving development and the loss of the standards necessary to make appropriate economic decisions, which was reflected in the overall economic activity and was accompanied by that. High unemployment rates in the Iraqi economy

Keywords: economic balance, economic growth rate, inflation, unemployment rate, national income, cointegration test, error correction model.

قياس أثر أهداف التوازن الاقتصادي في النمو الاقتصادي للاقتصاد العراقي للمدة (2023 -1990)

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المستخلص: إن تحقيق التوازن الاقتصادي هو هدف متعدد الأوجه ومستمر، يتطلب تحقيقه صنع سياسات فعالة واستثمارات استراتيجية قادرة على التكيف مع الظروف الاقتصادية المتغيرة، وهو هدف ديناميكي تسعى الحكومات وصانعي السياسات في جميع أنحاء العالم إلى تحقيقه لصالح دولهم من خلال تنفيذ مجموعة من الاستراتيجيات والخطط التي من شأنها تحقيق اقتصاد أكثر توازناً ومرونة، مما يؤدي في نهاية المطاف إلى مزيد من الرخاء وتحسين نوعية الحياة للمجتمع. ويهدف البحث إلى تحديد أثر أهداف التوازن الاقتصادي (الدخل القومي، معدل البطالة، معدل التضخم) في النمو الاقتصادي في الاقتصاد العراقي للمدة (1990-2023). وتحديد أثر كل من التضخم والبطالة والدخل القومي باعتبارها أهداف للتوازن الاقتصادي وكيف تؤثر في النمو الاقتصادي، وقد اعتمدت الباحثة على المنهج الوصفي التحليلي.

كما اوصت الدراسة بضرورة التنسيق والمواءمة بين السياسة النقدية والمالية حتى لا يكون تناقض بين الأهداف وإمكانية تحقيق الاستقرار وخفض معدلات التضخم والبطالة وتحقيق النمو الاقتصادي من خلال اختبار الحدود للتكامل المشترك ضمن منهجية الانحدار الذاتي للإبطاء الزمني الموزع على وجود علاقة توازنه طويلة المدى بين معدل النمو الاقتصادي والدخل القومي ومعدل البطالة والتضخم وإن تراجع النمو الاقتصادي كان سببه الأساس السياسات الخاطئة وسيطرة الدولة على مجمل النشاط الاقتصادي وما رافق ذلك من سوء في الإدارة وعدم القدرة على تشخيص العوامل الفاعلة في تحقيق التطور وفقدان المعايير اللازمة لاتخاذ القرارات الاقتصادية المناسبة مما انعكس بدوره على مجمل النشاط الاقتصادي وصاحب ذلك ارتفاع لنسب البطالة في الاقتصاد العراقي. الكلمات المفتاحية: التوازن الاقتصادي، معدل النمو الاقتصادي، التضخم، معدل البطالة، الدخل القومي، اختبار التكامل المشترك، نموذج تصحيح الخطأ.

Introduction

Achieving economic balance is a multifaceted and continuous goal. Achieving it requires effective policy making and strategic investments capable of adapting to changing economic conditions. Economic balance is not a one-size-fits-all concept, but rather a dynamic goal that governments and policy makers around the world seek to achieve for the benefit of their countries. By implementing a set of strategies and plans that will achieve a more balanced and resilient economy, ultimately leading to greater prosperity and improved quality of life for the community.

The data collection process was carried out based on reports published on the website of the Central Bank of Iraq, the International Monetary Fund, the Ministry of Planning, and the Central Statistical Organization during the period (1990-2023) to measure the variables of the study, where the independent variable was represented by the national income, the inflation rate, and the unemployment rate, while the dependent variable was represented by the rate Economic growth .

The statistical program (E-Views10) was also relied upon and a group of statistical methods were used that suit the variables of the study and serve its hypotheses. The hypotheses of the study were tested and the autoregressive distributed lag (ARDL) model will be estimated to determine the relationship between the variables under study, as this The method does not require that the time series of variables be of the same degree of rest or stability, as it can be applied whether the time series is stable at the level or the first difference

Research problem: Achieving economic balance is a multifaceted and continuous goal. Achieving this requires developing effective policies and strategic investments capable of adapting to the changing economic conditions in the Iraqi economy. The Iraqi has faced many shocks during the aforementioned period. Iraq also suffers from high unemployment rates and the phenomenon of inflation, which has led to many economic and social problems. Therefore, the researcher is trying to answer the following question:

Does the unemployment rate, inflation rate, and national income, as objectives of economic balance, affect the rate of economic growth in the Iraqi economy during the period (1990-2023).

Research objective: The research aims to determine the impact of economic balance objectives (national income, unemployment rate, inflation rate) on economic growth in the Iraqi economy for the period (1990-2023).

The importance of the research: The importance of the research stems from the importance of national income, the phenomenon of inflation and the unemployment rate in the Iraqi economy, as they are goals of the economic balance in the Iraqi economy and how they affect the rate of economic growth. This requires economic policy makers to reduce the severity of inflation and unemployment and increase national income because of their importance in Increasing economic growth rates.

research importance

Research hypothesis: There is an impact of the inflation rate, unemployment rate, and national income, as goals of economic balance, on economic growth in the Iraqi economy for the period (1990-2023).

