



Available online at <http://jeasiq.uobaghdad.edu.iq>  
DOI: <https://doi.org/10.33095/swvv9e93>

## Analysing and measuring the impact of the structural imbalance of the Saudi economy on the balance of the general budget for the period 1990-2021

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Received: 2/10/2023

Accepted: 25/2/2024

Published Online First: 1 /10/ 2024



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### Abstract:

The research aims to show the impact of structural imbalances in the main sectors in the Kingdom of Saudi Arabia by testing the relationship in the short and long term between the variables of the structure of the main sectors of industry, agriculture, and mining, in addition to the price of oil as independent variables, and between the public budget expressed by 1990-2021. The results have resulted in a long-term relationship between the main sectors and the oil price and between the deficit and the surplus of the general budget with a negative correction factor of (-0.77) in order to return to the equilibrium situation in the short term and the long term, and the research reached a set of conclusions that the changing price of oil was not significant; in other words, it did not have a clear impact on the general budget. As for the agriculture sector, it has had a significant negative impact on the public budget in Saudi Arabia in the long term. The influence of both the mining sector and the industrial sector had a positive impact on the balance sheet. The research suggests that the government of the Kingdom should continue to implement the structural reforms adopted during the Kingdom's vision 2030 in diversifying the economic and production base and reducing dependence on oil revenues, which will positively reflect on its financial sustainability and raise the rates of non-oil gross domestic product.

**Paper type:** Research Paper

**Keywords:** Structural Imbalances, Main Economic Sectors, Public Budget, The Saudi economy, ARDL, ECM.

## **1.Introduction:**

Financial policy in the Kingdom of Saudi Arabia depends on volatile oil revenues, which represents a difficult challenge for it when oil prices witness large and continuous shocks. The fact that the oil sector's output takes over the majority of the components of the gross domestic product made the country suffer from an imbalance in the production structure, which was reflected in its public revenues and caused a deficit in its budget for years during the study period, which can hinder public financial planning through sometimes unexpected fluctuations.

It is necessary to diversify the production structure and determine the importance of the percentage contribution of each of the main sectors to the formation of the gross domestic product and thus its impact on the general budget. The rentier nature of the Saudi economic system caused a structural imbalance in its economy, which in turn affected the internal imbalance represented by the general budget.

### **1.1 Literature review:**

Numerous investigations have examined the imbalance in the economic structure and public budget. Additionally, the link between the two terms has been highlighted in many studies, as follows:

One of these valuable pieces of research was a research by (Zaki, 2017), the research examined the internal and external structural imbalances inherent in the Egyptian economy and presented a strategic plan for implementing future changes. The research revealed that Egypt was suffering from three primary levels of internal imbalances: the sectoral level (a declining industrial sector with a low level of competitiveness), the fiscal level (between revenues and spending currently vs. productive spending), and the monetary level (non-transparent monetary policy). The research further revealed that the primary factors contributing to these imbalances are ineffective political and economic institutions. Regarding the Mining sector, Trang et al. (2017) used a vector auto-regression model to analyze the effects of oil prices on Vietnam's macroeconomic variables, including inflation, growth rate, budget deficit, and unemployment, from 2000 to 2015. They found that rising oil prices increase inflation and budget deficit, but have mixed effects on gross domestic product growth and unemployment. In the same vein, Ahmed (2020) conducted a research on sectoral structure. The research aimed to examine the sectoral structure of the GDP and demonstrate the relative importance of the various economic sectors in forming the gross domestic product in Iraq during the period 2006-2018. The nature of that structure and the diagnosis of the state of imbalance were also focused in this research. Based on the findings of the research, the GDP indicator was one of the most significant economic indicators that expressed the level of economic activity of a country and the efficiency of its performance. Furthermore, Mohsen (2020) examined the structural imbalances that exist in the Iraqi economy. The research confirmed that Iraq's economy was afflicted by numerous structural imbalances for a variety of reasons, including the nation's reliance on the oil industry, the inadequacies and the absence of cohesive economic policy coordination, as well as the dominant role of the public sector which was characterized by a deficiency of effective management methodologies beside, the growth of financial and administrative corruption. Consequently, a multitude of issues arose, increasing the structural imbalances across all sectors of the economy due to the heightened dependence on oil-generated income. In addition, Hussein and Al-Musawi (2022) conducted another crucial research on structural imbalances. The research illustrated the most important economic indicators, which had a major role in the Iraqi economy, namely GDP and the general budget, affect the overall economic activity in the country. It was also intended to verify the status of the economic structure in Iraq. The research findings yielded numerous conclusions and suggestions. Firstly, it has been determined that there exists a direct correlation between the Gross Domestic Product (GDP) and the general budget in Iraq. This link was attributed to the fact that the budget was contingent upon the earnings generated by the various sectors comprising the national economy.

