REPUBLIC OF TURKEY
ISTANBUL GELISIM UNIVERSITY
INSTITUTE OF GRADUATE STUDIES

Department of Economics and Finance

THE IMPACT OF GOVERNMENT EXPENDITURES ON ECONOMIC GROWTH A COMPARATIVE STUDY BETWEEN TURKEY AND IRAQ (1990-2020)

Master Thesis

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DECLARATION

I hereby declare in preparing this thesis, the researcher relied on scientific ethical rules, where reference was made to quotations from other researchers in accordance with scientific rules and procedures, and there is no falsification in the data that was used in this study, and no part of this study was presented to any university.

Basim AL-DARRAJI

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The thesis study of Basim AL-DARRAJI titled as The Impact Of Government Expenditures On Economic Growth A Comparative Study Between Turkey and Iraq (1990-2020) has been accepted as MASTER in the department of Economics and Finance by out jury.

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SUMMARY

Recently, the steady increase in government spending in Iraq and Turkey has demonstrated a clear link between government spending and economic success. Most emerging countries, however, face a significant debt burden, rising inflation, a budget deficit, and a balance of payment deficit. These difficulties may be the result of ineffective domestic policies or foreign shocks. The main issue, it is thought, is the ever-increasing government spending. The majority of current research on the topic focuses on developed countries, and including developing countries in cross-country studies is primarily intended to produce adequate degrees of freedom in the statistical analysis process. Furthermore, current research on the relationship between government spending and economic growth produces contradictory results.

The main objective of the study is to compare the impact of government spending on economic growth in Turkey and Iraq (1990-2020). According to the study, there is a link between government investment spending and economic growth in Iraq. It also discovered that current government spending has a short-term impact on economic growth, but no long-term impact on GDP growth in Iraq. Furthermore, the study concluded that there is a link between Turkish government investment spending and GDP growth. However, it discovered no statistically significant effect of current spending on Turkish economic growth.

Keywords: Economic Growth, Government Expenditures, ARDL.

ÖZET

Uzun yıllardır Irak ve Türkiye'de devlet harcamalarındaki sürekli büyüme, kamu harcamaları ile ekonomik başarı arasında açık bir ilişki olduğunu göstermiştir. Bununla birlikte, gelişmekte olan ülkelerin çoğu büyük bir borç yükü, artan enflasyon, bütçe açığı ve ödemeler dengesi açığı ile karşı karşıya. Bunun nedeni zayıf iç politika veya dış şoklar olabilir. En büyük sorunun sürekli artan devlet harcamaları olduğuna inanılıyor. Konuyla ilgili mevcut araştırmaların çoğu gelişmiş ülkelere odaklandı ve gelişmekte olan ülkelerin ülkeler arası çalışmalara dahil edilmesi, öncelikle istatistiksel analiz sürecinde yeterli serbestlik derecesi üretmeyi amaçlıyordu. Ayrıca, kamu harcamaları ile ekonomik büyüme arasındaki ilişkiye ilişkin mevcut araştırmalar çelişkili sonuçlar vermektedir.

Çalışmanın temel amacı, devlet harcamalarının ekonomik büyüme üzerindeki etkisini Türkiye ve Irak (1990-2020) arasında karşılaştırmalı bir çalışma olarak incelemektir.

Çalışma temel olarak Irak'ta hükümet yatırım harcamaları ile ekonomik büyüme arasında bir ilişki olduğu ve mevcut hükümet harcamalarının kısa vadede ekonomik büyüme ile ilişkisi açısından bir ilişki olduğu sonucuna varırken, mevcut hükümetin herhangi bir etkisinin olmadığını göstermiştir. Irak'ta GSYİH büyümesine uzun vadede harcama.

Çalışma aynı zamanda Türkiye'deki devlet yatırım harcamaları ile GSYİH büyümesi arasında bir ilişki olduğu sonucuna varmıştır. Çalışma ayrıca, Türkiye'de cari harcamaların ekonomik büyüme üzerinde istatistiksel olarak anlamlı bir etkisinin olmadığı sonucuna varmıştır.

Anahtar Sözcükler: Ekonomik Büyüme, Devlet Harcamaları, ARDL.

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INTRODUCTION

Many emerging markets, including Iraq and Turkey, are undergoing major macroeconomic restructuring. However, it is unclear how this process will impact government spending and, as a result, long-term economic development and poverty alleviation. As a result, it is critical to track changes in the quantity and quality of government spending and investigate the underlying causes of these changes over time. Furthermore, it is critical to recognize the importance of these expenditures in terms of development and GDP growth. Analyzing the relative contribution of various expenditures to production growth and poverty alleviation will provide critical information for more efficient allocation of material and human resources, resulting in future GDP growth. (Gupta, Baldacci, & Granados, 2002).

The relationship between government spending and economic growth has sparked the interest of economic academics, both theoretically and empirically. In general, two opposing points of view can be distinguished: the Keynesian approach and the opposing view. The Keynesian approach posits that government expenditures are vital political tools that should be utilized to maintain a well-functioning economy. It suggests that government intervention is necessary to address short-term cyclical fluctuations in economic performance and to promote productive investment, thus providing optimal social and economic direction for growth and development. On the other hand, the opposing view argues that excessive state involvement in the economy hampers performance and GDP growth for two reasons. Firstly, government operations often suffer from inefficiencies, leading to a reduction in overall economic productivity. Secondly, excessive government spending, coupled with high tax levels, can distort economic incentives for production and result in ineffective and inefficient economic decisions. This debate among economists' sheds light on the complex relationship between government spending and economic growth. It underscores the importance of analyzing the efficiency and effectiveness of government expenditures and considering the impact of fiscal policies on overall economic performance and development (Hjerppe, Kiander, & Viren, 2006, p.80-92).

The point of view that advocates for a greater role for the government argues that it can provide certain products and services that the private sector cannot. When considering the legal responsibilities of the government, such as property rights, security, law and order, etc., the existence of government is justified. From this perspective, government expenditures are deemed necessary to address the challenges of economic development. In Iraq, where the state-dominated economy is primarily driven by the oil sector, government income is largely derived from it, accounting for approximately 85 percent. As of 2021, Iraqi government expenditures amounted to around 39.31 percent of the country's GDP, reflecting their significance in the economy. On the other hand, Turkey exhibits a mixed economy, characterized by an emerging private sector alongside centralized economic planning and government control (Gupta, Baldacci, & Granados, 2002).

The continuous growth in government expenditures in Iraq and Turkey has demonstrated a clear relationship between public expenditures and economic success for many years. However, most emerging countries face significant challenges such as a large debt burden, rising inflation, budget deficits, and balance of payments deficits. These issues may stem from weak domestic politics or external pressures. Increased government expenditures can sometimes exert pressure on economic growth by diverting limited resources from the productive sector to less productive sectors, where they are utilized inefficiently. The growth effects of government expenditures, particularly in certain sectors of the economy, are particularly beneficial for Iraq and Turkey. Both countries face resource constraints, making the allocation of scarce public resources between sectors critical (Eggoh, et al., 2015).

Furthermore, the current research on the relationship between government spending and economic growth yields contradictory conclusions. For instance, Aregbeyen (2007) found a significant and positive correlation between government spending and economic growth. Conversely, Abdul Karim Abdullah (2012) identified an intrinsic but negative relationship between government spending and economic growth. Meanwhile, Akpan (2005) suggests a minimal

connection. These divergent findings present an opportunity for future research, particularly in the contexts of Iraq and Turkey. Consequently, this study aims to examine the contribution of government spending components to economic growth in Iraq and Turkey, as well as the disparities between the two countries

The study is significant for several reasons. To begin, the analysis provides a more in-depth understanding of the relationship between components of government spending and economic development than previous empirical studies that relied on aggregate government spending measures. Second, the goal of this research is to provide new insights into the relationship between government spending and economic development. The study's findings may also aid in determining how to reallocate resources from less productive to more productive sectors of the economy, thereby promoting economic development. Third, an important feature of this study is its use of up-to-date data, descriptive analysis, and a more advanced econometric approach (panel data estimation) to investigate the impact of government spending on economic growth. Finally, this research will add to the existing body of knowledge and pave the way for future research in this field (Gujarati, Porter, 2009).

The main objective of this thesis is to examine the impact of government spending on economic development in Iraq and Turkey from 2011 to 2021. The thesis consists of three chapters. The first chapter covers the definitions and scope of government spending, the significance of government spending, types of government spending, government spending in Iraq, government spending in Turkey, and theories related to government spending.

Generally, this thesis consists of four main chapters. The organization of these chapters is summarized as follows:

a) Chapter two: includes the meaning of economic growth, determinants of economic growth, economic growth theories, economic growth in Iraq and Turkey, and the relationship between economic growth and government spending.

b) Chapter three: focuses on the methodology and results, encompassing the research design, study model, data analysis, root unit panel test, cointegration test, post-estimation panel diagnostic tests, serial correlation test, and heterogeneous flexibility test.
c) Finally, chapter four of the thesis comprises the conclusion, policy recommendations, areas for further research, and limitations.

CHAPTER ONE

GOVERNMENT EXPENDITURES

1.1. The Concept of Government Expenditure

Government spending generally refers to the money the government spends stuff on infrastructure, basic human necessities, wages and salaries that help people earn a living. Technically, there are three categories in government spending which are government consumption, investment and transfers. In particular, there are two definitions of the idea of government spending: limited definitions and blanket definitions. According to Lamarthina, & Zaghini, (2011), government expenditure is the process of giving goods and services to the citizens of a nation. Along with expenditure stimulated by the government sector, the broader term also includes the internalization of externalities, it thus contains government laws and regulations, which induce the private sector to spend money on the economy. Government spending on all areas of the economy, including defense, education, health, and sports, is referred to as government spending (Lamarthina, & Zaghini, 2011, p.150-154).

Government spending occurs in any sector of the economy as capital expenditure or recurrent expenditure. The main finance source of government spending is taxes. Privatization is another way to finance government spending, however different than tax it generates one-time income. The second most common finance source is borrowing which can be domestically or internationally. The main difference between borrowing and other sources (tax and privatization) is generational impact. If a government imposes tax, the current generation pays it, but for borrowing current generation gets benefit and next generations pay it. (Leanghak Hok, 2020, P.22-26).

Furthermore, government spending may be divided into two components according to the Medium-Term Expenditure Framework. These are the statutory and arbitrary elements. these payments known as discretionary expenditures allow the government to use some discretion in determining how much money to spend on them. Discretionary spending commitments for any fiscal year are determined

by the government's current priorities and the resources that are available for that purpose. Statutory responsibilities are obligations that are outlined in legislative documents or that are supported by the law (Makin, & Ratnasiri, 2015, p.154-156).

1.2. Roles Of Government Expenditure

The three instrumental roles of government expenditure can be defined as follows:

1.2.1. Government Expenditure and Private Consumption

The relation between government expenditure and private consumption was reflected from the Keynesian theory. The multiplier impact of fiscal policy has been a topic of intense dispute among academics for a long time. Under the premise of fixed wages and prices, Keynesian theory predicts that a sizeable portion of the population is either short-sighted or liquidity constrained, having a high marginal propensity to consume (MPC), which means that if households receive an increase in disposable income, they spend it rather than save it. A rise in national income has a second set of impacts on previously underutilized economic resources, which is known as the Keynesian multiplier (i.e., the value of the multiplier effect of government spending on output is higher than one). Following these rounds of impacts is the workers' additional income, which multiplies consumption by a huge amount (Abel Nyarko, and Asomani, 2017, p.24-28).

Numerous recent empirical studies indicate that the expansion of government spending results in an increase on private consumption. Some neo-Keynesian models seem to support this idea. Leanghak Hok, (2020) evaluated the impact of a government expenditure shock on private consumption in accordance with the neoclassical model exposed to imperfect competition and growing return due to specialization and monopolistic competition. There are two categories of producers in the market that are engaged in free-entry monopolistic contests.

Government expenditure is increased because it promotes businesses to enter the market, which raises overall demand. In terms of the entire sector, new entrants (new businesses) produce high labor productivity in response to an increase in employment brought on by an increase in the relative cost of intermediate products. Increased government expenditure improves production and capital stock, which increases the number of hours worked as a result of an increase in capital. Positive government spending shocks provide a rise in capital stock and production under conditions of growing return to specialization, which is more significant than a change in hours worked. As a result, we may say that the degree of returns to specialization (i.e., the elasticity of hours with regard to government spending) is less than one. The relationship between earnings and hours worked is implied by the wage-hour locus, which is a curve. This curve results from the collection of potential intersections between labor supply and labor demand (Makin, & Ratnasiri, 2015, p.154-156).

The wage-hour locus and its impact on the whole labor market show that there is a positive correlation between pay and hours worked when there is a sufficient level of growing return to specialization. Alternative: At any level of growing returns to specialization, an increase in capital over a successful development in hours worked must result in an improvement in long-run real wages. Ramey, (2011) came to the conclusion that more government spending increases the capital stock and the overall productivity of the economy. A sufficient increase in real profits interacts with an increase in total productivity and leads to an increase in consumption. Therefore, it is evident that encouraging government expenditure raises private consumption (Iheanacho, 2016).

Karras (1994) studied the relationship between private consumption, that is, individual consumption in various countries, corresponding to increased government spending on goods and services. Unbalanced annual statistics from 1950 to 1987 are taken from the IMF's International Financial Statistics and cover thirty countries. To calculate the relationship between government expenditure and private consumption in each nation. According to their research, a boost in government spending results in a higher marginal utility of private consumption,

proving that government and private consumption are complementary. A higher level of government spending results in less complementarity. Their study's particular tests also seem to support the robustness of this complementarity. Expanding government policy tends to crowd in private consumption more often than it does to crowd it out.

Bouakez and Rebei (2007) studied the elasticity of substitution between government expenditure and private consumption using the Real Business Cycle (RBC) model with preferences. Habit formation is the idea that previous household consumption has an impact on the utility that is produced by current consumption. According to Edgeworth complements, a boost in government expenditure increases consumption's marginal utility, which increases households' incentives to put in more hours at the office. Therefore, a household's ability to labor longer hours lessens the adverse wealth effect. The wealth impact is defined as an increase or decrease in wealth as a result of a change in the price level, interest rate, or disposable income (i.e., more incentive or less discouragement to families to consume).

When the complementarity effect is sufficiently powerful, consumption at equilibrium rises. Similar to the consumption response in the VAR model (A VAR model is a generalisation of the univariate autoregressive model for forecasting a vector of time series), the model generates an ongoing non-monotonic reaction of consumption under habit development. On USA data, maximum-likelihood (ML) was applied. According to Bouakez and Rebei, (2015) private consumption is a strong complement to government spending, thus when government spending is stimulated, private consumption rises.

Murphy (2015) created a neoclassical model that was based on certain presumptions. The findings showed that healthy private consumption responds to a boost in government expenditure because people believe their income levels are improving permanently. According to fundamental principles, a portion of businesses receive financing from government investments and are subject to tax obligations. If business owners believe that a portion of government spending on their companies is greater than per capita total government spending, their

expectation of a rise in permanent income increases dramatically in reaction to expansionary government spending on each firm. Compared to tax obligations, the government spending benefits the businesses' shareholders more. Workers' desired consumption remains constant at the present price if they have incomplete knowledge about the future value of their tax responsibilities and a contract between the government and businesses.