Research methodology: The researcher adopted the descriptive analytical method, which relies on collecting data from the official sources mentioned in the research. The objectives of economic balance and their impact on the rate of economic growth in the Iraqi economy during the period (1990-2023) were studied.

Previous studies

1- Arabic Studies

1. A study (Al-Zarkoush,2019; Farhan,2019; Zaghir, 2019,P14) entitled Measuring and analyzing the relationship between unemployment, inflation, and economic growth in Iraq for the period (2003-2004) using the ARDL model. The study aimed to examine methods that help maintain relative stability in local prices, and achieve a High employment or full employment, achieving rapid and sustainable economic growth, studying how unemployment and inflation significantly affect economic growth, and it was concluded that the size of inflation does not affect unemployment, but unemployment affects inflation, in addition to the existence of a two-way causal relationship between unemployment and economic growth.
2. A study (Amir,2017; Abdel Basset,2017,P6) entitled: The relationship between inflation and economic growth in Algeria using the inflation sample model. The researcher relied on a time series for the period (1980-2016) using the GDP growth rate and the inflation rate, and the study concluded that there is a relationship Non-linearity between the two variables, with an effect

of around 6.5%, and that below this level there is no effect of inflation on economic growth, while levels that exceed 6.5% of inflation rates have a strong negative effect on economic growth.

2- Foreign studies

1. A study (Naseri ,2018; Zada, 2018,P11) entitled: The impact of inflation on economic growth, a case study of Malaysia. The study aimed to test the relationship between inflation and economic growth in the state of Malaysia during the period (1970-2011), and it was concluded that there is a positive, statistically significant relationship between inflation and growth. This was helped by the Malaysian government's policy of targeting inflation at acceptable rates.
2. A study (Ndiaye, 2012,P7) entitled: The relationship between fluctuations in inflation levels and economic growth. The study aimed to evaluate the relationship between fluctuations in inflation levels and economic growth in the countries of the West African Economic and Monetary Union and the extent to which inflation shocks affected the real economy of the countries of the region during the period (1968-2010). The study concluded that the mechanisms for transmitting the effects of inflation to economic growth differ from one country to another, and that the policies of convergence, macroeconomic integration, stability, and development were not sufficient to reduce the continuing fluctuations in inflation and economic growth, nor did they succeed in reducing the strong negative effects of inflation. In economic growth in countries of the region.
3. A study (Ahmed,2005; Mortaza, 2005,P12) entitled: Inflation and economic growth in Bangladesh. The study showed that there is a negative, statistically significant long-term relationship between the consumer price index and real GDP. In addition, the model suggests the estimated percentage (6%) as a threshold level. Inflation above it, and inflation negatively affects economic growth

What distinguishes this study from previous studies

This current study differed from previous studies in terms of:

- Objective: Determine the impact of economic objectives variables on economic growth. The current study was intended to determine the impact of inflation, as well as unemployment and national income, on economic growth.

The current study differed from previous studies in terms of:

- Temporal and spatial limits: The study was conducted during the period (1990-2023) by application to the Iraqi economy.
- According to the researcher's knowledge, it is one of the new studies that

To the best of the researcher's knowledge, it is one of the new studies that dealt with this topic in the Iraqi economic environment.

We worked to benefit from previous studies in determining the study variables and measuring them to reach results and recommendations that contribute to identifying the factors that most influence the rate of economic growth in the Iraqi economy.

The first section: The conceptual framework of economic objectives variables

First: the economic growth rate

There is no doubt that economic growth is one of the most important topics that concerns all countries of the world. It is the first criterion in classifying countries and is the closest indicator to measuring economic performance, as high rates of economic growth indicate an improvement in the standard of living, which is translated by improved indicators of individual income, consumption, investment, employment and inflation. Hakim, 2018, p 37).

Economic growth is a relatively new term associated with the emergence of capitalism, its mechanized capacity and industrial production - and the accompanying continuous technical changes and accumulation of capital that led to fundamental transformations of societies. Before this system, they were primitive societies seeking to obtain the means of livelihood and survival and did not care about the amount or pace of their increase (Kabdani ,2013, p 16).

Economic growth is also defined as the increase in the productive capacity of an economy in producing goods and services, which leads to an increase in the average real per capita income, i.e. an improvement in purchasing power (Al-Talabi, 2018, p. 38).

Second: unemployment

The problem of unemployment is one of the most important macroeconomic problems that causes economic and social problems, and raising the level of employment is related to increasing the quality and quantity of output, which increases rates of economic growth and sustainable development (Kamel, 2017, p 267).

Unemployment is also defined as the condition in which individuals are unable to engage in economic activity within a specific period of time as a result of factors beyond their control, even though they are of working age and are able, willing, and searching for it (Hussein, 2012, p 82).

Unemployment is also defined as the forced cessation of a part of the labor force in the economy from work with the desire and ability to work. What is meant by the labor force is the number of people who are able and willing to work, with the exclusion of those under the age of eighteen, the infirm, and the elderly (Al-Fayez, 2017, p 645).