Secondly, there exists a discernible disparity in the composition of the Gross Domestic Product (GDP) as a result of the direct detriment inflicted upon the oil industry. Thirdly, the structure of the general budget had a distinct imbalance, mostly attributed to its heavy reliance on oil earnings and a lack of alternative revenue sources for other economic sectors. Moreover, Yeboah, et al (2022) investigated how mining affected the economy of Ghana from 1992 to 2020. The research also aimed to look into how mining in Ghana affects economic growth, jobs, government income, the long-term health of the environment, and social results. The findings indicated that mining has been a big part of Ghana's economic growth. It has helped the country's gross domestic product (GDP) through investment, foreign exchange earnings, and connections between different industries. The research also noted that mining generates: jobs, both directly in mining operations and indirectly in support services, taxes, royalties, and dividends from mining support government budgets, infrastructure development, and social programs. Moreover, Al-Hayaly (2022) examined the correlation between industrial sector growth and the overall economy in the Iraqi context. The research focused on the period from 2017 to 2030 and employed a modified version of Kaldor's Hypothesis as the analytical framework. This modified approach incorporated contemporary growth theories that establish a connection between economic growth and capital accumulation. Consequently, the research introduced a novel function that integrated Kaldor's laws within this new framework. The most significant finding was to the positive correlation between growth in the industrial sector and GDP growth.

In addition to the researches mentioned earlier, the public budget also has attracted the attention of many studies, one of them is a research by (Slama, 2015). The primary objective was to investigate the impact of swings in petrol prices on the public budget of the Kingdom of Saudi Arabia (KSA). Research methods included co-integration, error correction, and the Granger causality test. The research discovered that petrol prices directly affect surplus or deficit. The research also showed a one-way causal link between actual petroleum prices and GDP surplus or deficit. Additionally, Todorova (2019) examined the impact of public budget deficits and surpluses on real economic development. The research aimed to assess the influence of budget deficits or surpluses on actual economic development via the use of econometric analysis. Additionally, a comparative analysis was conducted, focusing on Bulgaria and other new member states of the Balkan States (Serbia, Turkey, Greece, North Macedonia), as well as within the European Union (Estonia, Hungary, Latvia, Poland, Slovenia, Romania, Slovakia, Lithuania, Cyprus, Czech Republic, Malta, and Croatia, accepted in the EU during 2015), in order to explain the need to maintain a balanced public budget and lowering budget deficits to a level that promotes sustainable economic development. Moreover, Jawad (2022) aimed to examine the relationship between general budget tools and the gross domestic product (GDP) in Iraq, specifically in reaction to oil price shocks. The researcher used established academic methodologies, such as instant response functions (IRF) and autoregressive vectors (VAR) models. The research yielded many findings, with particular significance placed on three reactions that were substantiated by the outcomes of the first impulse response function. This function specifically examined the reaction of overall income to fluctuations in oil prices. The second factor pertains to the reaction of the gross domestic product (GDP) to fluctuations in oil prices, while the third factor concerns the response of public expenditure to changes in oil prices. Besides, Abouelnour (2023) conducted a crucial investigation on the public budget. The objective of this research was to investigate the attributes of the health sector and examine the correlation between government expenditure in this sector and the public budget in the Kingdom of Saudi Arabia (KSA). The research employed the descriptive and quantitative method (ARDL) framework and utilized the error correction model to estimate the long-run relationship through co-integration using the boundary method.

The results indicated that the state budget of the Kingdom and government spending on the health sector are positively correlated. Similarly, the allocations of the Ministry of Health are positively correlated with investment and consumer spending in the same sector.