The New Keynesian model, which assumes sticky pricing and wages determined by a union, is studied by Galí et al. (2007). Families plan to supply the needed labor to businesses at the agreed-upon wage rate. With this model, household optimization assumptions are removed. Therefore, households (non-Ricardian households) spend their available cash each time. Non-Ricardian families are those that base their spending decisions on their present income but refrain from borrowing money from the banking system to tame it. Expanding government expenditure increases aggregate demand, which in turn boosts price stickiness and raises labor demand for businesses. Under the monopolistic aspect of the labor market, wages grow in response to a rise in employers' labor demand. The model generates a positive response of private consumption (i.e., crowding-in effect) to a positive government spending shock in terms of a sufficiently large share of non-Ricardian consumers (Bouakez, & Eyquem, 2015, P.182-198).

Abel Nyarko, and Asomani, (2017) used a conventional RBC model based on the supposition of optimizing agents to explore the dynamic co-movement between government expenditure and private consumption (i.e., private agents and the government). Under expansive government expenditure, an interim government maximizes the wealth of the represented private actors. The dynamic inconsistency problem underlies the determination of the ideal level of government spending. Government consumption and government investment policies have been uncommittedly declared. To estimate time-consistent policies, dynamic programming techniques are used. The way the government and private agents interact is determined by the prevailing economic climate.

The model's macroeconomic equilibrium is investigated through Markov-perfect equilibrium. A portion of government expenditure is financed through

taxes on labor and capital gains. The first-best optimum is not attained by distortionary taxes or discrete lump-sum taxes since they balance a budget in the long and short runs, respectively. The outcome of vector autoregressions (VARs), which are done on fictitious data, demonstrates how the simulation of government expenditure affects the crowding out of private consumption and real wages (Makin, & Ratnasiri, 2015, p.156-159).

Shen, Yang, & Zanna, (2018, p.201-206) used a structural vector autoregression (SVARs) technique. There are two sorts of limitations to this strategy (i.e., atheoretical and theoretical). Limitations on structural shocks are referred to as theoretical constraints (i.e., monetary stocks and supply and demand shocks). Theories that account for those shocks are known as theoretical restrictions. With the above-mentioned strategy, a brief shock to government expenditure was implemented. The utility function of households depends on consumption and leisure time that are temporarily impacted by a shock to government expenditure. With a shock in government expenditure, the production function of businesses is subject to the condition of continual return to scale.

They also proposed that real wages increase in response to an increase in government spending. Their conclusions are in line with those of Ram, (1986) , albeit using a different methodology (their methodology is based on the relative magnitude of demand and supply shocks).On the other hand, contradictory findings are produced by alternative theories and empirical study. There are four main tenets of new-Keynesian theory.

(1) Nominal wages are sticky in the near run because they gradually rise or fall in reaction to a labor shortage or high unemployment rate, respectively. Another factor is that a sizable percentage of employees have a labor contract.

(2) Private agents set prices under monopolistic competition in order to maximize their profits, which causes the nominal prices to be sticky. Some businesses may be unable to change their sale pricing at the moment. Because there are two different types of producers (i.e., producers of final goods and producers of intermediate goods) in the market, the adjustment of selling prices

may result in higher expenses for some businesses. Due to intermediate goods serving as the input for businesses that manufacture final products, an increase in the price of intermediate goods hurts the costs of production for final goods (Shen, Yang, & Zanna, 2018, p.206-211).

(3) Companies and consumers both have rational expectations to maximize their respective utility and earnings. Future environments are influenced by current behavior. Typically, households participate in the loan market to avoid affecting future spending.

(4) Monetary policy has a short-term nominal interest rate shock. Expansive government expenditure boosts aggregate demand and the consumption multiplier if the model accounts for consumers' use of the credit market to smooth out future consumption (i.e., a response of private consumption to the improvement of aggregate demand). An elastic interest rate in the loan market has an impact on the incentives for investing in this phenomenon. One concern is the range of government expenditure levels that might discourage investment. To finance their purchases, households borrow money, increasing the consumption multiplier. The consumption multiplier, however, decreases in response to an increase in the interest rate.

Karras, (1994) explored how private consumption might respond to a positive government expenditure shock. The United States' quarterly data are gathered between 1948's first quarter and 1981's fourth quarter. According to the findings, private consumption of nondurable goods and services decreases by 23–42% in reaction to an increase in governmental spending. (Leanghak Hok, ,2020).

Amano and Wirjanto, (1993). used a relative price technique and a two-good permanent-income model to calculate the impact of government expenditure on private consumption in the USA. Data Resources Inc. is where the quarterly data from 1953Q1 to 1992 Q4 came from. They discovered that there is an about 0.9 intratemporal replacement between government spending and private consumption. In other words, a rise in government expenditure reduces private consumption. According to Amano and Wirjanto's methodology, Iwamoto,

(2011) examined a dynamic co-movement between government and private consumption in japan (1997).

Ho (2001) used the panel Dynamic Ordinary Least Square (DOLS) model to analyze the effects of government spending on private consumption in 24 OECD nations. AREMOS/OECD is where the statistics from 1981 to 1997 were retrieved. He discovered that government spending on private consumption had a crowding-out effect (i.e., a decline in investment and consumption or the removal of private sector spending in response to an increase in government spending). In the scenario of perfect knowledge and rational expectation, households curtail their spending in response to the government's expansionary spending because they believe that the government will increase the present value of taxes to pay for its expenditures and that it will eventually achieve budgetary balance.

The analysis's consideration of real disposable income results in a substantial degree of substitutability between government spending and private consumption. Thus, the specification of a regression model depends greatly on actual disposable income. While the higher taxes that are being proposed to pay for the increased government expenditure led to a reduction in private wealth and consumption, neither RBC nor new-Keynesian models can forecast the beneficial impact of government investment on private consumption (Lamarthina, & Zaghini, 2011, P.154-157).

According to several research, there is a non-linear relationship between government spending and private consumption. Mourmouras, & Lee, (1999) emphasize that while Keynesian impact is there in normal times, the non-Keynesian effect only happens when there is a significant amount of debt. To investigate how government spending affects individual consumption, Amano and Karras, (1994) use a two-good permanent-income model. The results using data from the USA using the generalized method of moments (GMM) revealed that there is a non-linear relationship between private consumption and government spending, with the two variables acting as complements, substitutes, or having no relationship at all. The findings of Leanghak Hok, (2020), based on panel data from OECD nations and a probit model, demonstrated that the

relationship between fiscal policy and private consumption is not linear. This non-linearity is brought on by the two key aspects of fiscal adjustment's size and structure.

1.2.2. Government Expenditure and Economic Growth

The relation between the government expenditure and economic growth has been covered by many studies like Chang, Choi, & Park, (2017) and the study of Leanghak Hok, (2020) have addressed the specific contribution that government expenditure makes to economic expansion. A positive correlation between employment and aggregate demand is always explained by the Keynesian theory with the specific assumption of sticky wages and prices. Expanding government expenditure increases incentives to invest, which boosts employment by enabling some initially idle economic resources. When people's thoughts are limited by their ability to save or have short-term goals, a high-income level increases household spending. This is known as the "income effect". Even though government spending exceeds government receipts, increasing government spending boosts both national GDP and private consumption. Additionally, there is a favorable impact on capital formation and savings due to this increase in government spending.

A brief reduction in taxes triggers a rapid and abrupt response in aggregate demand. Therefore, the goal of government economic intervention should be to stimulate aggregate demand and reach full employment. If there isn't enough money, the government should borrow money to pay for expenditures. Government spending that is increased stimulates economic growth (Chang, Choi, & Park, 2017, p.127-130).

However, some hypotheses and studies come to the exact opposite result. According to the Ricardian thought, the government can raise its budget for funding government spending by either accumulation of debt or one-time taxation. According to this philosophy, consumers do not discriminate between paying lower taxes and adding more bonds to their portfolios and paying higher taxes and doing the opposite by buying less bonds. Rising government bond

emission levels now are reacted to by increased taxes in the future that will be used to repay outstanding debts at maturity (Leanghak Hok, 2020, P.26-30).

In its theories and policies, neo-classical theory prioritizes a balanced budget and posits that in general equilibrium, all available economic resources are completely used. Neo-classical economics anticipate that people will only create their consumption plans for a certain period of time (i.e., personal life cycle). The increase in private consumption causes a decrease in savings, which raises interest rates to balance the capital market in terms of fully used economic resources. Continuous deficit destroys both private capital formation and the economy Giavazzi and Pagano (1990)

Iheanacho, E. (2016) used the neoclassical model (a neoclassical model is a broad theory that focuses on the law of supply and demand in terms of the production, pricing, and consumption of goods and services) to study the effects of a short shift in government spending on production without taking into account the effects of externalities, tax distortions, or unemployment. He further assumes that the marginal rate of substitution between consumption and work and between present and future consumption does not change as a result of government purchases. This research, which looks at the impact of government purchases, is based on wealth analysis in the labor market. He contends that the vast expansion of government spending does not enhance the output's notable increase. Productivity responds favorably to an increase in employment when general equilibrium is entirely neoclassical and there is full employment. A fall in wages reacts to an increase in labor inputs, lowering labor supply, if there is no reservoir of jobless employees to keep the pay stable.

Government action may have a favorable or unfavorable impact on economic expansion. The direction of the economy's reaction to rising government spending often depends on a number of variables (e.g., magnitude and types of expenditures). The link between the size of government spending and economic growth is not linear because of how the economy responds to a gradual rise in the value of government expenditures. Due to a degree of private property protection, a decrease in trade costs, and the creation of a trustworthy medium of

exchange, a little increase in government expenditure or collective action generates a significant investment incentive. As the government grows bigger and bigger, its ability to promote growth decreases. When the marginal gains of government expenditure are zero, economic growth peaks. Increased taxation or borrowing through the issuance of high-interest government bonds are two ways that increased government spending hurts economic growth. Additionally, the risk of imbalanced budget on productivity growth increases (Bouakez, & Eyquem, 2015, P.178-181).

The Scully model is used by Chobanov and Mladenova (2009) to investigate an inverted-U relationship between total government spending as a percentage of GDP and production growth in 28 OECD nations. On yearly data from 1970 to 2007, the panel generalized least squares (EGLS) technique was applied. They demonstrated that the ideal level of overall government spending is equivalent to about 25% of GDP. Erickson, Owusu-nantwi, & Owensby, (2015) use the Armey curve to analyze how production growth affects overall government spending. Data were gathered annually from Bulgaria, Romania, and Turkey between 1995 and 2011. Over this time, there is an increase in both physical and human capital, which incorporates time patterns into their research.

Bucci, Florio, & Torre, (2012) looked at the ideal level of total government spending in eight Southeast Asian nations: Brunei, Cambodia, Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam. Databases from the ADB, IMF WEO 2012, and World Bank were used to produce annual statistics for the years 1995 to 2011. The labor force, capital, exports, and total government spending are all included in the regression of economic growth. The panel data from eight nations were subjected to mean group (MG) and pooled mean group (PMG) analyses. The ideal level of total government spending is found to be around 28.5%, according to the results, which show that there is an inverted-U-shaped link between total government spending and production growth.

In Taiwan, Chen and Lee (2005) investigated the non-linear relationship between government spending and economic development. An analysis of annual data from 1980 to 2002 was done using a bootstrapping methodology. Real government spending growth and real government spending as a share of GDP are multiplied in their regression, which shows that real GDP growth is dependent on labor force growth, private industry gross fixed capital formation as a share of GDP, real government expenditure as a share of GDP, and real government spending as a share of GDP. They base their study on three different categories of government expenditures: overall government spending, government investment, and government consumption. They discovered that the increase of output is inversely correlated with all forms of government spending.

Lamarthina, & Zaghini, (2011). looked into the ideal value of government final consumption spending (43 industrialized countries and 86 non-industrialized countries). Growth rate regression also accounts for the lag in growth rate, investment as a percentage of GDP, inflation, trade openness, and population growth.

World Development Indicators provided annual statistics for the years 1980 through 2009. (WDI). To analyze three sets of data, a panel generalized technique of movement approach was used (full samples, industrialized countries, and non-industrialized countries). They discovered that there is a link between government consumption and production growth that is structured like an inverted U.

In 14 industrialized European nations, Hajamini and Falahi (2018) looked at the nonlinear relationship between government spending and production growth. Their study includes three different categories of government spending: final consumption expenditure as a fraction of GDP (FCE), current expenditure other than final consumption as a share of GDP (OCE), and government fixed capital creation as a share of GDP (GFCF). The labor force growth rate, imports as a proportion of GDP, exports as a part of GDP, and private investment as a share of GDP are also considered in the regression of economic growth rate.

1.2.3. Government Expenditure and Competitiveness

Competitiveness reflects the ability of the organization, whether private or governmental, to provide better value to existing and potential customers than competitors. Where the search for a sustainable competitive advantage is considered a necessity for the company, in which marketing plays an essential role. The competitiveness of a nation serves as a foundation for raising its degree of well-being. Productivity in the economy is attributed to its competitiveness. The improvement in productivity represents economic expansion, which raises income levels and subsequently well-being levels. One facet of competitiveness has historically been the ability of domestic producers to compete with foreign manufacturers on the basis of goods and services that may be substituted.

Changes in trade competitiveness result from fluctuations in the nominal exchange rates of the host nation and its trading partners. In a few studies (Lamarthina, & Zaghini, 2011; Aghion, Akcigit, Cagé, & Kerr, 2015). On the other hand, the real exchange rate has been used as a measure of international competitiveness.

The competitiveness of the economy is influenced by several economic factors. The majority of nations have open economies. National economies are integrated through culture, information technology, investment, and international commerce as a result of globalization (i.e., the interdependence of nations or the economy's opening to the global market). The expansion of the market through international commerce may be a possible sign of trade competitiveness in a globalized economy. That is, a greater market size due to a stronger demand elasticity in the market results in lower pricing for those goods and services and a better level of overall productivity. According to Altunc, & Aydın, (2013, P.66-69), a shift in the size of a foreign market is based on the level of a foreign currency's price.

The overseas market for products and services produced in the home country expands if the foreign prices (price tags in trading partners' currencies) are cheap when compared to trading partners. To compare price levels between

nations, the nominal exchange rate used to calculate the real exchange rate may be used to convert domestic prices measured in local currency into foreign currencies. Because a change in the real exchange rate can alter the pricing in foreign markets compared to those of the trading partners, an elastic real exchange rate fosters an elastic market size and hence trade competitiveness. Therefore, a substitute for measuring trade competitiveness is the actual exchange rate. The actual exchange rate is used to gauge the obvious relationship between costs and prices. The depreciation of the real currency rate in the home country has improved the ability of foreign airlines to compete on price (Kristine Korneliussen, 2009, P.4-7).

Butkiewicz, & Yanikkaya, (2011) created a two-country model that took into account productive government spending and non-Ricardian households. According to Ambler, Bouakez, & Cardia, (2017)., non-Ricardian households are those that base their consumption decisions on their present income rather than borrowing money to sooth their spending. A boost in government expenditure has a positive externality on private sector productivity in the case of productive government purchases. Through demand-side and supply-side channels, the stimulation of government expenditure increases labor productivity in the private sector and has an impact on inflation and marginal costs. Higher consumer spending causes inflationary pressure in the demand-side channel. As a result of increased private sector productivity, domestic inflation and marginal costs drop through the supply-side channel (Leanghak Hok, 2020, P.30-33).