Third: Inflation

There have been many definitions of inflation, and the opinions of the two economists have differed in giving a unified definition for it, as inflation is defined as the continuous rise in prices without compensation for production, or due to an inflationary force, so economic schools of thought differed in their interpretation (Obaid, 2018, p 70).

Inflation is also defined as a continuous rise in prices resulting from an increase in the total demand for goods over the total supply. It is an economic disease that all underdeveloped and developed economies alike suffer from, but inflation rates vary from one country to another (Benlialper, 2016, p558).

Inflation takes many different forms that vary according to the types and differences of the criterion used to distinguish between them. Among these criteria are state intervention in prices, the source of inflationary pressure, and the unit of inflation. Therefore, the phenomenon of inflation is diverse and shares special aspects and characteristics that make it closely related to each other through the presence of links and relationships among them.

Fourth: The relationship between national income, unemployment, inflation, and economic growth

Economists have not agreed to determine how national income is affected by rates of inflation, economic growth, and unemployment in developing countries, as some consider that inflation has positive effects in increasing the volume of savings, encouraging investment, and raising the rate of economic growth, as inflation works to create compulsory saving, that is, relying on rising prices to reduce the level of consumption, while other economists believe that the presence of low inflation rates has positive effects on economic growth, as it works to increase the price of corporate profits, which increases the government's tax revenues and thus pushes the wheel of economic growth forward. This is what is known as the Tobin effect (1965), meaning that the expansion of monetary policy leads to an increase in capital accumulation in the long term, ultimately leading to an acceleration of economic growth (Abu Ramadan, 2016, p 24).

The second topic

First: Building, describing, formulating and testing the variables used in the standard model for the objectives of economic balance in the Iraqi economy for the period (1990-2023)

The relationship between the model variables according to the economic perspective

To demonstrate knowledge of the variables adopted in the study model, the variables are divided into:

- 1- The independent variable: The researcher considered that the independent variables in the study were national income, the unemployment rate, and the inflation rate. Data were obtained from periodic bulletins and specialized departments in the country, in addition to statistical totals for the years of study. The study assumes that the nature of the relationship between national income, inflation, and unemployment The economic growth rate is an inverse relationship, but the nature of the relationship between the economic growth rate, national income, exchange rate, and interest rate is an inverse relationship in economic theory.

- 2- Dependent variables: Due to the nature of the study, which is concerned with measuring the impact of the economic growth rate on macroeconomic variables representing the economic activity that were mentioned, the researcher was forced to create a multiple regression model to describe the true relationship between the variables, so there were several independent variables, and one dependent variable. In this study, we work to test the relationship between the rate of economic growth and the extent to which the goals of economic balance are achieved, by measuring the rate of economic growth as a dependent variable and the rate of unemployment, inflation, and national income as independent variables in the Iraqi economy, according to the following model:

$$AGR_t = f(Y, EM, INF)$$

Where: Y, EM, INF) are the independent variables and AGR_t is the dependent variable

AGR_t: economic growth rate

Y: national income

EM: unemployment rate

INF: inflation rate

The autoregressive distributed lag (ARDL) model will be estimated to determine the relationship between the variables under study, as this method does not require that the time series for the variables be of the same degree of rest or stability, as it can be applied whether the time series is stable at the level or the first difference.

In addition to estimating the following error correction model:

$$\begin{aligned} \Delta(Y_t) = & \alpha_0 + \sum_{i=1}^p \phi_i \Delta(Y)_{t-i} + \sum_{i=0}^p \theta_i \Delta(AGR)_{t-i} + \sum_{i=0}^p \varphi_i \Delta(EM)_{t-i} \\ & + \sum_{i=1}^p \lambda_i \Delta(INF)_{t-i} + \delta_1 \Delta(Y)_{t-1} + \delta_2 \Delta(AGR)_{t-1} + \delta_3 \Delta(EM)_{t-1} \\ & + \delta_4 \Delta(INF)_{t-1} + vt \dots \dots \dots (1) \end{aligned}$$

The (F) test is also used to test the existence of a long-term relationship between variables to assume the null that there is no cointegration between the variables:

$$H_0: \delta_1 = \delta_2 = \delta_3 = \delta_4 = 0$$

In contrast to the alternative hypothesis that there is cointegration between the variables:

$$H_0: \delta_1 \neq \delta_2 \neq \delta_3 \neq \delta_4 \neq 0$$

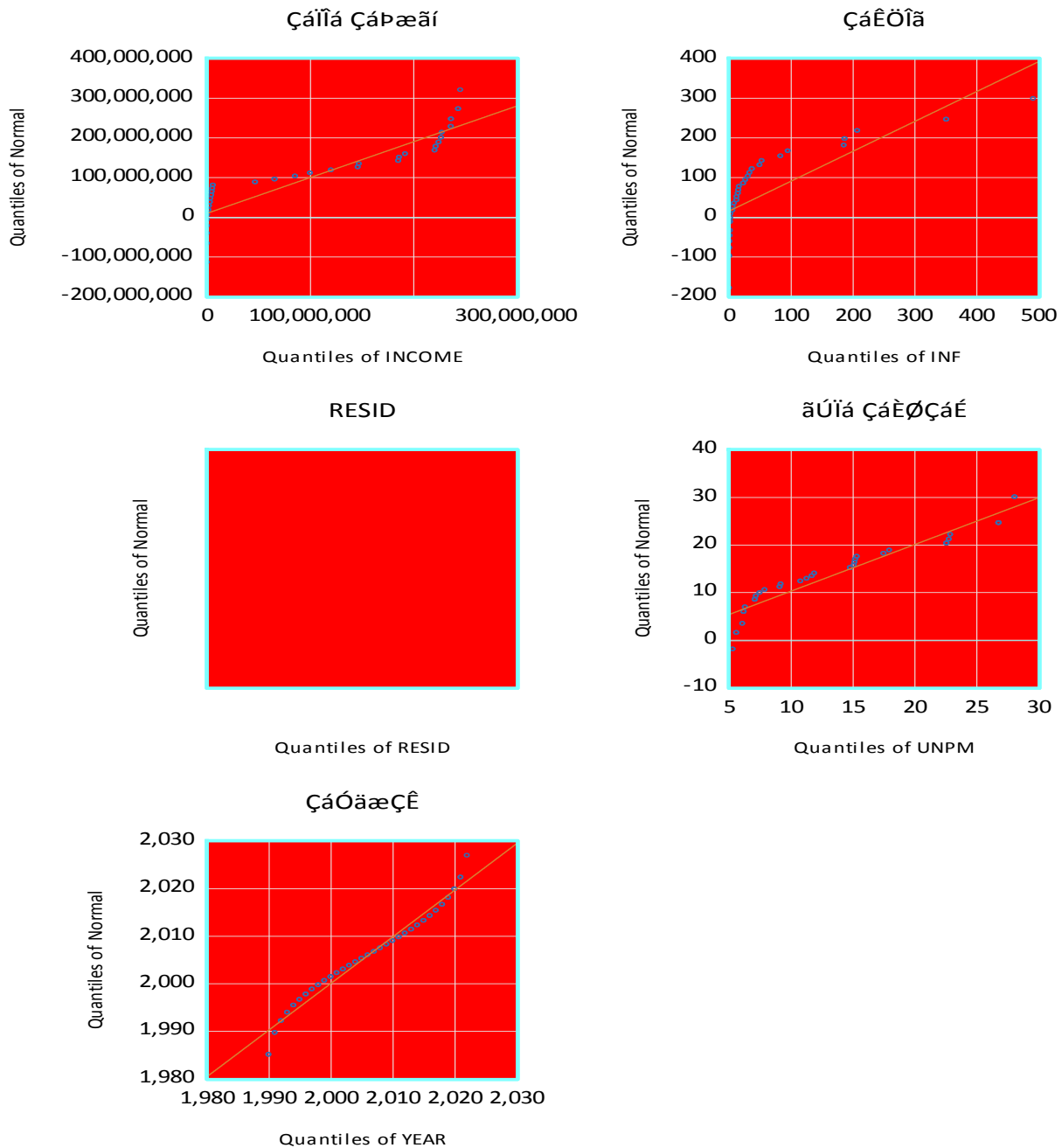
Since the distribution of the (F) test is non-standard because it depends on the number of explanatory variables and the degree of their stability, whether they are integrated of zero degree I (0) or first degree I (1), the (F) statistic will be compared with a series of two sets of critical values in which the Critical values for the I(1) series indicate the upper limits, while critical values for the I(0) series indicate the lower critical values. If the (F) statistic exceeds the upper critical values, this indicates the existence of a long-term relationship between the variables, while if the statistic is less than the upper critical values, we cannot reject the basic hypothesis (lack of cointegration), and if it falls between the two limits, we cannot make inference. (Attiya, 2005, p 67).

Therefore, the standard analysis in this study will first choose the appropriate lag period for the variables, followed by conducting the Dickey-Fuller test to determine the extent of stability of the series, and then testing the limits to test the long-term equilibrium relationship between the variables, in addition to estimating the long-term equilibrium relationship using the regression model. Self-distributed lag, and finally estimating the error correction model (ARDL) for the relationship between economic growth rate, national income, unemployment rate, and inflation.

First: the time series graph

To know the type and nature of the series and indicate its general trend, we explain it through the following graphical forms :

Figure (1) Stability of time series for the dependent and independent variables of the economic balance objectives in Iraq for the period (1990-2023)



Source: Prepared by the researcher based on the outputs of the Eviews program

Figure (1) shows that the series suffers from a general trend. In order to ensure its stability and freedom from a unit root, the expanded Dickey-Fuller test was used.

Second: Testing slowdown periods

To test the appropriate lag period for each variable, an autoregressive regression was performed for each variable and lag period one after another until arriving at the model that best meets the model selection criteria (LR, FPE, AIC, SC, HG), where the standard analysis program (E.views 10) was used. Each variable has three lag periods (Ali, 2011, p 45).

The estimation results shown in Table (1) were obtained. We find that for all variables under study, which are national income, economic growth rate, unemployment rate, and inflation, the appropriate lag period is a single lag period, due to its significance according to all comparison criteria (LR, FPE, AIC, SC, HG).