Also there are researches have linked the two terms namely, economic structural and general budget. Among those pieces of research conducted was a research by (Thomas, 1982). The objective of this research was to investigate the potential influence of certain structural elements on the propensity of some emerging countries to have government budget deficits, relative to other nations. The results of the research showed a positive correlation between government revenue growth and budget deficits. Furthermore, Kateryna (2022) aimed to identify and delineate potential avenues for enhancing the management of financial flows within Ukraine's budget process, to address structural imbalances in the country's financial system. The research and evaluation of local budgets were conducted by using ranking and clustering techniques, which facilitated the examination of variables that depict the dynamics of money flows. The assessment results made it possible to determine the directions of setting a stable and balanced movement of financial flows and levers to regulate the impact of structural imbalances of the financial system related to the management of cash balances of the treasury single account and increase of its liquidity. Bayati and bin Al-Hamid (2022) examined the impact of oil price fluctuations on the Iraqi general budget and the gross domestic product. The research also addressed the adverse effects of these fluctuations on the Iraqi economy and reduced reliance on the oil sector as the primary source of funding for the general budget during the period spanning from 2010 to 2020. The research used an analytical and historical economic methodology, focusing on the examination of data about the research issue, namely oil prices. This analysis was used to assess the budgetary implications and reliance on the oil industry, ultimately leading to the identification of suitable strategies for mitigating dependency on this sector. The result revealed that Iraq's general budget has been financed by the oil industry for years, leaving it more sensitive to global oil price changes. As well as Politics, security, and economics have affected oil markets since the late 19th century and continue to do so.

The problem of the research is based on the statement that the Kingdom of Saudi Arabia suffers from its heavy dependence on the oil sector, which is a direct cause of the imbalances in the structure of the main sectors which these imbalances affect the ongoing deficit trends in the kingdom's general budget.

The research aims to find out the sectoral structure in the Kingdom of Saudi Arabia, and the extent to which the imbalances existing in these sectors contribute to the continuation of the deficit in the general budget of the kingdom during the research period.

This research posits the presence of significant structural imbalances in the Saudi Arabian economy, which persist despite efforts to address them. These imbalances are primarily attributed to the country's heavy reliance on the oil sector, coupled with the neglect of other economic sectors.

To test the validity of the research hypothesis, the research used an analytical descriptive technique with an inductive (applied) approach to assess the structural imbalances within the Saudi economy.

The present research is structured in the following manner: The initial segment of the research focused on the theoretical aspects, encompassing a concise overview of the Saudi economy. Subsequently, the second segment of the research entailed an examination of data about the structure of the Saudi economy. Lastly, the third segment was dedicated to the practical aspect, aiming to ascertain the magnitude of structural imbalances within the Saudi economy.

## **2. Material and Methods:**

The research took into account the state of the Saudi economy during the period (1990-2021) by focusing on the economic analysis of the variables of the study and then using the EViews12 statistical program to measure the relationship between the variables using the ARDL methodology.

### **2.1 The concept of economic structure:**

The economic structure refers to the arrangement and characteristics of several elements within an economy, including production, employment, consumption, trade, and gross regional product. The idea of structural change refers to the alteration in the relative significance of the aggregate indicators within an economy (Thakur, 2011).

### **2.2 The concept of structural imbalance:**

Upon careful examination of the preceding information, it is evident that the term "economic structure" pertains to the collection of ratios, relationships, and attributes that define a specific economy. Consequently, the notion of "structural imbalance" must denote the lack of proportional relationships among the various elements and components of the economic structure, as well as the severity and frequency of these imbalances. Furthermore, it encompasses the duration and alteration of fundamental characteristics to such an extent that it can have an impact on both economic growth and the process of economic development. (Ahmed, 2020). Based on the above information, the concept of structural imbalance may be characterized as a disruption in the proportions and interconnections of the economic structures of the economic system, which deviates from the proportionate relationships prescribed by economic theory. Structural imbalance refers to an asymmetry in the overall equilibrium relationships among the many aspects and components of the economic structure, resulting from significant changes in its fundamental properties. This paper examines the divides within the economic system, focusing on its fundamental components and the extent of imbalance present within it (Yunus et al, 2015).

The views of different economic schools about structural imbalances differ.