This model's non-Ricardian structure results in expansionary government policies and an imbalanced budget for each era. Therefore, households plan their savings to buy a government bond, preventing their future spending from being impacted. Due to the fact that changes in home consumption only slightly alter aggregate demand, the demand-side channel for non-Ricardian households is weaker than the supply-side channel. Thus, a decline in domestic inflation is the end effect. Due to the monetary policy reaction, a drop in domestic inflation leads to a drop in local interest rates, which depreciates the real exchange rate and improves trade competitiveness (Chang, Choi, & Park, 2017, p.130-134).

Asimakopoulos, & Karavias, (2016) looked at how the real exchange rate and trade balance for 18 industrialized countries responded to the stimulation of government consumption (e.g., Australia, BFinland, France, Germany, Iceland, Ireland, Italy, Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, United Kingdom and the United States of America).

There are nine nations in each of the four groups of samples, which are organized based on the size, exchange-rate flexibility, global capital mobility, and trade openness of each nation. Two groupings of nations are produced by each feature (i.e., high and low level of that characteristic). International Financial Statistics, the OECD Economic Outlook, the OECD Main Economic Indicators, the OECD Quarterly National Account, the Belgian National Bank, Statistics Netherlands (CBS), Statistics Finland, and Statistics Sweden are the sources for quarterly statistics. Unbalanced panel data were used to run the panel VAR model. He discovered that the increase in government spending stimulates the real exchange rate, increasing global competitiveness. The expansionary government policy has varying effects on the trade balance across different samples. In reaction to the expansion of government consumption, countries with weaker international capital mobility or greater exchange-rate flexibility see a faster real exchange rate depreciation and a greater rise in the trade balance (Iheanacho, 2016).

1.3. Government Expenditure Management

1.3.1. The Meaning and Role of Government Expenditure Management

The budget should accurately represent the financial social and economic choices made by society. In order to carry out the obligations placed on it by its inhabitants, the state must, among other things: (i) acquire resources from the economy in a sufficient and suitable way; and (ii) distribute and use those resources in a responsive, efficient, and effective manner. Government expenditure management, although an essential instrument of governmental policy, is only relevant to (ii). It is advised that readers continually remember the

crucial connection between income and spending., i.e., between the money collected whether directly or indirectly from the people and the use of that money in a way that most truly mirrors the user tastes, despite the fact that this book focuses on government expenditure management.

Additionally, strong coordination between tax and budget authorities is essential in a number of areas, including budget forecasting, the creation of a macroeconomic environment, and trade-offs between direct spending and tax breaks (Chen, Yao, Hu, & Lin, 2017, p.257-261).

The procedures by which government opinion is gauged, political responsibility is attained, and government action is monitored is a crucial and crucial subject in politics, but it is outside the purview of this examination. However, the analysis and debate throughout this book are mainly based on the assumption that there is some degree of political and legal responsibility, as well as some degree of power separation between the executive, legislative, and judicial departments of government (Kristine Korneliussen, 2009, P.7-11).

In spite of this, controlling government spending is a useful task. The distinction between the "what" to do in terms of spending policy and the "how" to do it in terms of expenditure management must be stated clearly. True, attempts to distinguish clearly between policy and implementation can lead to unrealistic policies, sloppy execution, and, in the end, terrible policy and poor implementation. The contrast between the aims that government expenditure management procedures and processes are designed to achieve and their soundness, however, continues to be crucial. The systems, methods, expertise, and information needed to create excellent government expenditure management differ from those necessary to create good policy, among other things. As a result, the analysis and debate here are typically appropriate independent of the government in question's economic orientation, strategic aims, or policy decisions (Dabla-Norris, Brumby, Kyobe, Mills, & Papageorgiou, 2012, p.235-250).

However, it is crucial to understand that managing government expenditures depends on the country. Government expenditure management

strategies and suggestions must be firmly based on the administrative, economic, social, and ability for execution realities of the particular nation. Government spending "technology" must be suitable technology, in terms of (i) local comparative advantages, (ii) local institutions, and (iii) genuine local demands, much like any other technology, from water pumps to agricultural fertilizers to building. As a result, every government expenditure management invention developed abroad must be thoroughly examined in the context of the target market in order to be accepted, rejected, or modified as necessary. An assessment of the nation's institutional structure, the availability of pertinent and trustworthy data, and the availability of necessary skills are particularly crucial for the examination of applicability.

As an analogy, it can be said that a location's lack of authorized contractors, heavy machinery, and stable ground does not preclude the construction of houses there, but it does strongly advise against the construction of skyscrapers, especially when such structures may not be desired in the first place (Di Giorgio, Nisticò, & Traficante, 2018, P.60-64).

1.3.2. The Context Of Government Expenditure Management

Growth, equality, and stability are traditionally seen as the main objectives of overall economic policy. It has long been recognized that these three objectives work best together in the long run. The resources required to reduce poverty are provided by economic growth, but it cannot be sustained if it is not supported by adequate stability and equitable policies. Growth is hampered by unstable economic and financial conditions, which often affect the poor the most. Stability, however, is hardly a desirable conclusion in an environment marked by continuous economic stagnation and hardship. However, in the near term, these objectives could be at odds with one another, necessitating a smart resolution and, consequently, a strong institutional processthat takes all three into account in a cohesive policy package (Chang, Choi, & Park, 2017, p.134-136).

1.3.3. The Objectives of Government Expenditure Management

As already said, managing government spending has a practical purpose. It must pursue all three major objectives of economic policy since it is the primary tool of policy. Fiscal responsibility is one of the requirements for financial stability. Economic growth and fairness are also sought in part through the distribution of government funds to diverse sectors. Most clearly, all three objectives necessitate the efficient and efficient use of resources in daily life. As a result, the three aims of overall policy are also the three main goals of excellent government expenditure administration: fiscal restraint (expenditure control), resource allocation in line with policy priorities (referred to as "strategic" allocation), and effective operational management. 7 Consequently, efficient operational management demands both efficiency (lower cost per unit of output) and efficiency. However, as was previously emphasized, it is also crucial to pay attention to proper rules and due procedure. These three main goals will be revisited throughout the book, but some broad ideas are presented below (Facchini, & Seghezza, 2018, P.160-164).

There are connections between the three primary goals of government expenditure management, the principal function that corresponds to each goal, and the level of government where those goals are most frequently implemented. Operational management is primarily an intraministerial endeavor, whereas strategic resource allocation necessitates excellent programming, which calls for suitable cabinet-level and interministerial structures. Fiscal discipline necessitates oversight at the aggregate level. However, it should be emphasized that resource allocation strategy is less open to "technical" development than financial restraint and operational management (Ackah, Adu, & Ohene-Manu, 2014, P.180-186).

Probably the least technically complex step in the budget process is allocating resources among programs. Spending choices are seldom based on technological principles or in-depth research to ascertain the preferences of the people, with the exception of investment projects. The distribution of money is the product of a number of forces that coalesce at various stages of the decision-making process, with an arbitrator who made the judgment based on a faulty

understanding of the current and future political reality. Politicians have a variety of decision-making roles, including those in the ministries, the main offices of the agencies, and many more. They are said to have gained some insight into what the government wants. In any case, less effort is put into gathering and analyzing data at this stage of the budget process than at any other (Bouakez, & Eyquem, 2015, P.178-181).

It shouldn't lose sight of the crucial connection between revenue and spending as a result of our concentration on managing governmental expenditures. It is simple to convert the trio of government expenditure management goals into a trio of budgetary goals. Strategic allocation has a parallel in the tax incidence across different sectors; tax administration, of course, is the revenue element of excellent operational management of spending. Fiscal discipline arises from accurate income and expenditure predictions (Aladejare, 2013).

Therefore, a restriction on total spending is required but insufficient for excellent government expenditure management; on the other hand, implementing the restriction merely from the top may lead to resource misallocation and ineffective operations. Such top-down aggregate limitations are frequently used to combat corruption, waste, and fraud. However, fraud, waste, and corruption are tough weeds. The more effective and worthwhile activities may end up being underfunded if the top-down limit is implemented in isolation and without consideration for how the government expenditure system functions. This is because those activities do not benefit the individual bureaucrats and their private "partners. (In contrast, making internal system improvements without a strict limitation is not believable.) Similar to this, even the strongest inter-ministerial coordination procedures are ineffective if sectorial expenditure initiatives are incorrect or at odds with overarching policy. Finally, it should be noted that management and operational efficiency are often only enhanced within a framework of effective resource allocation and financial restraint, both of which excellent management contributes significantly to (Aghion, Akcigit, Cagé, & Kerr, 2015, P.26-40).

CHAPTER TWO

GOVERNMENT EXPENDITURES AND ECONOMIC GROWTH

In this chapter, basic concepts about economic growth, its theories, how it is measured, and the relationship of government expenditures with economic growth will be covered.

2.1. The concept of the economic growth

Economic growth is defined as a rise in the quantity of goods and services generated by an economy over a given time period. It is expressed as a percentage rise in real growth domestic product, which is growth domestic product corrected for inflation. Growth domestic product (GDP) is the market value of all of an economy's final commodities and services. In this section, review will be made to the classical concept of economic growth and the modern concept according to the following:

2.1.1. Classical Concept of Economic Growth

According to classical economists such as Adam Smith, David Ricardo, and John Stuart Mill, four elements influence economic growth: population, capital goods stocks, extensive land and natural resources, and technological level. According to this viewpoint, the law of diminishing returns with more outcomes will have an impact on economic growth, implying that economic growth will not continue. At first, when the population and natural resources are relatively low, the rate of return on capital investment is high, and the employer gains a significant advantage. This will result in increased investment and economic growth. Such events will not occur in the future. If the population is already too large, the increase will impair economic activity.

The economist Solow in 1956 established the Neo-classical growth theory to improve on the previous classical theories. It focuses on the issue of the accumulated stock of capital goods and its relevance to people's willingness to save or invest. The main assumption of the Solow model is a constant level of technology (no technological progress). The rate of depreciation is regarded

constant, there is no international commerce or money flows in or out, there is no government sector, and the rate of population increase (labor) is likewise considered constant. To simplify the study, the assumption that the complete working population, so the number of persons equals the quantity of labor, can be introduced. According to this idea, the economy is considered to be in stable equilibrium when savings equal investment demands. The stable equilibrium state will alter if the saving rate changes, the pace of technological growth increases, or the rate of technological growth accelerates (Segun, & Adelowokan, 2015,47-49).

Classical Theory of Growth

Classical economists include Adam Smith, Thomas Malthus, John Stuart Mill, and David Ricardo, who believe in an automatic free market with no government interference. The pace of technical advancement and population increase were used by classical economics to explain the growth process. For a while, technological advancement takes the lead, but it fades when profit declines limit further capital accumulation in the economy. At this point, the economy is in a state of stagnation. Assume that a predicted rise in earnings leads to an increase in investment, which adds to the current stock of capital as well as better production processes. The rise in capital accumulation gained enhances the salary fund. High salaries boost food consumption as a result of increasing real GDP per person. This will raise demand for labor and capital to meet food production, but employing more labor will result in a lower return on land as well as an increase in labor costs (Stella, Maria & Anastasios ,2019 66-70).

The growth in labor costs will contribute to the cost of manufacturing, eventually raising food prices and reducing profit. Profit decrease will eventually restrict investment, stifle technical advancement, and cut wages and capital accumulation. According to classical economics, the economy has reached a steady state as a result of a halt in further capital accumulation. The classical model is significant because it stressed the role of agriculture in economic growth, as well as balanced growth, capital accumulation, and

population increase. Despite the classical model's usefulness, it was challenged since it neglected government action, ignoring the role of the public sector in driving economic growth. Second, they placed less emphasis on technical growth in limiting dwindling returns to land, and third, they fail to see that the working class saves out of their subsistence income, and savings drive investment when mobilized (Carboni, & Medda ,2011,85-89).

2.1.2. The Alternative View of Economic Growth

According to the new concept the economic growth that is forming now is expanding throughout the world. It is a revolution in knowledge capital and an explosion of information. The major critical aspects are as follows: Schumpeter's innovation theory, inter-firm and inter-industry information diffusion. Improving the efficiency of the telecommunications and computing industries. Global trade has expanded because to contemporary externalities and networks. The modern concept of economic growth relies primarily on two routes of inducing growth through expenditures on the key component of knowledge advances. The first is the effect on accessible commodities and services, while the second is the effect on the stock of knowledge phenomena (Vtyurina, 2020, 85-90).

Many emerging countries attained spectacular growth rates in the 1960s and 1970s, but the standard of life of the majority remained unaltered, indicating that economic growth is not synonymous with economic progress. In other words, contrary to popular belief, the economic progress produced by these emerging countries did not trickle down to the population. Poverty, unemployment, and income unequal have deteriorated in emerging nations, prompting modern economists to reinterpret and broaden the idea of growth to include a rise and improvement in wellbeing. Economic growth, according to this argument, was defined as the decrease of poverty, inequality, and unemployment via the provision of fundamental social services and jobs within a developing economy. Dudley Seers defines economic progress by posing the question, "What has happened to poverty, unemployment, and inequality?" That if an economy has all or any of these difficulties, it cannot be considered

developed, even if per capita income is growing (Lawal & Wahab 2011, 227-230).

Economic growth is the process of growing real per capita income and bringing about significant beneficial changes in the economy's many sectors. The beneficial changes that occur improve people's general well-being and provide a consistent boost in their level of living. Economic growth results in structural changes in many sectors of the economy as well as overall advances in numerous areas of economic activity. As a result, economic progress in a nation is typically signified by an improvement in the residents' quality of life, which must include a cleaner environment, a higher standard of living, better education and nutrition, equal opportunities, and so on. As a result, economic growth may be defined as the process by which an economy progresses from an unsatisfactory state of affairs to a state of affairs that is both spiritually and materially better (Jelilov, & Musa, 2016,15-18).

2.2. The Objectives of Economic Growth

There are many goals that countries seek through economic growth to achieve, the most important of which are (Augustine, Odubuasi & Vincent Ezeabasili, 2018):

1.Sustenance: The capacity to improve the availability and spread of fundamental life-sustaining items such as food, housing, health, and protection.

2.Self-Esteem: The ability to boost living standards by increasing salaries, creating more employment, improving education, and paying more attention to human values, all of which will serve to improve not just material well-being but also individual and national self-esteem.

3.Liberty from slavery: The ability to broaden the variety of social and economic options open to individuals and nations by liberating them from servitude and dependency not just on other people and nation-states, but also on forces of ignorance, illiteracy, and other human misery.

2.3. Determinants of Economic Growth

The following elements influence the process of economic growth and growth:

1. **Natural Resource Availability:** Everything in nature that may be exploited commercially qualifies as a natural resource, including water, land, forests, the environment, and so on. The quantity and quality of these natural resources are crucial for economic development, but if the resources are present but underutilized, economic development will not take place. For instance, Japan has little to no natural resources yet is among the developed economies, but Iraq has remained poor and underdeveloped despite having abundant natural resources (Adepeju, 2018, 995–1000). The history of Japan shows that the presence of natural resources is not a prerequisite for economic success because technology advancements may help nations lacking natural resources adopt synthetic equivalents or even transform worthless resources into valuable ones.

2. **Capital Amassment:** Buildings, power, communications, and land are examples of man-made objects that may be acquired through capital accumulation. The primary goal of economic growth is capital accumulation since higher capital availability per worker boosts productivity, which in turn boosts economic growth. For instance, the fact that people employ capital goods that were created a while ago makes industrialized countries' productivity levels high. Lack of physical capital may be a contributing factor in emerging economies with low productivity. Higher savings are required for capital growth, but if those savings are accumulated in the form of cash, gold, or landed property, economic growth will be constrained. Emerging nations must organize resources and invest them in productive endeavours if they are to contribute to economic success. (Afxention, & Serletis, 2011,148-150).