Table (1) Test results for lag periods

Variable	Lags	VAR lag Order Selection Criteria				
		LR	FPE	AIC	SC	HG
AGR	0	NA	14.81047	5.533168	5.581924	5.546691
	1	20.88678*	6.472183*	4.705048*	4.802558*	4.732093*
	2	0.014349	7.012404	4.784396	4.930661	4.824963
EM	0	NA	28.10749	6.173870	6.222626	6.187393
	1	45.55176*	4.203111*	4.273359*	4.370869*	4.300404*
	2	0.089446	4.538418	4.349294	4.495559	4.389861
INF	0	NA	25.61000	6.080817	6.129572	6.094340
	1	27.02352*	8.570681*	4.985882*	5.083392*	5.012927*
	2	0.014399	9.286038	5.065227	5.211492	5.105795
Y	0	NA	8.021797	4.919997	4.968752	4.933519
	1	3.873383*	7.345255*	4.831589*	4.929099*	4.858634*
	2	1.621718	7.397628	4.837874	4.984140	4.878442

Source: The researcher based on results from the statistical portfolio (E-views 10)

Third: Testing the stability of time series

1- Unit root test

The economic meaning of unit root tests for time series of economic model variables is to obtain true estimates of the relationship between the model variables and not false estimates that are reflected in the lack of a logical relationship between the model variables (Gujarat, 2015, p 231).

While the coefficient of determination (R2) for the spurious relationship is very high, in addition to avoiding the occurrence of the problem of autocorrelation between the model variables, that is, the correlation between the random variables in the model, as the unit roots test measures stability between time series. (Obaid, 2015, p 45) and the hypothesis is What is meant to be tested here is $H_0: \lambda=0$ against the alternative hypothesis $H_1: \lambda < 0$. It is noted that this formula does not contain a fixed amount or time trend. Calculate the parameter test value τ^* for the parameter (coefficient $Y_{(t-1)}$) and compare it with the one extracted from the table. Or from the results of the statistical program used.

Based on this comparison, a decision is made to accept or reject the null hypothesis. We must take into account here that we are comparing the absolute values of both the calculated tau and the tabulated tau, regardless of the sign. (Kenneth F. Wallace, 2001, p 87).

Applying and estimating the first formula of the extended Dickey-Fuller test:

$$\Delta Y_t = \lambda Y_{t-1} + \sum_{j=1}^m \alpha_j \Delta Y_{t-1} + u_t \dots \dots \quad (2)$$

Table (2) shows the test results, as we find that they indicate that all the time series under study, namely national income (Y), economic growth rate (AGR), unemployment rate (EM) and inflation (INF) are unstable at the level, taking the first difference We find that it is stable at the first difference, and therefore it is an integral of the first degree I(1).

The second formula of the expanded Dickey-Fuller test was applied to unit roots with a secant and without a time vector, as shown in equation (3). (Anani, 2009, p43) (Al-Issawi, 1996, p89).

$$\Delta Y_t = \beta_1 + \lambda Y_{t-1} + \sum_{j=1}^m \alpha_j \Delta Y_{t-j} + u_t \dots \dots \quad (3)$$

Table (2) shows the results of this test, as we find that they indicate that the time series for national income (Y) is stable at the level, and therefore it is integrated of degree zero I(0), while the time series for the economic growth rate, unemployment rate, and inflation are unstable at level, and by taking its first difference, we find it stable at the first difference, therefore it is an integral of the first order I(1).

The third formula of the expanded Dickey-Fuller test for unit roots with a secant and a time vector was also applied, as Equation (4) shows, to the variables subject of the study (Bakhit and Fathallah, 2006, p 35).

$$\Delta Y_t = \beta_1 + \beta_2 T + \lambda Y_{t-1} + \sum_{j=1}^m \alpha_j \Delta Y_{t-j} + u_t \dots \dots \dots \quad (4)$$

The test result indicates that the time series for national income (Y) is stable at the level, and therefore it is integrated of degree zero I(0), while the time series for the economic growth rate, unemployment rate, and inflation are not stable at the level, and by taking their first difference, we find that they are stable at The first difference is, therefore, it is a first-order integral I(1).

Therefore, we conclude that by performing the Extended Dickey-Fuller (ADF) test on the variables under study at one lag period for the three level and first-difference models, it was found that each of the time series for the economic growth rate (AGR), unemployment rate (EM) and inflation (INF) is stationary at the first difference, while the national income time series is stationary at the level.