Classical economics, shaped by the ideas of Adam Smith and others, hold that markets self-correct to reach equilibrium. They contend that structural imbalances are transient and that the market's invisible hand causes them to self-correct (Medema, 2004), while Friedrich Hayek and other Austrian economists place a strong emphasis on less government intervention. They contend that government meddling frequently causes imbalances and support the idea that over time, free markets will organically resolve structural problems. And New Classical economists argue that markets are efficient and will quickly correct for any disruptions in the presence of fundamental imbalances. They emphasize how crucial it is to comprehend how individuals create expectations and how those expectations affect people's economic conduct. Similar to classical economists, proponents of New Classical theory typically doubt the necessity of vigorous government intervention to rectify structural imbalances, depending instead on the effective self-correction of markets (Screpanti and Zamagni, 2005). Economists who follow Keynes contend that markets might not always self-correct effectively. In times of structural imbalance, they support government action, such as monetary and fiscal policies, to stabilize and boost the economy. These viewpoints draw attention to the continuous discussion on how markets and the government should interact to address and correct structural imbalances in economies.

### **2.3 An overview of the Saudi economy:**

The economy of Saudi Arabia has a prominent position as one of the biggest and most important in the Middle East region. The country's significant presence in the global energy market is largely attributed to its enormous deposits of oil. In recent years, Saudi Arabia has undertaken efforts to diversify its economy and decrease its reliance on a single source of revenue.



The implementation of a range of economic reforms has been undertaken by the government as part of its Vision 2030 project to facilitate the transformation of Saudi Arabia into an economy that is more diverse and sustainable in nature. This involves the promotion of many industries, including technology, manufacturing, tourism, and entertainment, with the facilitation of foreign investment and the stimulation of private sector development. Saudi Arabia has made substantial expenditures on infrastructure projects that involve the development of mega-cities, including NEOM and Qiddiya, which are anticipated to attract investments from domestic as well as foreign investors. To attract more foreign investors, the country has also focused on enhancing its business environment, refining regulations, and increasing transparency. Recently, the Saudi economy has encountered several obstacles, such as the effects of decreases in oil prices and the COVID-19 pandemic. Nonetheless, the government has made efforts to mitigate these challenges, such as diversifying revenue sources, instituting fiscal reforms, and providing assistance to businesses and individuals impacted by the pandemic.

In general, Saudi Arabia has undertaken substantial endeavors to facilitate economic transformation and decrease the country's dependence on oil. The efficacy of these changes will play a pivotal role in guaranteeing long-lasting economic stability and ongoing growth for Saudi Arabia. The Saudi economy is characterized by a distinguished experience of growth, as it was able, during a short period not exceeding a quarter of a century, to achieve balanced growth. The Saudi economy has been founded upon many fundamental foundations, which may be briefly summarized as follows:

1. The implementation of a free economy policy entails granting the private sector, be it institutions or companies, the freedom to engage in all economic activities. However, these activities must adhere to regulations and controls designed to ensure their safety. In this context, the market mechanism assumes the responsibility of regulating the movement of these economic activities.
2. The Kingdom of Saudi Arabia holds a significant position in the global economy and exerts considerable influence within the Group of Twenty (G20), which comprises nineteen countries along with the European Union. This influence stems from the Kingdom's proactive involvement in the global oil market, which has played a pivotal role in bolstering the stability of global energy markets. Additionally, the Kingdom's substantial gross domestic product further contributes to its influential weight in the international economic landscape.
3. The state has implemented many measures to promote and facilitate both domestic and international investment. These measures include offering incentives and facilities to entice investors, such as providing access to loans, land acquisition opportunities, subsidized services, customs exemptions for production needs, customs protection for local goods, and other similar provisions.

The development plans and objectives outlined in the Kingdom's Vision 2030, as well as the associated programs and goals, have also been discussed. It emphasizes the importance of adopting a strategic planning approach to effectively implement these development programs and vision objectives. The specific goals of these initiatives primarily revolve around achieving tangible economic growth, diversifying the economic foundation, and reducing reliance on crude oil as a primary source of income. Additionally, the plans aim to enhance human resources development, improve living standards, ensure price stability, and bolster the effectiveness of the private sector. One of the most important effects of these basic pillars of the Saudi economy is the growth of real gross domestic product (at constant prices) in 2021 AD after the Corona pandemic (Covid-19) at a rate of 18%, to record a value of 833541 million dollars compared to the year 2020 AD, where it was recorded at about 703368 million dollars (Kosarova, 2020).