3. **Technological Advances:** Another important factor in predicting economic development is the rate of technological innovation. The development of new and better processes, procedures, and techniques for creating a range of goods and services is a result of technological innovation. New technologies can be developed or existing ones improved through research and development. With

the use of technology, productivity may be increased while using the same resources, or the same amount of output can be produced with less resources. An economy will be able to escape economic stagnation and instead increase productivity thanks to technological innovation. In the United States of America, for instance, the use of mechanized farm equipment has increased agricultural productivity. (Ramey, 2011,25-30).

4. Population Expansion: A point of controversy has been the contribution of a rapidly expanding population. Some contend that an increase in labour supply brought on by population expansion has a detrimental effect on economic growth, while others contend that it has a positive effect. Whether the labour force is productively absorbed into the system determines how rapid population increase affects a nation's economic growth. (Nurlina,2015,3-10).

5. Growth of Human Capital: Growth of human capital is also necessary for improved economic growth and growth; physical capital is not the only capital needed for economic progress in a nation. In order to improve the quality and quantity of human resources, investments must be made in people's knowledge, abilities, training, education, and health. Humans organize the other elements of production, which results in the accumulation of capital and the use of natural resources. A nation's output will increase if its human resources are highly skilled and in good health, but an economy that is unable to enhance its labour force's skills, knowledge, and health will not be able to expand. Brain drains—the exodus of highly educated workers to other nations in search of greater wages—is a significant problem in emerging nations. (Stella, Maria, & Anastasios ,2019,54-59).

6. Flow of Foreign Investment: Foreign direct investment is an essential means for developing countries to drive economic progress. Foreign investment boosts the flow of foreign money into emerging economies, even if most foreign investors return their earnings. Foreign investment boosts the pace of capital creation by allowing emerging nations to acquire more sophisticated practices utilized in rich economies. When local savings are insufficient to cover the cost of the required capital goods, the government might borrow from other

nations to supplement. The government can also borrow at a low interest rate from the World Bank or the International Monetary Fund (IMF) to boost productivity and accelerate economic growth (Nyarko-Asomani, Bhasin, & Aglobitse, 2019,50-56).

2.4. Growth Strategies: Balanced and Unbalanced

Two major schools of thought have produced approaches to economic growth. Balanced and imbalanced growth strategies are the techniques.

2.4.1. Strategies for Balanced Growth

Economists such as Segun, & Adelowokan, (2015) and Pesaran, Shin, Y., & Smith, (2001) are supporters of the balanced growth concept. They believe that there should be simultaneous investment in a variety of industries to ensure that diverse industries expand in a balanced manner, or investment in laggard parts of the economy until all sectors are equally developed. Balanced growth includes balancing social and economic overheads (such as power and energy, drainage systems, and so on) with directly productive investment such that all sectors expand in lockstep. In other words, proponents of the balanced growth plan argue that in order to improve growth and revenue, both the agricultural and non-agricultural sectors must be developed concurrently and aggressively. For example, with the concurrent expansion of agricultural and the industrial sector, employment in the industrial sector will raise demand for food and raw materials required by industrialists.

According to Pesaran, Shin, & Smith, (2001), the vicious cycle of poverty may be halted by concurrent investment in a wide range of businesses. From the supply side of the vicious cycle of poverty, he recommends for concurrent investment in areas such as power, agriculture, transportation, irrigation, intermediary products, and so on. And from the demand side, it refers to the availability of job opportunities and incomes in order to encourage investment through increased savings as a result of increased employment and income.

According to Lewis, growth programs should incorporate a balance of agricultural and industry, output for consumption and exports; in other words, a balance of the domestic and foreign sectors is essential. The balance growth philosophy of combined effect of all sectors is questioned since industrialized countries lack the resources to pursue balance growth. Meanwhile, resource scarcity is a key issue for emerging nations. Second, the balancing growth concept promotes encouraging the formation of new industries rather than evaluating cost reduction opportunities in current businesses (Saidu, & Ibrahim, 2019).

2.4.2. The Unbalanced Growth Strategy

Economists such as Singer and Hirschman argue that in order for an economy to flourish, investment should be concentrated on specific critical industries. This is known as the unbalanced growth doctrine. Hirschman called for a large push in specific economic areas. Underdeveloped countries may pursue imbalanced growth by making initial investments in either social overhead capital or direct productive activity rather than concurrent investment. Investment in education, public health, communication, and public utilities such as lighting, water, drainage, and irrigation projects are examples of social overhead capital (Carboni, & Medda ,2011,68-86).

According to Saidu, & Ibrahim, (2019), the investment cycle might begin with investments in social overhead capital and then progress to investments in direct productive activity. Furthermore, the sequence of investment might result from initially investing in direct productive activity. If direct productive activity is first invested in, a lack of social overhead capital will raise production costs, and political pressure will eventually promote investment in social overhead capital.

2.5. Measurement of Economic Growth

In the 1950s and 1960s, economic growth and growth were thought to be synonymous and were used interchangeably. However, there has been a divergence between the two conceptions since the 1970s. There are two ways

to understand the meaning of growth: the traditional or orthodox view of growth and the contemporary or alternative view of growth. Traditional economists did not differentiate between growth and economic growth. According to them, economic growth is achieved when a nation's gross domestic product grows significantly and steadily. They concentrated on structural shifts that cause labour to move from agriculture to modern industries. This shows that although the labour force in modern industrial and service sectors is growing, it is shrinking in the agriculture sector. It was anticipated that the structural changes brought on by growth would benefit the general people by increasing employment and job opportunities. (John & George 2005,130-139).

Traditional economists regarded the function of social variables such as literacy, good health, wealth disparity, and so on as secondary. This indicates that no specific emphasis was paid to reducing income redistribution inequities or eliminating poverty and unemployment. The traditional understanding of growth's inadequacies gave rise to the alternative view of growth. Economic growth is often quantified in terms of a rise in yearly Gross National Product (GNP) or Net National Product (NNP), as well as an increase in per capita income. The Gross National Product (GNP) is a measure of an economy's overall output of goods and services, whereas per capita income is a measure of each citizen's average standard of living (Samimi, & Habibian, 2010,118-121).

There are three main ways to measure a country's economic growth:

1. The income method, as the name implies, measures people's earnings.

2. The output method assesses the worth of goods and services required to achieve these earnings.

3. The expenditure method quantifies spending on goods and services.

2.6. Government Role in Economic Growth

Some of the primary economic difficulties that any country faces include economic growth instability, unemployment, price increases (inflation), and the balance of trade and balance of payments. Every economic policy is designed

to handle these economic issues. Macroeconomic policy objectives can be divided into five categories: (1) to stabilize economic activity; (2) to achieve full employment without inflation; (3) to prevent the issue of rising prices; (4) to generate strong economic growth; and (5) to realize the substantiality of the balance of payments and foreign exchange rates (Arpaia, & Turrini, 2008,13-33).

Keynes, in particular, claimed that aggregate expenditure determines the pace of economic activity. In general, aggregate expenditure over a given period is less than the total expenditure required to achieve full employment. This is due to the entrepreneur's investment, which is often lower than the savings to be generated in a full-employment economy.

In such a case, Keynes believed that the free-market economy will be unable to make the necessary changes to achieve full employment. Fiscal policy, monetary policy, and direct supervision can all be used to create the required circumstances for government policies. Fiscal policy is implemented through determining government spending and receipts. When there is inflation, fiscal policy is generally used to cut government expenditure and raise taxes. In contrast, if there is significant unemployment, the government attempts to increase spending while decreasing taxation. Monetary policy is thus implemented via altering the money supply and interest rates. Making the rules provides direct monitoring (Fan, & Rao, 2003,99-105).

Harrod-theory Domar's of economic growth discusses the conditions that must be satisfied for an economy to attain long-term growth or steady growth. Harrod-Domaranaly- sis employs analogy-analogy in the following ways: (i) capital goods have achieved full capacity; (ii) savings are proportionate to national income; (iii) the capital-output ratio is fixed; and (iv) the economy is divided into two sectors. This theory supplements Keynes' thinking in that Keynes takes a short-term view, whereas Harrod-Domar takes a long-term view. Harrod-Domar According to the study, even if capital goods have reached full capacity in any given year, the aggregate spending in the year, namely AE = C + I, will result in capital goods capacity increasing in the next

year. In other words, present investment will boost capital goods capacity for the issuance of products and services in the next year (Bader, & Abu-Qarn, 2012,12-17).

The duty of government must be carried out, including the roles of allocation, distribution, and stability. The government plays the function of allocation, in which the distribution of economic resources is carried out efficiently, particularly in supplying products and services that the private sector cannot deliver. The function of fiscal policy conducted by the government via a state transform society in line with the projected distribution of income through progressive taxation, i.e., the relative tax burden is larger for those who are able and redistribute to the poor. Stabilization is accomplished by the government's attempts to implement policies targeted at mitigating excessive economic shocks (Ensar Ağırman, & Ömer Yılmaz, 2018,522-525).

The function of government in the economy is essential to establish legal systems or rules that the private sector cannot offer, as well as to repair market failures that may occur in some manner. The first is imperfect competition, in which markets are flawed and tend to monopolize, resulting in higher prices and less productivity. The government is supposed to control and improve the community's welfare, which is not lowered. Both are connected to public goods (public goods), which are non-excludable and non-rivalry. This system is designed to provide commodities that the private sector cannot provide. The government must take action. The final consequence is that in a market system, externalities are selfish, therefore the aim is to reduce costs while ignoring indirect effects such as social repercussions. Fourth, there is a failure of information, which means that in certain circumstances, those who actually need the information, such as weather forecasts, cannot get it from the private sector. Agriculture and maritime industries require meteorological information on a regular basis, but the private sector does not offer it. The weather forecast should be provided by the government (Saidu, & Ibrahim, 2019,170-174).

An ideal economy is totally competitive, with resource allocation coming from the voluntary exchange of products and money at market prices.

This would result in the greatest possible number of products and services from all available economic resources.

The truth is that the market is not always in its perfect condition. Market economy is frequently associated with pollution and monopoly, as well as skyrocketing inflation or unemployment, and in fact, the distribution of income in a laissez-faire society is highly unequal. To compensate for these flaws, the government invested heavily in the economy (Stella, et al 2019,67-70).

2.7.Economic Growth And Government Expenditures

Government spending represents the fiscal policies of the government. If the government has established a policy for purchasing goods and services, government expenditures indicate the expenses that the government will pay to implement the program. Government expenditures in real terms can be used to estimate the magnitude of government activities funded by government spending. The larger and more extensive the government's activity, the greater the government's cost. The ratio of government spending to national income is a measure of government activity in an economy (Maingi, 2017,67-69).

Government expenditure is a component of fiscal policy, which is a government activity to manage the path of the economy by deciding the amount of income and government spending each year, which is expressed in Budget papers for national and local areas or regions. Fiscal policy's goal is to stabilize prices, production, and employment while stimulating economic growth. Based on the identification of state budget components, government expenditure is divided into three categories: central government expenditure, transfers to local governments, and suspension. Personnel expenses, purchasing items, construction expenditures, interest payments, subsidies, grant expenditures, social assistance, and other expenditures are examples of central government spending (Saidu, & Ibrahim, 2019,170-174).

The balance monies, as well as the special autonomy fund and adjustments, have been transferred to the region. The majority of elected expenditure is to finance the management of the state and federal officials,

finance education and health care systems, finance shopping for the military services, and finance different forms of infrastructure that are crucial in growth. Fiscal policy, monetary policy, and supply-side policy are examples of government-run economic policies when it comes to government spending (Segun, & Adelowokan, 2015,52-55).

Fiscal policy refers to the efforts taken by the government to alter taxation and government expenditure in order to influence aggregate spending in the economy. The fiscal policy on total expenditure will be enhanced, which will improve national revenues and employment. This tax cut will enhance people's capacity to purchase goods and services, as well as aggregate spending. The aggregate expenditure can then be enhanced further by boosting government spending on required products and services. In periods of inflation or economic activity, they have achieved a level of full employment and fast rising prices. Otherwise, they have won, with more taxes and lower government spending (Lawal & Wahab ,2011,228-230).

Monetary policy involves government policies conducted by the Central Bank to alter (change) the economy's money supply or interest rates. They intend to have an impact on total spending. Supply-side policies seek to increase the efficiency of businesses by allowing them to sell things at a lower cost or of higher quality. A policy of income (income policy), i.e., government actions aimed at managing the demands of a growth in labor income, is one of the supply side policies. This goal is met in order to avoid an excessive growth in revenue.

Bader, and Abu-Qarn, (2012) created a growth model for the rise of government expenditures that links government spending growth to the stage of economic growth. The proportion of total government investment in the early phases of economic growth is to a large investment since the government should supply the infrastructure at this period. At the intermediate stage, government investment is still required to avert market failure caused by increased private investment. Further, at the economic level, government action shifts to the form of social expenditures.

According to Ramey, (2011), the reason for the increased role of government is that it is the government's responsibility to control social, legal, educational, recreational, and cultural connections. Wagner's legal flaw is that the law is not founded on a theory of the selection of public goods. Wagner's ideas are founded on the organic theory of government (organic theory of the state), which regards the government as a person free to act regardless of other members of the community.

The following government expenditures are considered among the most important government expenses through which sustainable economic growth can be achieved:

2.7.1. High way expenditure (Infrastructure)

High-way expenditures are the costs paid in the construction of roads, bridges, canals, and tunnels for the transportation of people, freight, and products. Long-term assets or essential infrastructure, such as roads, trains, airports, and utilities, are projected to result in bigger improvements in economic production. When communities are connected and an enabling environment is created, it helps businesses be more productive by enabling them to generate more goods and services with the same number of inputs, which promotes long-term economic growth. More government infrastructure spending is expected to increase firm output in terms of total firm production both immediately by increasing demand and later by improving overall productivity. The federal system enables investment in infrastructure by the federal, state, and municipal governments, with the federal and state governments contributing the majority of the direct money.

Infrastructure projects benefit from direct federal support, subsidies to state and local governments, loan guarantees, and advantageous tax treatment. Such infrastructure is advantageous to businesses, households, and the economy as a whole. Infrastructure may help businesses cut their fixed production costs, especially transportation costs, which can sometimes determine where businesses are located (Arpaia & Turrini, 2008, 42–49).

2.7.2. Education Cost

According to Adepeju (2018), current and capital government spending on educational institutions (both public and private), management of education, and subsidies for private entities (students/households and other private entities) constitute public expenditure on education. Adepeju (2018) asserts that the general government's expenditures on education (current, capital, and transfers) are expressed as a percentage of the overall amount of money the government spends on all sectors (including health, education, social services, and so on). It includes public spending that is funded by transfers from foreign sources. secondary education, post-secondary non-tertiary education, and tertiary education are all included in education.

2.7.3. Recurrent Expenditure

All expenses made on goods and services other than capital assets are categorized as recurring spending, including wages and salaries, employer contributions, interest payments, subsidies, and transfers. Spending by the government on goods and services on a regular basis without producing or acquiring new or used fixed assets is referred to as recurrent government spending. Pay, salary, and supplemental expenditure, purchases of goods and services, and the use of fixed capital make up the majority of it. Government spending on products and services for current use is therefore designed to directly address the individual or group needs of community members. This is known as government final consumption spending (Bader, & Abu-Qarn, 2012).