Table (2) Results of Extended Dickey-Fuller (ADF) tests for stability of time series

Unit Root Test using Augmented Dickey-Fuller (ADF)						
Time Series	Level			1 ST Diff.		
	None (I)	Intercept only (II)	Intercept and trend (III)	None (I)	Intercept only (II)	Intercept and trend (III)
AGR	-0.648706	-2.701988	-2.680289	-7.691426	-7.579212	-7.449751
EM	0.705499	-0.954125	-1.759547	-5.270675	-5.369058	-5.281108
INF	-0.438911	-1.615355	-2.418094	-5.864130	-5.822073	-5.733218
Y	-0.218813	-3.050863	-2.028029	-8.910128	-8.764630	-9.171756
Tests Critical Value						
1%	-2.634731	-3.639407	-4.252879	-2.636901	-3.646342	-4.262735
5%	-1.951000	-2.951125	-3.548490	-1.951332	-2.954021	-3.552973
10%	-1.610907	-2.614300	-3.207094	-1.610747	-2.615817	-3.209642

Source: The researcher based on results from the statistical portfolio (E-views 10)

2- Cointegration test

Testing the possibility of a long-term balanced relationship between the dependent variable (AGR) and the independent variables (INF, EM, Y) is by comparing the value of the calculated F statistic with the upper and lower limits. If the calculated F value is greater than the upper limit of the values Critical: We accept the alternative hypothesis, which states the possibility of a long-term balanced relationship, and we accept the null hypothesis if the calculated (F) value is less than the minimum, which states that there is no long-term balanced relationship and no co-integration between the study variables.

Table (3) Co-integration test (F – Bounds test)

F – Statistic	Signif	I(0)	I(1)
4.2850543	10%	2.618	3.532
	5%	3.164	4.194
	1%	4.428	5.816

Source: The researcher based on results from the statistical portfolio (E-views 10)

The data in Table (3) indicates that the value of the (F) statistic is equal to (4.2850543), which exceeds the upper limit of the critical values $I(1)$, at a significance level (5%). That is, we reject the null hypothesis because the (F) statistic is significant, meaning that the variables achieve a long balanced relationship. The term between national income, which is the dependent variable, and the explanatory variables that represent the goals of economic balance.

Fourth: long-term balance

After confirming the existence of a cointegration relationship between, economic growth rate, the national income, the unemployment rate, and inflation, as revealed in the bounds test, the long-term relationship was measured within the framework of the Autoregressive Distributed Lag (ARDL) model, as shown in Table (4), which shows us the estimated long-run parameters. There is a negative relationship between national income, economic growth rate, unemployment rate, and inflation with a time delay of (4) time periods, at a significance level of (5%), which is consistent with economic theory.

While the other parameters were positive in sign for the unemployment rate and inflation with a time delay of one period at a significance level of (5%), the inflation parameter was also positive with a time lag of (1) and (3) at the significance levels of (5%) and (1%), respectively, where These parameters of the unemployment and inflation rate do not correspond to the logic of economic theory.

As we note in Table (4) of the value of the coefficient of determination R^2 , the model explains about 69% of the changes occurring in economic growth rate in the Iraqi economy during the study period, which indicates that the national income, the unemployment rate, and inflation, with the time delays shown in the table, are the factors that have an influence. It is the largest on the rate in the Iraqi economy response function, while 31% of the unexplained factors are responsible for variables not included in the model, represented by the random variable.

Table (4) Results of estimating long-run parameters using the autoregressive distributed lag (ARDL) model.

Dependent VariableUNE			
Variable	Coefficient	T – statistic	Prob
AGR(-1)	0.329468	1.682019	0.1108
AGR(-2)	0.237168	1.329859	0.2011
Y	5.617492	0.677513	0.5072
Y(-1)	19.79090	2.190618**	0.0427
EM	6.611558	0.782835	0.4445
$\Delta EM(-1)$	19.51451	2.190486**	0.0427
$\Delta EM(-2)$	-0.463130	-1.367184	0.1894
$\Delta EM(-3)$	1.229515	2.592791	0.0190
$\Delta EM(-4)$	-0.686627	-2.0877683**	0.0522
INF	5.731383	0.694094	0.4970
$\Delta INF(-1)$	19.64186	2.186592**	0.0430
$\Delta INF(-2)$	0.138462	0.799872	0.4348
$\Delta INF(-3)$	0.576056	3.489565*	0.0028
C	-2581.507	-1.891472***	0.0757
R – squared	0.698251	Mean dependent var	17.25484
Adjusted R – squared	0.467501	S. D. dependent var	2.539926
S. E. of regression	1.853448	Akaike info criterion	4.37442
Sum squared resid	58.39958	Schwarz criterion	5.022032
Log likelihood	-53.80358	Hannan – Quinn criter	4.585528
F – statistic	3.026013	Durbin – Watson stat	2.044412
	Prob(F – statistic)	0.017323	

Source: The researcher based on results from the statistical portfolio (E-views 10)

(*Significance level at (1%), **Significance level at (5%), ***Significance level at (10%)

Fifth: Estimating the economic balance goals model

The estimation was done using ordinary least squares and the following results were obtained. Through the following table (1), the estimated equation for the model measuring economic growth rate as a dependent variable and unemployment and inflation and national income as independent variables can be written as follows:

$$Y = 1.03 + 1.08X_1 + 39.26X_2 + 1.65X_3$$

Y represents economic growth rate, X1 represents unemployment, X2 represents inflation and X3 represents national income

Table (5): Model measuring the economic growth rate as a dependent variable, and unemployment, inflation, and national income as independent variables