In anticipation of future developments, it is evident that the Saudi economy is displaying a steady trajectory of improvement. The optimistic assessments given by rating agencies to Saudi Arabia indicate a growing probability that comprehensive structural changes and investments in various diversification projects would effectively decrease the country's economic and budgetary dependence on hydrocarbons in the future. If implemented successfully and backed by private-sector funding, diversification projects and initiatives sponsored by the government will not only decrease the sovereign's significant vulnerability to fluctuations in oil prices and the potential hastening of the global carbon transition but also alleviate the need to sustain its implicit social contract through increased public spending and employment. The IMF expects Saudi Arabia's economy to grow at 3.1% in 2023 and at an average rate of around 3.0% over the next five years. This is nearly three times the average during 2015-2021 (1.0%) but lower than the 4.1% growth rate recorded during 2005-2014. The medium-term growth projections are influenced by various factors. These include the anticipation of continued fiscal restraint in government spending, despite the presence of high oil prices. Additionally, the growth rate of oil production is expected to decelerate following a significant adjustment period in 2021-2022. On the other hand, the ongoing diversification initiatives are projected to gain momentum, particularly as critical mass is achieved and implementation and construction activities progress in the coming years. Furthermore, the government's efforts to enhance the business environment in Saudi Arabia through structural economic, legal, and social reforms are anticipated to yield positive outcomes, such as increased growth in private-sector investment.

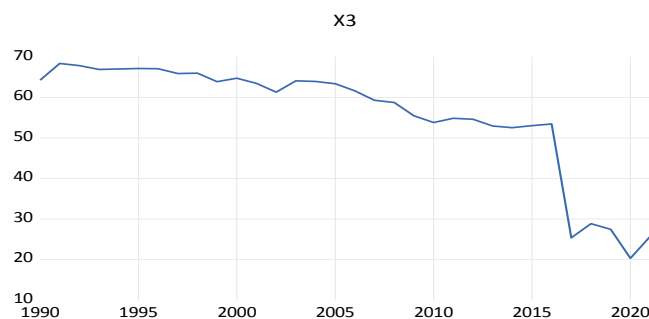
It is worth recalling that Saudi Vision 2030, which was announced in 2016, aims to increase the share of the private non-oil sector to 65% of GDP by 2030 from around 50% in 2015 and the share of non-oil exports to 50% from 25% of total merchandise exports. While these shares are very sensitive to fluctuations in oil prices, which makes them less reliable as a measure of progress in diversification, the share of the private non-oil sector was only 42.2% of GDP in 2022, and non-oil exports were only around 19% of total exports. The government's diversification efforts are primarily concentrated on several key sectors, namely logistics, mining, tourism, entertainment, housing, manufacturing (including petrochemicals, defense, aerospace, and renewables technologies), as well as the development of the natural gas sector, primarily for domestic power generation and as a feedstock for the expanding petrochemicals industry, alongside blue and green hydrogen. The kingdom also aims to further expand its retail sector, develop a financial center similar to those already established elsewhere in the region, such as Dubai, and expand the small and medium-sized enterprise (SME) sector's share to 35% of GDP by 2030 (from around 20% in 2015), while improving the education system to better meet the needs of the growing economy (Bank Audi, 2023).

The economy of the Kingdom of Saudi Arabia is among the strong and growing economies and is considered one of the best and strongest economies in the Middle East because it is the largest exporter of oil in the world, in addition to its large area and large population of more than 27 million people (Ministry of economy and planning), the economy of the Kingdom of Saudi Arabia depends mainly on oil, where oil exports account for (90%) of total export revenues, and about (75%) of the government budget revenues represent (45%) of the gross domestic product (Al-huwaysh, 2015), so it is possible to briefly discuss the analysis of the most important key sectors in the Kingdom through the following paragraphs:

### **2.3.1 Mining sector:**

The public sector in Saudi Arabia is the official authority controlling the main economic activities with an oil-based economy, and this sector is the main one in financing the general budget in Saudi Arabia (Fars, 2016), so the Kingdom of Saudi Arabia plays a prominent and key role in the world oil market, as it increases its share to 16% of the proven world reserves, and the Kingdom's high production capacity, which amounts to more than 2.7 million barrels per day, has enabled the Kingdom to play a major role in the global oil market and effectively contribute to achieving economic stability and growth in the world, It is noted from the graph (1) and the