2.7.4. Safety Cost

According to Augustine et al (2018), one of the biggest impediments to growth is war. In this sense, the government at various levels bears significant safety expenses. However, this demonstrates why many countries across the world wish and work to maintain peace and security within and beyond their borders. According to Adams Smith, the government's important role is to protect the society from violence and invasion by independent societies, as well as to protect each member of the society from oppression by another member.

As a result, government spends on security to ensure both internal and external security. As a result, it becomes clear that governments everywhere need to invest in security. Both short-term and long-term predictions may be made regarding government expenditure and how it affects economic growth. However, economists are curious to find out how government spending affects the economy. The topic of economic growth indicators in developed, emerging, and underdeveloped countries becomes relevant (Augustine et al., 2018).

Afxention, and Serletis, (2011) conducted analyses for 51 developing nations and discovered a long term positive co-integration connection between government spending and economic growth via the output channel. Kimberly, (2019) conducted research for 182 nations using panel econometric modeling and discovered that Wagner's rule holds that government spending have a favorable influence on economic growth using the Granger Causality technique. Government expenditure causes negative economic growth in underdeveloped nations because wage employees do not receive a fair salary and hence fail to create production. Under the neoclassical growth theory, Jelilov, and Musa, (2016) discovered that government expenditures and their influence on economic growth are inconclusive for developing nations.

The size of the government and different assumptions made by empirical researchers explain why government expenditure has no long-term influence on economic growth. Lawal and Wahab (2011) discovered bidirectional causation between government spending and economic growth, with a negative sign for emerging nations. In certain studies for emerging nations, the influence of government expenditure on economic growth is mixed. In Africa, government spending on agriculture and health has a significant impact on economic growth, but in Asia, government spending on agriculture, defence, and education has a positive impact on economic growth. Using the simultaneous equation model under the demand side of the Keynesian channel and 28 developing countries, Maingi (2017, 67–73) found that due to collinearity among the independent variables, coefficient estimates do not have the anticipated sign of government expenditure with economic development. Using micro-econometric panel data

for East European countries, Bader and Abu-Qarn (2012) demonstrated a positive association between government spending and security expenditures, but a negative correlation between government spending and national defence and general public services. There is no correlation between healthcare and educational spending and economic growth.

Some studies indicate the following outcomes from government expenditure on economic growth in industrialized nations via various channels: Fan, & Rao, (2003) demonstrated how government spending affects long-term economic growth in the United States using an endogenous growth model. Samimi, & Habibian, (2010), using multivariate time series from the G-7 countries, demonstrated that government spending and its influence on economic growth may vary over time and across large industrialized countries. They demonstrated that determining the sign of the link between government expenditure and economic growth is ambiguous.

Using cyclical adjustment and elasticity analysis, Ramey (2011) found that there is a long-term co-integration relationship between government spending and economic growth in the primary expenditure and output channel for European Union states. Through the routes of capital creation, growth aid, private investment, and trade openness, government spending has a positive effect on economic growth in Eastern European countries. There is a bidirectional causal relationship between government expenditure and economic growth in the United States when using the simultaneous equation model under the labour market channels.

As a general perspective, several theories demonstrate the many macroeconomic channels via which government expenditure affects economic growth under time series analysis for the single country analysis. Exogenous population growth and the pace of technological advancement can be used to calculate economic growth. Government investment through the provision of low-interest loans to the private sector results in efficient and effective operations. Adepeju, (2018) shown that government spending on agricultural growth, health policy, transportation, communication, saving, and income

determination had a favorable effect on economic growth. Long-term economic growth cannot be dictated by government expenditures. Kimberly, (2019) demonstrated that if the government already has a balanced budget, government spending has a detrimental impact on economic growth. According to Samimi and Habibian (2010), government spending has a favorable impact on economic growth via trade openness.

CHAPTER THREE

GOVERNMENT EXPENDITURES AND ECONOMIC GROWTH

3.1. Government Expenditures and Economic Growth In Turkey

The relationship between public government expenditures and economic growth is a very important topic at the country level, especially when comparison is made between different countries, as in this study, where econometric models are relied upon to study the relationship between government expenditures and economic growth in the short and long term, including the study of joint integration and the ARDL model .In addition, while some of these studies examine single country data, some also examine groups of countries such as the European Union and South American countries (Gupta, 1967; Grossman and Lucas, 1974; Nihat and Alagöz, 2005; Bose, et al., 2007). Fan and Zhang, 2008; Başar et al., 2009; Uysal and Mukoc, 2009; Gul and Yavuz, 2011; Antonelli and De Bonis, 2019). This study seeks to compare Iraq and Turkey in terms of the relationship between government expenditures and economic growth

Several studies have been conducted on public expenditures in Turkey, including a study by researchers Bağdigen, and Çetintaş, (2004). aimed at determining the distribution of public expenditures at the level of the Turkish provinces (except for Istanbul and Ankara) and the factors affecting the distribution and educational and health expenditures as a dependent variable, as well as total expenditures general as dependent variable, and population, person as independent variable. GDP per capita, economic development index, primary school enrollment rate, and health development index were used. In the study, in which a spatial econometric approach and affinity analysis were used, the strength of the mutual interaction between regions in the process of distributing expenditures of regions/provinces in Turkey was revealed. In another result obtained in the study, it was noted that the imbalance in the regional distribution of education and health expenditures had increased in the period 2004-2007 (Aysu, and Bakırtaş, 2016).

A study by Karakurt and Okutan (2018) aimed to determine the relationship between public income and expenditure on a regional scale in Turkey in the period 2005-2014. For this purpose, real public expenditure, real GDP variables for the period 2005-2014 are made according to the functional classification of 25 sub-districts in Turkey, which is called level 2 in the Turkish Statistical Institute classification, and the unemployment rate was used as a control variable. The results obtained from the regression analysis indicate that the increases in GDP that occurred on a regional scale in Turkey in the period 2005-2014 do not have the potential to increase functional overhead expenditure more than the increase in it.

Also, a study was conducted by Bakkal, (2016). The study aimed to measure the efficiency of public investment expenditures made in 26 regions of Turkey, covering the years 2009-2011. In the study, the output-oriented BCC model was used, which is one of the data envelope analysis models. According to the results of the study, it was noted that the effectiveness of expenditures allocated to public investments varies from year to year. Additionally, it was determined that there was an increase in the number of active regions between 2009-2011; However, it was decided that efficiency could not be achieved in all 26 regions in these three years. Accordingly, the regions that could not achieve efficiency between 2009 and 2011 were mainly those in eastern and southeastern Anatolia.

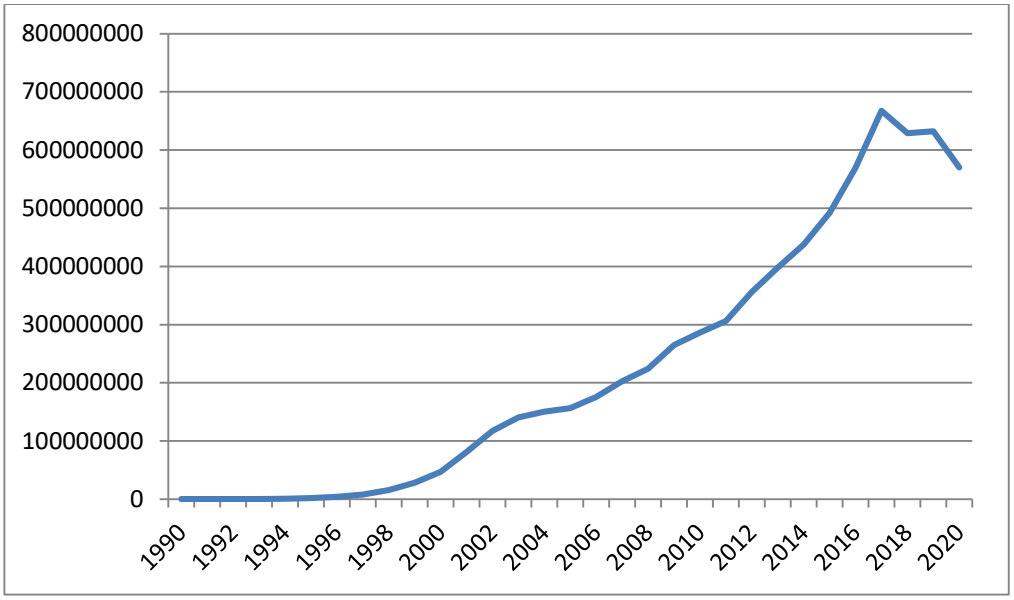

Figure 1: General government expenditures of turkey from 1990 to 2020

Source: The researcher design depending on the world bank data with USD

It is clear from Figure No. 1 above that the ratio of public expenditures to GDP increased from 1990, when it was 17,4% to, 41,8% in 2001, then decreased until 2005, where it reached 31,8%, and stabilized at around 34% until 2020.

By looking at figure above, we notice an increase in the gross domestic product in Turkey from 1990 to 1994, when it decreased and reached $130.69B, then it rose again to 2000, reaching $274.30B, and then decreased in 2001, when it reached $201.75B, and then continued to rise until 2013, when it reached $957.78B. From 2013 to 2020 it continued to decrease, reaching $720.29B in 2020.

Figure 2: GDP of turkey from 1990 to 2020

Source: The researcher design depending on the world bank data.

3.2. Government Expenditures and Economic Growth in Iraq

For the year 2018, the size of the Iraqi economy was 238 billion dollars. Since oil accounts for 95% of Iraq's overall GDP, the oil industry is the only source of the country's economic activity. Iraq was highly indebted following the first Gulf War, which resulted in projected losses of $100 billion. Economic factors had the biggest role in the Iraq war in the second Gulf War. Two years after the end of the first Gulf War, the second war increased Iraq's economic problems, as it imposed an economic blockade on Iraq from August 6, 1990 to April 21, 2003 (Arab Monetary Fund AMF, 2020).

It was used in the partial reconstruction of service facilities in Iraq, and it was later found that this program suffered a lot from problems of administrative corruption, as senior United Nations officials were involved in cases of bribery and embezzlement as a result. A small part of this money reached the simple Iraqi citizen.

Iraq decided to switch from using US dollars to the euro for oil sales in 2000. The UN used to deduct 28% of the funds from Iraqi oil GDI to United

Nations personnel and managerial duties related to the sea under the Oil-for-Food Program, and before the invasion of Iraq in 2003, Iraq's production had reached 3/4 of what it had been before the second Gulf War (Central Bank of Iraq, 2021).

Public expenditures in Iraq in general after 1990, the year in which Iraq was under siege as a result of the Gulf War, increased, but focused mainly on the energy sector as well as armaments and defense, which led to the deprivation of a large number of Iraqi citizens from social services and with the rise in the gross domestic product of Iraq Pressures to allocate large sums to defense and armament increased, and after the US invasion of Iraq in 2003, expenditures were directed more towards social services, and in 2014 the problem of the war against terrorism in Iraqi territory returned(Central Bank of Iraq,2021)..

The ratio of public spending to GDP exceeds (30%) in most years of research. As for the years when this percentage was low, it was between 1996 and 2002, as this period witnessed the implementation of the United Nations Oil for Food and Drug Agreement, so that the Iraqi government could dispose of oil revenues. Significantly, in addition to the United Nations paying compensation for those revenues, whether to Kuwait invaded by Iraq or to other countries and their nationals who were harmed by this invasion. Also, for the GDP, public spending decreased during those years (1996-2002) due to the contractionary fiscal policy adopted by the Iraqi government. After the inflation rate reached a record level in 1995, and the Iraqi currency witnessed a serious deterioration, the monetary policy was modified from expansion to contraction, as the money supply decreased (the new money issue), and this was accompanied by other measures. Including selling some state property and raising prices. Services (such as water and electricity) to save revenues as well as the relative reduction and rationalization of public expenditures (Al-Faris, 2012).

The tendency of public spending to increase, taking the form of jumps in numbers from after 2003 until 2020, in addition to the fact that most of it is an apparent increase, does not mean success in fiscal policy, as the role of this

policy is limited, and in general expenditures are determined, mainly, on based on the level of available revenue.

For example, oil revenues increased in Iraq in 2008 as a result of the extraordinary jump in crude oil prices, which exceeded (137) dollars per barrel. This led to an expansionary fiscal policy as a result of the increase in public spending, which was higher by up to (71%) in the years after 2007, and this included the two types of investment and current spending, and this led to a significant increase in salaries and wages to compensate for the weakness of salaries in previous years. However, as soon as the global financial crisis occurred in late 2008 (and the accompanying economic downturn and scarcity of cash represented in the decline in demand for various types of goods and services), the global market witnessed a significant decline in the demand for goods and services (Arab Monetary Fund AMF, 2020).

Figure 3: GDP of Iraq from 1990 to 2020

Source: The researcher design depending on the world bank data

It is noted the growth of the gross domestic product in Iraq from 1991 to 2014, when it decreased by more than a quarter due to the terrorist wars that Iraq suffered from, then it returned to rise to 2019, when it reached $233.64B due to the Corona pandemic, and it returned and rose in 2020 to $184.37B.

Through the comparison between Turkey and Iraq, we find that the gross domestic product of Iraq increases from 2013 relatively, but in Turkey it continues to decline from 2014, knowing that the gross domestic product of Turkey is approximately five times the GDP of Iraq, which allows it to spend more publicly as it is noted By looking at the public expenditure tables in each of the two countries, the public expenditures in each of the two countries constitute more than 30% of the gross domestic product.

CHAPTER FOUR

EMPIRICAL ANALYSIS

4.1. Study Methodology

As mentioned previously, this study aims to investigate the relationship between government spending and economic growth in Iraq and Turkey from 1990-2020. The study utilized the Dependent Variable represented by Gross Domestic Product, denoted by GDP in the equation and the following independent variables: Government Consumption, denoted by GC in the equation, Private Consumption, denoted by PC in the equation, Total Investment, denoted by I in the equation, Import/Export ratio, denoted by M/X in the equation, Average Annual cured oil price, denoted by oP_o in the equation, and Stability, denoted by ST in the equation. Stability is a dummy variable that aims to capture relatively safe and normal times.stb=0 If the life expectancy is lower than its trend. Measured at 2010 prices in US dollars. The data for the study were obtained from the World Development Indicators (WDI) database of the World Bank.

Log transformation was done due to scale differences among the variables.