Dependent Variable: INCOME				
Method: Least Squares				
Sample: 1990 -2023				
Included observations: 34				
Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0961	-1.716050	114169.6	-195920.7	IN
0.0000	8.765747	893958.4	7836213.	UM
1.03+08	Mean dependent var		0.402065	R-squared
1.00+08	S.D. dependent var		0.382777	Adjusted R-squared
39.26292	Akaike info criterion		78859325	S.E. of regression
39.35362	Schwarz criterion		1.93E+17	Sum squared resid
39.29344	Hannan-Quinn criter.		-645.8382	Log likelihood
Durbin-Watson stat			0.388285	

Source: The researcher based on results from the statistical portfolio (E-views 10)

We note that the financial policy in the Iraqi economy was aimed at a number of goals, namely achieving economic balance through reducing unemployment rates and the possibility of achieving the best proportion between possible local resources and public spending from the budget, and the reflection of this on real growth in the gross domestic product, which is reflected in the average cash income per capita. This comes through coordination between general economic policies, especially between fiscal and monetary policies. The decline in economic growth was mainly caused by wrong policies and the state’s control over all economic activity, and the accompanying mismanagement and the inability to diagnose the effective factors in achieving development and the loss of the necessary standards. To make appropriate economic decisions, which was reflected in the overall economic activity, which was accompanied by a rise in unemployment rates in the Iraqi economy (Jassem and Abdel Saleh, 2020, p 10).

To know the impact of monetary policy on national income, we will estimate by measuring economic growth rate as a dependent variable and the exchange rate and interest rate and national income as independent variables. Through the following table, the estimated equation for the model can be written as follows:

$$AGR = -80.36 + 467.408 PS + 21.5PR + 1.43Y$$

whereas

AGR represents economic growth rate, PS represents interest rate, PR represents exchange rate, Y represents national income

Table (6) measuring the economic growth rate as a dependent variable, and the exchange rate, interest rate, and national income as independent variables

Dependent Variable: INCOME			
Method: Least Squares			
Date: 04/11/23 Time: 00:55			
Sample: 1990- 2023			
Included observations: 34			
Prob.	t-Statistic	Std. Error	Coefficient
0.0000	8.765747	893958.4	7836213.

Dependent Variable: INCOME			
0.0961	-1.716050	114169.6	-195920.7
1.03E+08	Mean dependent var	0.402065	R-squared
1.00E+08	S.D. dependent var	0.382777	Adjusted R-squared
39.26292	Akaike info criterion	78859325	S.E. of regression
39.35362	Schwarz criterion	1.93E+17	Sum squared resid
39.29344	Hannan-Quinn criter.	-645.8382	Log likelihood
		0.388285	Durbin-Watson stat

Source: The researcher based on results from the statistical portfolio (E-views 10)

These measures are necessary to reduce the problem of unemployment and inflation in the Iraqi economy. Of course, there is consistency between fiscal and monetary policy through real facilities represented by the credit facilities of the Central Bank with real measures represented by the Ministry of Finance through increasing investment spending directed towards infrastructure and thus improving the interest rate and the exchange rate and these measures. It is in the interest of the public sector and the private sector, thus absorbing unemployment rates, reducing inflation rates, increasing the economic growth rate, and improving the reality of the Iraqi economy.

Sixth: Estimating the error correction of the ARDL model, the relationship of national income to the goals of economic balance

The error correction model is based on the assumption that there is a long-term equilibrium relationship in the light of which the equilibrium value of economic growth rate is determined within the framework of the objectives of economic balance. Despite the existence of the equilibrium value in the long run, economic growth rate takes values different from its equilibrium values (Atiyeh, 2004, p 53)

The difference between the two values at each time period represents the equilibrium error, as Table (7) indicates the error correction estimate for the ADRL model, where the error correction coefficient (ECM) shows the dynamic interaction to correct the imbalance between economic growth rate and the economic equilibrium objectives (national income, unemployment rate, and inflation). For the short term.

In light of the results of the error correction model in Table (7), we note from the value of the coefficient of determination R^2 , that the model explains about 72% of the changes occurring in economic growth rate in the Iraqi economy during the study period, which indicates that the national income, unemployment rate, and inflation (ΔIND -2), ΔIND (-3), ΔSER (-1), ΔSER (-2)) are the factors that have the greatest impact on the economic growth rate response function, while 28% of the unexplained factors are responsible for variables not included in the model, represented by With the random variable.

The value of the estimated parameters of the error correction model differs from the long-run results, as in addition to confirming the negative relationship between economic growth rate, the national income, the unemployment rate, and inflation with a time lag of two time periods at a significant level (5%), as is the case in the long run, it also showed the presence of an inverse relationship. The national income shows the economic growth rate, the unemployment rate, and the inflation rate with a time lag of (1) and (2) at a significant level (1%).