Variables were checked for stationary by PACF charts and the Augmented Dickey_fuller Statistic test, they were not stationary. In order to make them stationary, variables were first-degree differentiated.

dlog (GDP)_t=log f_0 (GDP_(t+1))-log f_0 (GDP_t) =log f_0((GDP_(t+1))/(GDP_t))≈(GDP_(t+1))/(GDP_t)-1

$$dlog\ (GDP)_t = \beta\_0 + \beta\_1\ dlog\ (GC)\_t + \beta\_2\ dlog(I)\_t + \beta\_3\ dlog\ (PC)\_t + \beta\_4\ dlog(M/X)\ \_t + \beta\_5\ dlog\ (P\_o)\ \_t + \beta\_6\ ST + \varepsilon\_t$$

In the prediction equation, constant, M/X and ST variables were statistically not significant, hence the following model was used for the analysis.

$$dlog\ (GDP)\_t = \beta\_1\ dlog\ (GC)\_t + \beta\_2\ dlog(I)\_t + \beta\_3\ dlog\ (PC)\_t + \beta\_4\ dlog\ (P\_o\ )\_t + \varepsilon\_t$$

The study employed the autoregressive distributed lag (ARDL) model, which is a dynamic model that uses bounds testing as an alternative approach to cointegration analysis. This model is commonly utilized in time series analysis when the time duration is relatively short. It aims to examine the short-term and long-term relationships between variables, assuming that the variables in the equations remain relatively stable over multiple periods, si the equation of Economic groth is the following:

Equation (1) $$GDP = GC + PC + I + M/X + oil_{price} + stb$$

Equation 2 for the long-run relationship between variables and 3 for the short-run relationship in the model is derived from Equation 1. ARDL Long-Run Equation:

Equation 2 $$\Delta GDPT\_t = \xi\_0 + \xi\_1\, GDP\_(t-i) + \xi\_2\, GC\_(t-i) + \xi\_3\, PC\_(t-i) + \xi\_4\, I\_(t-i) + \xi\_5\, M/X\_(t-i) + \xi\_6\, oil_{price}\_(t-i) + \xi\_7\, stb$$

ARDL short-Run Equation

Equation (3) $$\Delta GDPT\_t = \Upsilon\_0 + \Upsilon\_1 \sum \Delta GDP\_(t-i) + \Upsilon\_2 \sum \Delta GC\_(t-j) + \Upsilon\_3 \sum \Delta PC\_(t-k) + \Upsilon\_4 \sum \Delta I\_(t-m) + \Upsilon\_5 \sum \Delta M/X\_(t-n) + \Upsilon\_6 \sum \Delta\, oil_{price}\_(t-p) + \Upsilon\_7 \sum \Delta\, stb\_(t-q) + \Upsilon\_8 \sum \Delta\phi ECt-1 \; + \alpha t$$

In equation (2) ξ0, ξ1, ξ2, ξ3, ξ4, ξ5, ξ6 and ξ7, represent long-run coefficients, while in equation (3) short-run coefficients are ϒ0, ϒi, ϒj, ϒk, ϒm, ϒn, ϒp, ϒq and ϒ1; φ represents the coefficient of error correction terms that measures the speed of adjustments towards the long run and (αt) represents the error term.

To assess the presence of a cointegration relationship between the variables, the F value was calculated using the approach by Pesaran et al. (2001), along with critical F values for the lower and upper bounds. In this regard, if the calculated F value is lower than the critical minimum value, the null hypothesis (H0) cannot be rejected, indicating no cointegration relationship between the variables. Conversely, if the calculated F value exceeds the critical upper bound, H0 is

rejected, indicating the presence of a cointegration relationship. When the calculated F value falls between the minimum and maximum critical values, it is inconclusive whether a cointegration relationship exists between the variables. The long-term coefficients of the variables in the relevant models are computed using the approach of Pesaran et al. (2001) and unrestricted error correction models. When a cointegration relationship between variables in an unrestricted error-correction model is identified, the coefficient of one lagged value of each independent variable is divided by the coefficient of one lagged value of the dependent variable, and normalization is performed. The long-run coefficients of the respective independent variables are obtained from this calculation.

4.2. Results

4.2.1. Empirical Results for Iraq

Time series stability test

Due to the time-related and unstable nature of most economic variables, their mean and variance undergo changes and growth over time. Therefore, it is crucial to examine the statistical properties of the time series of study variables before conducting standard analysis. This initial methodological step helps reveal the pattern and direction of the relationship between variables. Additionally, as economic variables change and grow over time, their mean and variance become unstable and time-related, necessitating testing for instability in the time series and implementing appropriate treatments if instability is detected. Conducting regression analysis on unstable time series using standard models can lead to the issue of spurious regression, which poses challenges for analysis and inference. To address this concern, Kyung, Hashim, and Yongchol (2003) proposed a criterion.

To evaluate the stationarity of time series, various unit root tests are employed, including the Augmented Dickey-Fuller test. The null hypothesis of these tests assumes the presence of a unit root in the time series of the variable, indicating its non-stationarity. Conversely, the alternative hypothesis suggests

that the time series is stationary. The following equation will be utilized for this analysis.

Table 1: UNIT ROOT TEST RESULTS TABLE (ADF) for Iraq

		At Level					
		GDP	**X_M**	**I**	**PC**	**GC**	**P_O**
With Constant	**t-Statistic**	**-1.189**	**-2.510**	**-4.347**	**-0.661**	**-0.551**	**-1.544**
	Prob.	**0.666**	**0.123**	**0.002**	**0.842**	**0.867**	**0.498**
		no	**no**	*******	**no**	**no**	**no**
With Constant & Trend	**t-Statistic**	**-2.176**	**-3.160**	**-7.706**	**-1.820**	**-4.656**	**-2.073**
	Prob.	**0.485**	**0.112**	**0.000**	**0.666**	**0.004**	**0.540**
		no	**no**	*******	**no**	*******	**no**
Without Constant & Trend	**t-Statistic**	**-0.676**	**-0.572**	**-3.427**	**1.331**	**0.054**	**-0.315**
	Prob.	**0.416**	**0.462**	**0.001**	**0.950**	**0.693**	**0.564**
		no	**no**	*******	**no**	**no**	**no**
	At First Difference						
		d(GDP)	**d(X_M)**	**d(I)**	**d(PC)**	**d(GC)**	**d(P_O)**
With Constant	**t-Statistic**	**-8.625**	**-5.052**	**-8.106**	**-13.907**	**-6.781**	**-5.754**
	Prob.	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
		*******	*******	*******	*******	*******	*******
With Constant & Trend	**t-Statistic**	**-8.216**	**-5.851**	**-7.456**	**-12.747**	**-6.379**	**-5.643**
	Prob.	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
		*******	*******	*******	*******	*******	*******
Without Constant & Trend	**t-Statistic**	**-8.416**	**-5.085**	**-8.278**	**-12.654**	**-6.470**	**-5.805**
	Prob.	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
		*******	*******	*******	*******	*******	*******

Notes: (*) Significant at the 10%; (**) Significant at the 5%; (***) Significant at the 1%. And (no) Not Significant

Source: Output from EViews version (10)

From the table above, and according to the ADF test, we find that some variables are stationary at the original level of the data and some variables are stationary at the first difference, according to the three equations for stationary tests, so the ARDL method should be used to estimate the relationship between variables in Iraq during the period 1990-2020.

Test to determine the best optimal deceleration period according to AIC

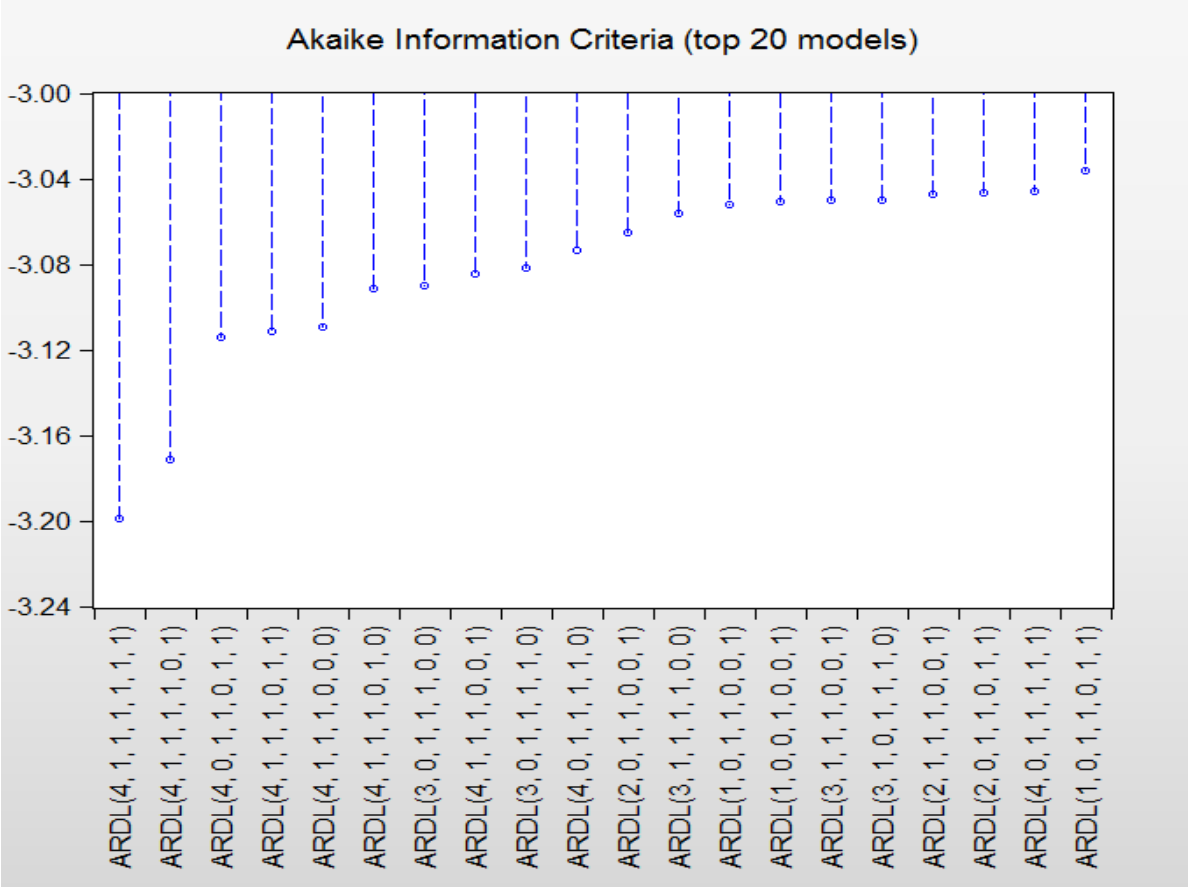

Figure 4. ARDL Selected Model

Source: Output from EViews version (10)

The figure shows that according to the AIC test, the best model chosen is the ARDL (4, 1, 1, 1, 1, 1, 1) model because it achieved the lowest value according to the AIC criterion.

ARDL Bounds Test

Table 2: ARDL Bounds Test

ARDL Bounds Test
Date: 09/26/23 Time: 09:52
Sample: 1994 2020
Included observations: 27
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	4.835576	5

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.75	3.79
5%	3.12	4.25
2.5%	3.49	4.67
1%	3.93	5.23

Source: Output from EViews version (10)

The results of the bounds test show that the calculated F, which is equal to 4.83, is greater than the upper limit of the critical value and at the level of (0.05), which means that there is a long-term balance and integration between the variables during the period 1990-2020.

Table 3: Results of long and short-run elasticities

ARDL Cointegrating And Long Run Form
Dependent Variable: LOG(GDP)
Selected Model: ARDL (4, 1, 1, 1, 1, 1, 1)
Date: 09/26/23 Time: 00:45
Sample: 1990 2020
Included observations: 27

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(GDP(-1))	0.154329	0.082918	1.861225	0.0956
DLOG(GDP(-2))	0.043315	0.051833	0.835662	0.4250
DLOG(GDP(-3))	-0.093859	0.050043	-1.875559	0.0935
DLOG(PC)	0.366418	0.150359	2.436963	0.0376
DLOG(I)	0.206723	0.056998	3.626847	0.0055
DLOG(GC)	0.520807	0.093472	5.571781	0.0003
DLOG(X_M)	0.167399	0.144835	1.155793	0.2775
DLOG(P_O)	0.077855	0.092782	0.839119	0.4231
D(STAB)	0.584796	0.282121	2.072858	0.0680
D(@TREND())	-0.034775	0.011191	-3.107418	0.0126
CointEq(-1)	-1.457572	0.365269	-3.990405	0.0032

Cointeq = LOG(GDP) – (0.5822*LOG(PC) + 0.2654*LOG(I) + 0.2295 *LOG(GC) + 0.2795*LOG(X_M) -0.0151*LOG(P_O) + 0.1716*STAB -0.0987 -0.0239*@TREND)

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(PC)	0.582215	0.052996	10.986066	0.0000
LOG(I)	0.265400	0.045279	5.861473	0.0002
LOG(GC)	0.229466	0.052978	4.331346	0.0019
LOG(X_M)	0.279507	0.084451	3.309683	0.0091
LOG(P_O)	-0.015142	0.070604	-0.214469	0.8350
STAB	0.171607	0.112585	1.524241	0.1618
C	-0.098682	1.329620	-0.074218	0.9425
@TREND	-0.023858	0.008163	-2.922706	0.0170

Source: Output from EViews version (10)

From the short-term results we find the following:

The error correction parameter CointEq (-1) has a negative and significant sign at the level (0.01), which confirms cointegration and long-run equilibrium.

Most of the short-run elasticities are significant, that is, there is a significant short-run effect of the independent variables on the dependent variable, as the table above shows.

The long-term results in Türkiye also show the following:

Increasing consumer spending by 1% leads to an increase in GDP by 0.58%, noting that this effect is significant at the level (0.01).

Increasing investment spending I by 1% leads to an increase in GDP by 0.26%, noting that this effect is significant at the level (0.01).

An increase in government spending (GC) by 1% leads to an increase in GDP by 0.22%, noting that this effect is significant at the level (0.01).

An increase in the net trade balance

An increase in oil prices (P_O) by 1% leads to a decrease in GDP by 0.01%, noting that this effect is not significant at the level (0.05).

Increasing political stability STAB by 1% leads to a decrease in GDP by 0.17%, noting that this effect is not significant at the level (0.05).

Increasing the general trend in TREND by 1% leads to a decrease in GDP by 0.02%, noting that this effect is significant at the level (0.05).

Therefore, the GDP equation in Iraq is as follows:

$$GDP = B1GC + B2PC + B3I + B4M - X + B5TREND$$

$$GDP = 0.58GC + 0.36PC + 0.22I + 0.27(M - X) - 0.02TREND$$

Accuracy tests for the ARDL model

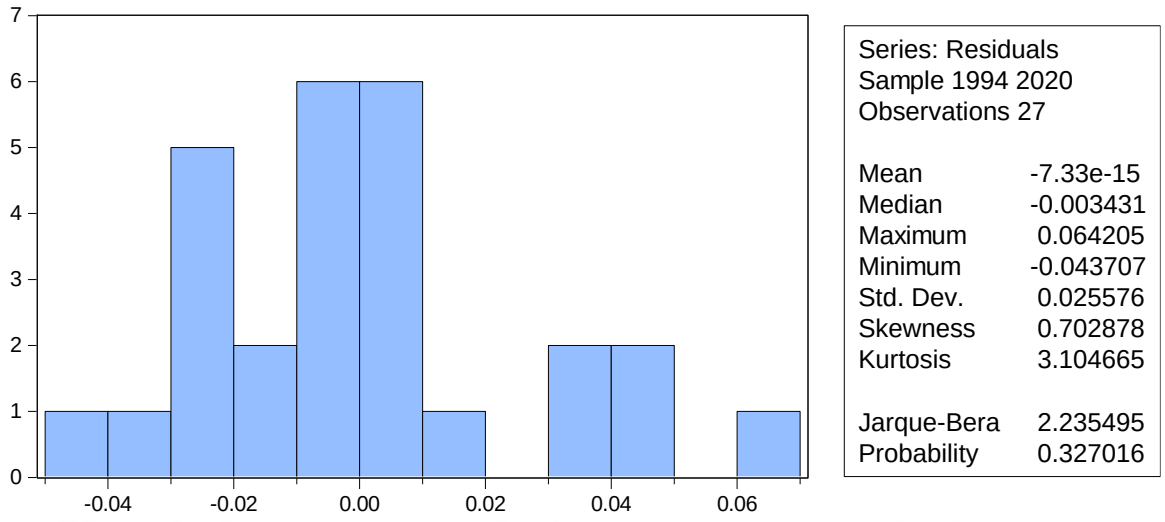

Figure 5. Accuracy tests for the ARDL model

Source: Output from EViews version (10)

Validity ARDL test

Table 4: validity ARDL test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	3.031010	Prob. F (3,6)	0.1150
Obs*R-squared	16.26657	Prob. Chi-Square (3)	0.0010

Heteroskedasticity Test: ARCH

F-statistic	0.022148	Prob. F (1,24)	0.8829
Obs*R-squared	0.023971	Prob. Chi-Square (1)	0.8770

Ramsey RESET Test
Equation: UNTITLED
Specification: LOG(GDP) LOG(GDP(-1)) LOG(GDP(-2)) LOG(GDP(-3)) LOG(GDP(-4)) LOG(PC) LOG(PC(-1)) LOG(I) LOG(I(-1)) LOG(GC) LOG(GC(-1)) LOG(X_M) LOG(X_M(-1)) LOG(P_O) LOG(P_O(-1)) STAB STAB(-1) C @TREND
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.496978	8	0.6326
F-statistic	0.246987	(1, 8)	0.6326

Source: Output from EViews version (10)

The table above shows that all tests of the accuracy of the estimated model are acceptable and that the estimated model is free from standard problems, as the distribution of the residuals is a normal distribution because the JB statistic is not significant at the level (0.05), and the model does not suffer from the problem of autocorrelation because the LM statistic is not significant. At the level of (0.05), and also the model does not suffer from the problem of lack of homogeneity of variance because the ARCH test is not significant at the level of (0.05), and also if the Ramsey test showed poor description of the model, the model is acceptable because the Ramsey test statistic is not significant at the level of (0.05).

ARDL statbility test In Iraq

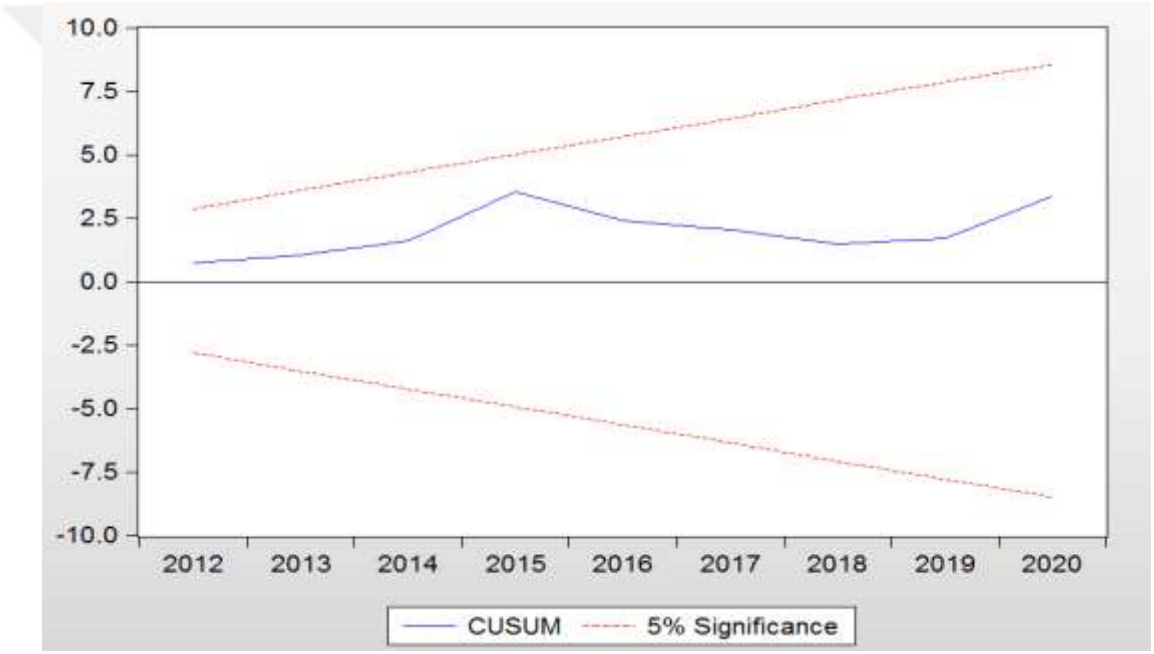

Figure 6. Cusum test

Source: Output from EViews version (10)

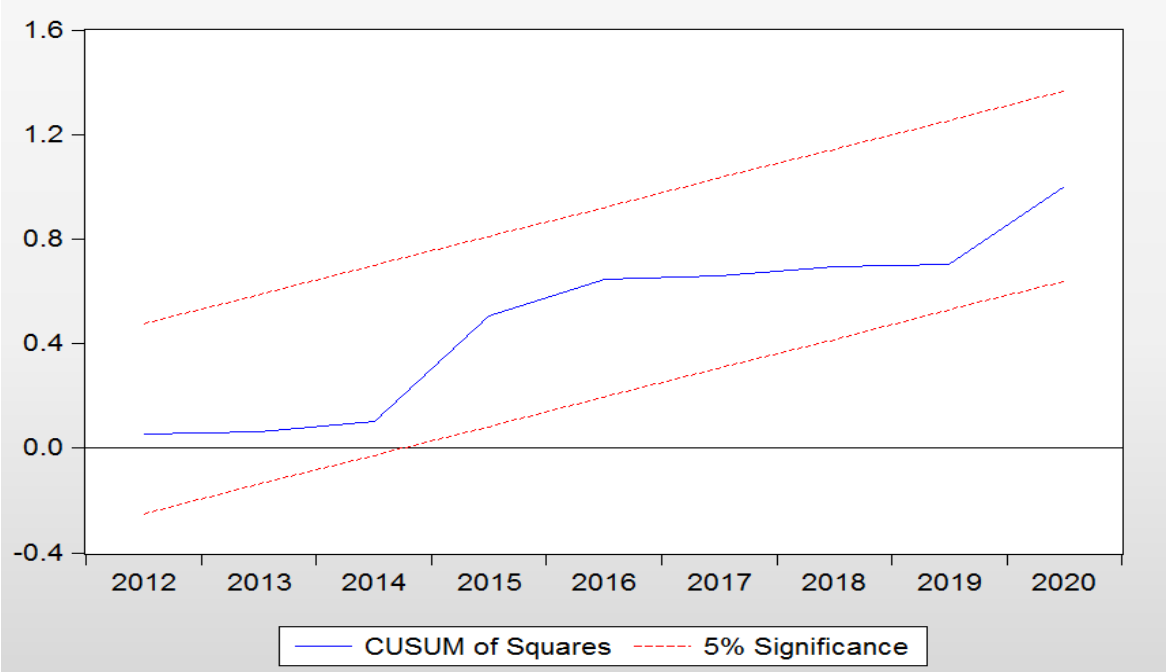

Figure 7. Cusum square test

Source: Output from EViews version (10)

The results of the CUSUM test show that the estimated equation was stable from 2014-2020, because the blue line is within the estimated limits. The CUSUM square test also shows that the equation is stable for the entire period.

4.2.2. Empirical Results for Türkiye

Time series stability test

Due to the time-related and unstable nature of most economic variables, their mean and variance undergo changes and growth over time. Therefore, it is crucial to examine the statistical properties of the time series of study variables before conducting standard analysis. This initial methodological step helps reveal the pattern and direction of the relationship between variables. Additionally, as economic variables change and grow over time, their mean and variance become unstable and time-related, necessitating testing for instability in the time series and implementing appropriate treatments if instability is detected. Conducting regression analysis on unstable time series using standard models can lead to the issue of spurious regression, which poses challenges for analysis and inference.

To address this concern, Kyung, Hashim, and Yongchol (2003) proposed a criterion.

To evaluate the stationarity of time series, various unit root tests are employed, including the Augmented Dickey-Fuller test. The null hypothesis of these tests assumes the presence of a unit root in the time series of the variable, indicating its non-stationarity. Conversely, the alternative hypothesis suggests that the time series is stationary. The following equation will be utilized for this analysis.

Table 5: UNIT ROOT TEST RESULTS TABLE (ADF) for Türkiye

	At Level						
		GDP	PC	I	GC	X_M	P_O
With Constant	t-Statistic	-1.908	-0.770	-0.583	-2.571	-2.405	-1.233
	Prob.	0.324	0.810	0.856	0.113	0.149	0.647
		no	no	no	no	no	no
With Constant & Trend	t-Statistic	-5.936	-4.359	-2.928	-4.916	-2.202	-1.200
	Prob.	0.000	0.009	0.171	0.002	0.471	0.892
		***	***	no	***	no	no
Without Constant & Trend	t-Statistic	-0.131	1.723	0.929	-0.023	-2.447	0.129
	Prob.	0.630	0.977	0.900	0.667	0.016	0.716
		no	no	no	no	**	no
	At First Difference						
		d(GDP)	d(PC)	d(I)	d(GC)	d(X_M)	d(P_O)
With Constant	t-Statistic	-15.501	-4.114	-2.601	-11.140	-6.978	-4.645
	Prob.	0.000	0.004	0.107	0.000	0.000	0.001
		***	***	no	***	***	***
With Constant & Trend	t-Statistic	-16.921	-2.709	-2.170	-4.615	-6.860	-4.641
	Prob.	0.000	0.242	0.483	0.006	0.000	0.005
		***	no	no	***	***	***
Without Constant & Trend	t-Statistic	-13.969	-12.715	-2.773	-2.392	-7.093	-4.706
	Prob.	0.000	0.000	0.008	0.019	0.000	0.000
		***	***	***	**	***	***

Notes: (*) Significant at the 10%; (**) Significant at the 5%; (***) Significant at the 1%. and (no) Not Significant

Source: Output from EViews version (10)

From the table above, and according to the ADF test, we find that some variables are stationary at the original level of the data and some variables are stationary at the first difference, according to the three equations for stationary

tests, so the ARDL method should be used to estimate the relationship between variables in Turkey during the period 1990-2020.

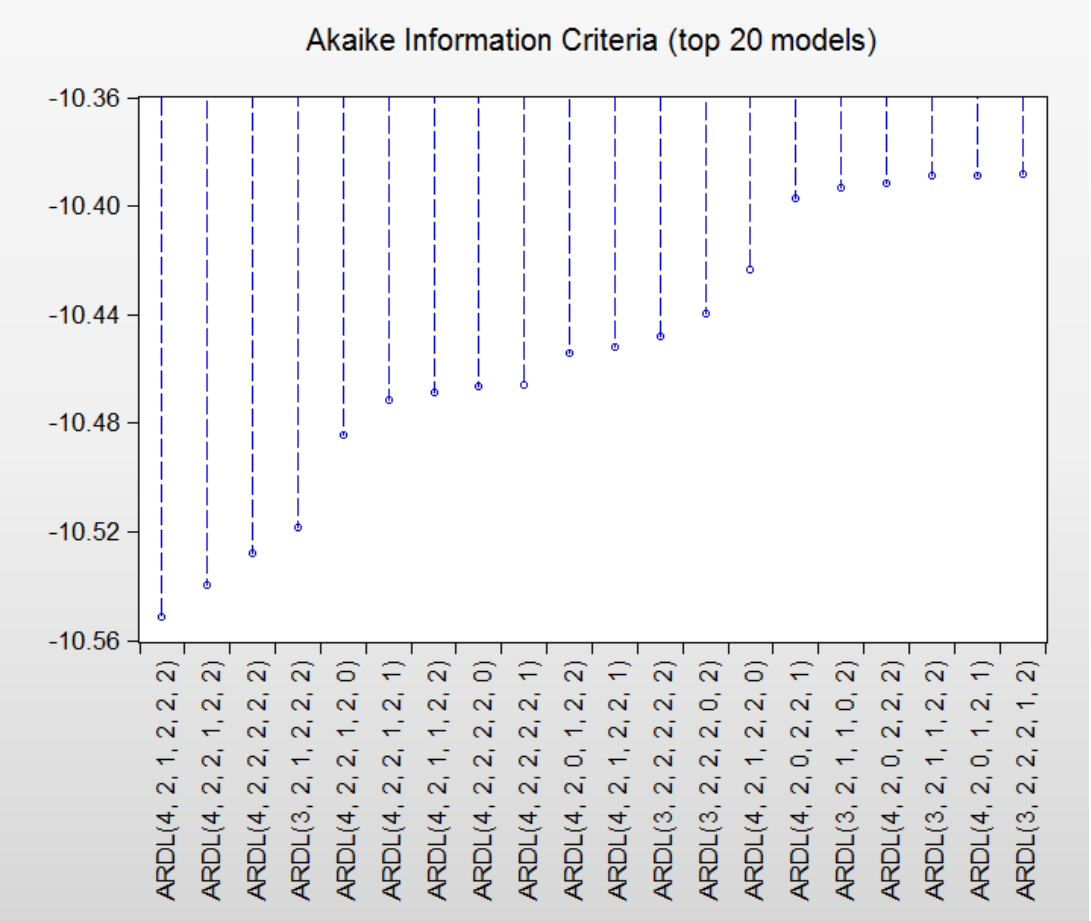

Figure 8. Test results of the best ARDL model according to the AIC standard

Source: Output from EViews version (10)

The figure shows that according to the AIC test, the best model chosen is the ARDL (4, 2, 1, 2, 2, 2) model because it achieved the lowest value according to the AIC criterion.

ARDL Bounds Test

Table 6: ARDL Bounds Test

ARDL Bounds Test
Date: 09/26/23 Time: 09:59
Sample: 1994 2020
Included observations: 27
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	9.131380	5

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.75	3.79
5%	3.12	4.25
2.5%	3.49	4.67
1%	3.93	5.23

Source: Output from EViews version (10)

The results of the bounds test show that the calculated F, which is equal to 9.13, is greater than the upper limit of the critical value and at the level of (0.01), which means that there is a long-term balance and integration between the variables during the period 1990-2020.

Table 7: Results of long and short-run elasticities

ARDL Cointegrating And Long Run Form
Dependent Variable: LOG(GDP)
Selected Model: ARDL (4, 2, 1, 2, 2, 2)
Date: 09/26/23 Time: 01:08
Sample: 1990 2020
Included observations: 27

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(GDP(-1))	0.221301	0.071027	3.115747	0.0169
DLOG(GDP(-2))	0.044636	0.026573	1.679794	0.1369
DLOG(GDP(-3))	0.024373	0.027446	0.888022	0.4040
DLOG(PC)	0.574759	0.121629	4.725526	0.0021
DLOG(PC(-1))	-0.147212	0.062686	-2.348402	0.0512
DLOG(I)	0.263919	0.033255	7.936174	0.0001
DLOG(GC)	0.291744	0.036128	8.075273	0.0001
DLOG(GC(-1))	0.039184	0.035983	1.088956	0.3122
D(X_M)	0.017469	0.003699	4.723012	0.0021
D(X_M(-1))	-0.004786	0.002852	-1.678153	0.1372
DLOG(P_O)	0.000302	0.013196	0.022913	0.9824
DLOG(P_O(-1))	-0.015719	0.013644	-1.152067	0.2871
D(@TREND())	-0.000730	0.000291	-2.509882	0.0404
CointEq(-1)	-1.011242	0.151842	-6.659825	0.0003

Cointeq = LOG(GDP) - (0.5375*LOG(PC) + 0.3250*LOG(I) + 0.1177 *LOG(GC) + 0.0217*X_M -0.0104*LOG(P_O) + 0.1383 -0.0007 *@TREND)

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.