Table (7) Error correction estimation output for the ARDL model

Dependant variable ΔUNE_{t-1}			
Variable	Coefficient	T – statistic	Prob
$\Delta Y(-1)$	-0.237168	-1.680926	0.1111
ΔAGR	5.617492	1.081871	0.2944
ΔIND	6.611558	1.262402	0.2238
$\Delta IND(-1)$	-0.079758	-0.321187	0.7520
$\Delta IND(-2)$	-0.542889	-2.324121**	0.0328
$\Delta IND(-3)$	0.686627	2.744663*	0.0138
ΔSER	5.731383	1.112648	0.2813

Dependant variable ΔUNE_{t-1}			
$\Delta SER(-1)$	-0.714518	-3.981252*	0.0010
$\Delta SER(-2)$	-0.576056	-4.049837*	0.0008
ECM(-1)	-0.044412	-5.144561*	0.0001
R – squared	0.721336	Mean dependent var	0.096774
Adjusted R – squared	0.601908	S. D. dependent var	2.643039
S. E. of regression	1.667613	Akaike info criterion	4.116360
Sum squared resid	58.39958	Schwarz criterion	4.578936
Log likelihood	- 53.80358	Hannan – Quinn criter	4.578936
F – statistic	4.2850543	Durbin – Watson stat	2.044412
	Prob(F – statistic)		0.0001

Source: The researcher based on results from the statistical portfolio (E-views 10)

(*Significance level at 1%, **Significance level at 5%, ***Significance level at 10%)

It is also clear that the error correction term ECM (-1) is significant at the 1% level with a negative sign, and this is confirmation of the existence of a long-term equilibrium relationship in the model, as the value of the estimated error correction coefficient, which is equal to (-0.044412), shows that the economic growth rate is approaching its equilibrium value. In each period of time, by a percentage equivalent to (4.4%) of the remaining imbalance of the period with one lag period, that is, when economic growth rate deviates during the short run, with one lag period, from its equilibrium value in the long run, the equivalent of (4.4%) is corrected. From this deviation.

Conclusions and recommendations

First: Conclusions

1. Economic growth is the increase in the productive capacity of an economy in producing goods and services, which leads to an increase in the average real per capita income, i.e. an improvement in purchasing power.
2. Unemployment is defined as the forced cessation of a part of the workforce in the economy from work with the desire and ability to work. What is meant by the labor force is the number of people who are able and willing to work, excluding those who are under the working age.
3. Inflation takes many different forms that vary according to the types and differences of the standard used to distinguish between them. Among these standards are state intervention in prices, the source of inflationary pressure, and the unit of inflation.
4. The results of the analysis showed that the average unemployment rate of (17.7%) exceeds the average growth rate of (4.9%) by more than three times, at a time when the economy needs the economic growth rate to exceed the unemployment rate by more than this three times. Until there is a significant decrease in the unemployment rate.
5. The results of the cointegration test within the autoregressive distributed lag methodology showed evidence of the existence of a long-term equilibrium relationship between national income, the economic growth rate, the unemployment rate, and inflation, as the value of (F) amounts to (4.2850543), which exceeds the upper limit of the critical values I(1).), at a significant level (5%).
6. The results of estimating long-term parameters with the Autoregressive Distributed Lag (ARDL) model showed that there is a negative relationship between national income, the economic growth rate, the unemployment rate, and inflation with a time delay of (4) time periods, which is consistent with economic theory. While the other parameters were positive in sign, the unemployment rate parameter with a time delay of a period, and the inflation parameter was also positive with a time lag of (1) and (3), respectively, which is not consistent with economic theory.
7. The results of the error correction estimation of the ADRL model confirmed that national income is equal to its equilibrium value in each time period by (4.4%) of the remaining imbalance of the period with a time delay One, that is, when national income deviates in the short run with one time delay from its equilibrium value in the long run, the equivalent of (4.4%) of this deviation is corrected.
8. Iraq still has the potential for progress, but the fulcrum begins with improving management. Resources are abundant and human capabilities are great. However, the Iraqi economy is in dire need of institutional improvement and isolating the economy from

politics. Unilateralism in the economy means more class, poverty, consumption, high prices, unemployment, imports, corruption, and lack of services. The sagging public sector, social guarantees, and weak revenues, and these combined problems expose the economy to social shocks in a society with a rising population and rising demands, and this requires reforming economic policies and monitoring government performance.

9. Through the analysis of the results that were reached, it is an increase in unemployment rates, which is one of the challenges facing the Iraqi economy. The increase in unemployment rates is the security problem, the backwardness of the agricultural sector, the limited industrial sector, and the collapse of the infrastructure, as well as the external debt, which was reflected in the pressures exerted on the budget. These challenges, by their nature, have led to an increase in the unemployment problem.

Second: Recommendations

1. The necessity of coordination and harmonization between monetary and financial policy so that there is no contradiction between the goals and the possibility of achieving stability, reducing inflation and unemployment rates, and achieving economic growth.
2. Working on the flexibility of the production system and diversifying the base of the Iraqi economy by relying on monetary policy, and providing support for the advancement of the productive and service sectors to diversify sources of income and get rid of rentierism in the economy, transform the depleted resource into productive and renewable assets, and not expand consumer expenditures.
3. The necessity of keeping pace with technological developments in the use of monetary and financial policy tools, linking monetary markets to regional countries and transforming from a dual primitive economy dependent on the extractive sector to an economy characterized by economic diversification.
4. It is necessary to draw up a strategy for economic development in which all economic sectors contribute to its achievement, and to give a greater role to monetary policy and maintain its independence from government intervention, because this keeps the economy in a vicious circle and it suffers from stagnation and inflexibility due to its dependence on commodity raw materials (crude oil).

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