LOG(PC)	0.537455	0.069033	7.785490	0.0001
LOG(I)	0.324971	0.027598	11.775253	0.0000
LOG(GC)	0.117732	0.037602	3.131033	0.0166
X_M	0.021742	0.004026	5.399955	0.0010
LOG(P_O)	-0.010362	0.011442	-0.905535	0.3953
C	0.138280	0.202162	0.684005	0.5160
@TREND	-0.000722	0.000278	-2.600193	0.0354

Source: Output from EViews version (10)

From the short-term results we find the following:

The error correction parameter CointEq (-1) has a negative and significant sign at the level (0.01), which confirms cointegration and long-term equilibrium.

Most of the short-run elasticities are significant, meaning there is a significant short-run effect of the variables on the dependent variable, as the table above shows.

The long-term results in Türkiye also show the following:

Increasing consumer spending by 1% leads to an increase in GDP by 0.53%, noting that this effect is significant at the level (0.01).

Increasing investment spending I by 1% leads to an increase in GDP by 0.32%, noting that this effect is significant at the level (0.01).

An increase in government spending (GC) by 1% leads to an increase in GDP by 0.11%, noting that this effect is significant at the level (0.01).

An increase in the net trade balance

An increase in oil prices (P_O) by 1% leads to a decrease in GDP by 0.01%, noting that this effect is not significant at the level (0.05).

Increasing the general trend in TREND by 1% leads to a decrease in GDP by 0.0007%, noting that this effect is significant at the level (0.05).

Therefore, the GDP equation in Türkiye is as follows:

$$GDP = B1GC + B2PC + B3I + B4M - X + B5TREND$$

$$GDP = 0.53GC + 0.32PC + 0.11I + 0.02M - X - 0.0007TREND$$

Accuracy tests for the ARDL model

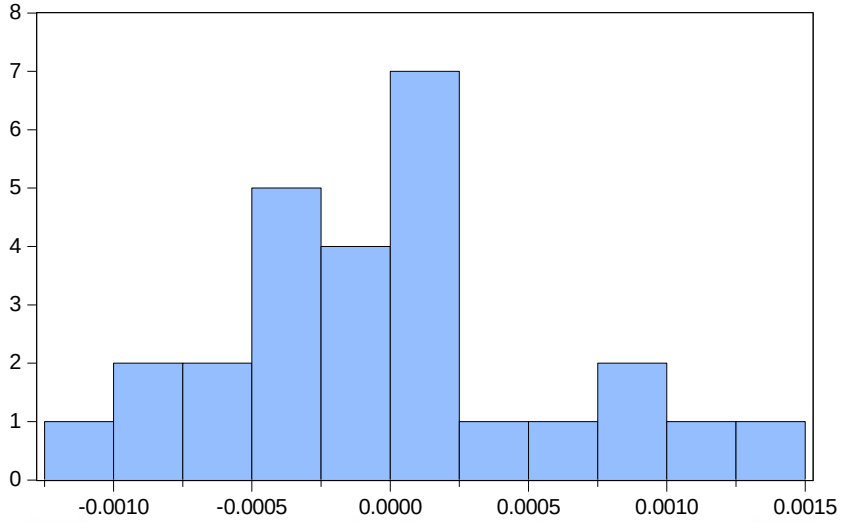

Figure 9. Accuracy tests for the ARDL model

Source: Output from EViews version (10)

Validity ARDL test

Table 8: Validity ARDL test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	3.626826	Prob. F (4,3)	0.1591
Obs*R-squared	22.37336	Prob. Chi-Square (4)	0.0002

Heteroskedasticity Test: ARCH

F-statistic	2.243002	Prob. F (4,18)	0.1049
Obs*R-squared	7.650753	Prob. Chi-Square (4)	0.1052

Ramsey RESET Test
Equation: UNTITLED
Specification: LOG(GDP) LOG(GDP(-1)) LOG(GDP(-2)) LOG(GDP(-3)) LOG(GDP(-4)) LOG(PC) LOG(PC(-1)) LOG(I) LOG(I(-1)) LOG(GC) LOG(GC(-1)) LOG(X_M) LOG(X_M(-1)) LOG(P_O) LOG(P_O(-1)) STAB STAB(-1) C @TREND
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.496978	8	0.6326
F-statistic	0.246987	(1, 8)	0.6326

Source: Output from EViews version (10)

The table above shows that all tests of the accuracy of the estimated model are acceptable and that the estimated model is free from standard problems, as the distribution of the residuals is a normal distribution because the JB statistic is not significant at the level (0.05), and the model does not suffer from the problem of autocorrelation because the LM statistic is not significant. At the level of (0.05), and also the model does not suffer from the problem of lack of homogeneity of variance because the ARCH test is not significant at the level of (0.05), and also if the Ramsey test showed poor description of the model, the model is acceptable because the Ramsey test statistic is not significant at the level of (0.05).

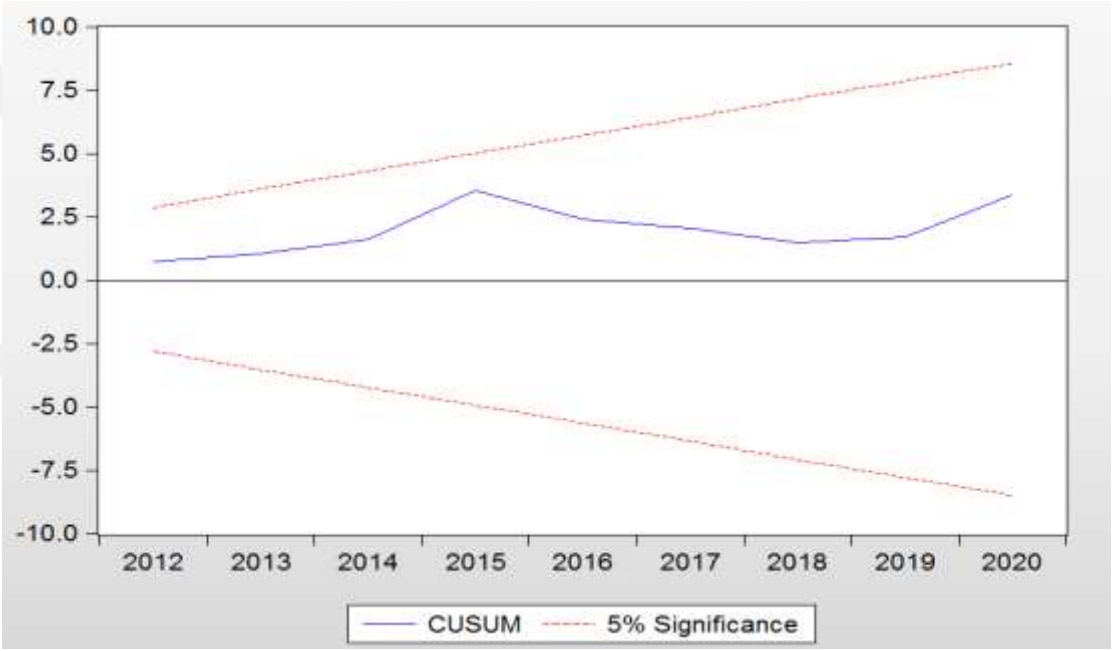

Figure 10. Cusum test

Source: Output from EViews version (10)

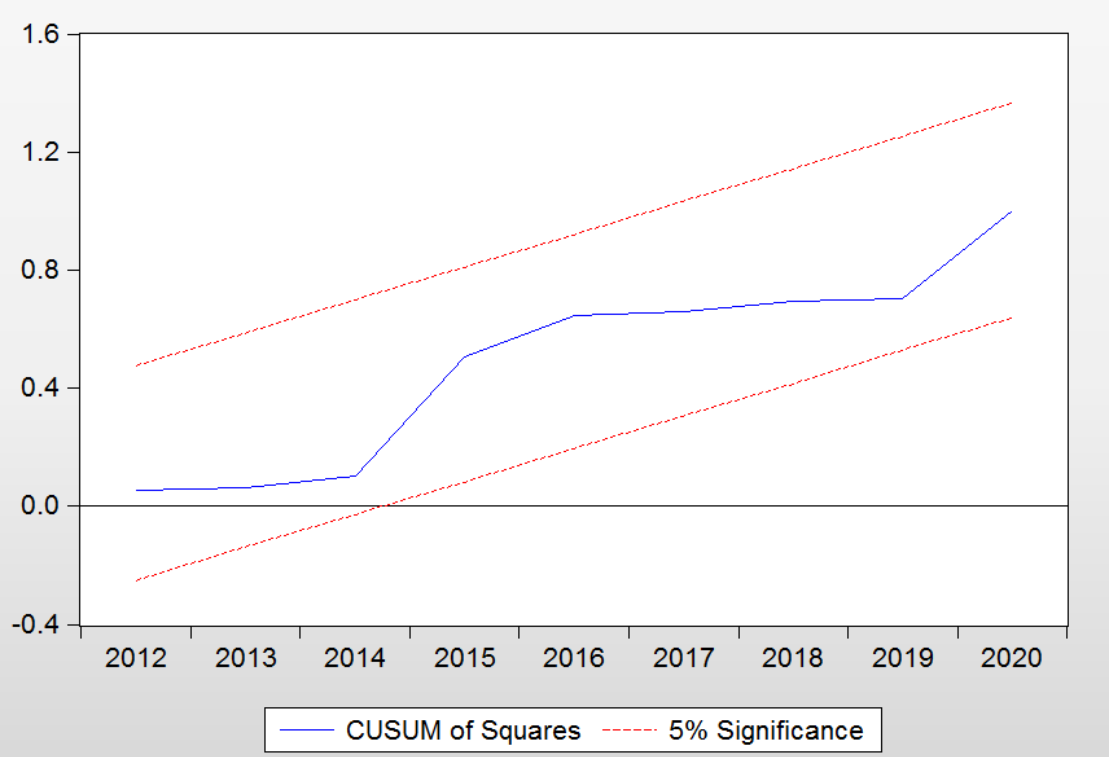

Figure 11. Cusum square test

Source: Output from EViews version (10)

The results of the CUSUM test show that the estimated equation was stable from 2014-2020, because the blue line is within the limits of the estimate. The CUSUM square test also shows that the equation is stable for most of the period except for the years 2015, 2016, and 2017.

CHAPTER FIFE

CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

According to Aregbeyen (2007), there is a significant and positive correlation between government spending and economic growth. Hassanein et al. (2011), on the other hand, found an intrinsic but negative correlation. According to Akpan (2005), the connection is minimal. These disparate findings provide an opportunity for future research, particularly in Iraq and Turkey. As a result, this study aims to explore if there is a difference between Turkey and Iraq in the context of studying the relationship between the impact of government investment and current spending on economic growth in both countries.

The researcher followed the ARDL co-integration model to study the short and long-term relationship between government spending and economic growth.

The study concluded that there is a relationship between Government consumption in the short and long term and economic growth in Iraq, as well as the relationship of current government spending with economic growth in the short term, long term and economic growth in Iraq. There is a positive effect of Government consumption on economic growth in Iraq and Turkey.

The results of the analysis showed that the impact of government spending in Iraq is twice the impact of government spending in Turkey on economic growth because most of government spending in Iraq is consumer spending to cover employee salaries.

5.2. Recommendations

Based on the findings, the researcher recommends the following:

Further research is needed to explore the relationship between government investment, current spending, and economic growth in Turkey and Iraq across different time periods and in comparison, with other countries, allowing for generalizable results.

The findings indicate the importance of strengthening investment spending in both Iraq and Turkey, both in the short and long term, as this will have a positive impact on the economic growth of both countries.

There exists a difference in the investment environment between Turkey and Iraq, highlighting the need to support current spending in Iraq in the short term. This is due to the country's requirement to enhance short-term liquidity among society members. In contrast, in Turkey, there is no short-term effect of current spending on economic growth, and such spending may even lead to increased inflation.

The Iraqi economy is predominantly oil-based, with 90% of government revenues relying on oil. Consequently, the country necessitates both current and investment spending to foster the growth of various productive sectors such as agriculture, industry, and services. This need arises, particularly in light of the challenges the country has faced due to wars and the presence of terrorist organizations.

On the other hand, the Turkish economy is considered more balanced compared to the Iraqi economy. Turkey's gross domestic product does not solely rely on oil, as is the case in Iraq, as Turkey is not an oil-producing country. Currently, Turkey needs to stimulate investments, develop advanced industries, and leverage technology. Therefore, the government must prioritize these projects to achieve economic growth.

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APPENDIX

Iraq data

years	GDP	GDI	GDC
1990	180408.1	16155.41	19812.9
1991	407.7963	33.1974	67.56292
1992	553.672	48.06796	41.80568
1993	1031.945	93.3948	50.60092
1994	3991.349	367.8733	102.856
1995	12894.03	1199.527	300.6484
1996	10433.7	989.5634	254.7953
1997	20764.86	725.3509	1770.019
1998	20617.41	808.7416	3636.434
1999	36881.6	2089.946	4152.387
2000	48364.25	2064.564	5725.706
2001	36176.43	2282.199	5681.976
2002	32928.45	1399.386	6357.233
2003	21921.57	1665.707	2690.828
2004	36627.9	1963.971	9363.46
2005	49954.89	2981.304	9975.129
2006	65140.15	3653.302	10211.43
2007	88837.06	4254.304	16635.84
2008	131614.4	6113.134	21909.05
2009	111657.6	7095.047	23518.76
2010	138516.7	8354.061	26205.76
2011	185749.7	9631.05	36542.61
2012	218002.5	11617.9	36151.71
2013	234637.7	13820.48	40956.9
2014	228415.7	13769.42	41120.84
2015	166774.1	12681.29	31130.22
2016	166602.5	12446.91	30636.91
2017	187217.7	12975.61	30526.31
2018	227367.5	13897.51	36104.79
2019	233636.1	15351.75	45127.72
2020	180924.1	13504.45	40724.04

Source: https://www.albankaldawli.org/ar/home

TURKEY data

years	GDP	GDC	GDI
1990	288,739,568,787	16515645115	51800563957
1991	290,819,299,368	18758210603	52433545873
1992	305,463,897,616	20563052237	54697987548
1993	328,835,750,523	23263354230	68303281951
1994	313,485,213,103	15230569666	57434297039
1995	338,182,414,808	18262451500	64117901764
1996	363,139,142,331	20996862289	73141245850
1997	390,656,605,096	23277936984	83992541100
1998	400,048,576,871	29286311112	79091804434
1999	386,994,318,102	32481684564	67672614137
2000	413,825,561,819	32719691436	82498680657
2001	390,030,564,890	25513539194	60215864434
2002	415,178,651,612	30837559895	70946945209
2003	439,106,252,848	39608894711	84706528839
2004	482,120,822,058	50352588752	111743712760
2005	525,474,596,539	61699379060	133610703738
2006	561,984,508,900	71904738538	154168221325
2007	590,328,242,181	91226796304	162643104327
2008	595,139,562,416	104752541894	158221911542
2009	566,435,065,085	101664824387	125698479064
2010	614,169,138,941	115570474412	153306256179
2011	682,956,761,671	114077809022	189602356918
2012	715,660,096,423	124388410371	195029533474
2013	776,389,702,523	134267948325	222808994043
2014	814,741,142,370	131638416995	233749754779
2015	864,313,960,482	119320032813	255444243307
2016	893,035,841,215	128132241830	261076813860
2017	960,031,367,600	123524751631	282632646063
2018	988,639,200,797	114316433242	281941231059
2019	996,386,278,399	117293490632	246767047826
2020	1,015,716,493,490	109294227636	264957461436

Source: https://www.albankaldawli.org/ar/home