Data Table (1) in the appendix that the contribution of the mining sector to the GDP was the highest among the sectors during the period (1990-2007), as its contribution as a percentage of the GDP fluctuated between (64.26% and 59.29%), due to a variety of reasons, including due to supply disruptions from other countries or demand surges, as the Kingdom moved to achieve a balance between supply and demand in the oil market, including during the first Gulf War (1990-1991), the strike in Venezuela and the second Gulf War (2002-2003), Hurricane Katrina in 2005, the Libyan crisis (2010-2011), and the period (2008-2010), the Kingdom reduced its production in response to 2015, 20-21), so the contribution of this sector as a percentage of the GDP decreased from (58.77%) to (53.80%), and it is noted that after 2013, after the decline in oil prices globally and to less than (50 dollars) per barrel, its contribution decreased to (52.95%), as for the period of (\$50) 2014-2019) this led to a decrease in the percentage of the contribution of the oil sector as a percentage of the GDP by an even greater percentage, as its percentage decreased from (52.52%) to (27.43%), in contrast, this led to an increase in the contribution of other sectors as a percentage of the GDP (Al-Mutairi, 2022). The Kingdom of Saudi Arabia continued to reduce oil production during the consecutive years after 2019, within the framework of the OPEC-led reduction agreement, in order to support the market against excess supply and weak demand (al-Jubran, 2019), and then this percentage decreased further until its contribution reached (20.31% and 25.67%) in 2020 and 2021, respectively, within the Kingdom's Vision 2030 to diversify its economy.



**Figure 1:** The percentage of the mining sector's contribution as a percentage of GDP.

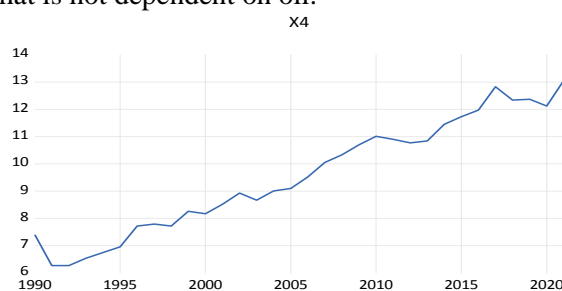
**Source** prepared by the researchers based on the data of table no. (1) & the program outputs EViews 12.

### 2.3.2 Industrial sector:

The industrial sector is an important tributary of the economic production of the state for its distinctive role in the growth of other economic sectors, and the Saudi government has attached great importance to the industrial sector through the five-year development plans, which sought to develop this sector and the establishment of industrial cities (Aba Al-Khalil, 2022) in order to distinguish the production base of the industrial sector it is hoped that this will contribute to achieving the goals and vision of the Kingdom 2030, and the industrial sector consists of various industries in terms of the goods produced and the production elements used and in terms of their dependence on energy, labor intensity, technological level and others What distinguishes this sector is that the outputs of industrial development contribute significantly to the restructuring of the economy, which promotes the creation of a diversified production base that contributes to achieving sustainable economic development (Al-Nuwaysir, 2020). Therefore, the Kingdom of Saudi Arabia has supported and strengthened the industrial sector because this sector has great potential to promote comprehensive economic growth due to its economic links with most other economic activities.



As this sector has witnessed a clear structural transformation recently, graph (2) indicates the relative contribution of gross domestic production to the industrial sector during the period (1990-2021), as it shows that the contribution of the industrial sector to the GDP has witnessed a steady increase, as the activity of the industrial sector has doubled by about 12% since 1970, where the relative contribution of the industrial sector activity increased from 7.40 in 1990 to about 13.06 in 2021, this increase is due to what the Kingdom has done in providing the necessary infrastructure, along with the construction of the Jubail and Yanbu Industrial Cities, as well as the establishment of industrial cities in various regions of the Kingdom, as well as the establishment of the Saudi Industrial Development Fund in providing and providing several industrial incentives. He notes that the growth rates of the industrial sector vary during the research period, as the industrial sector's contribution to GDP increases during periods of low oil prices, which indicates a decrease in the impact of oil price fluctuations in the industrial sector, which puts the Kingdom in front of the option of developing and developing this sector to reach a sustainable economy that is not dependent on oil.



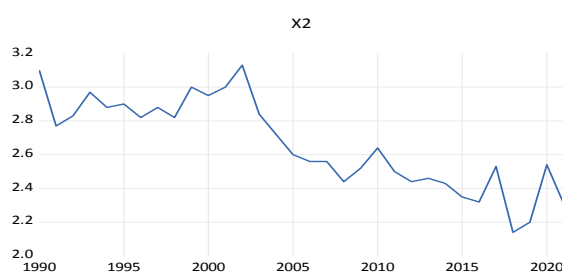
**Figure 2:** The percentage of the contribution of the industrial sector as a percentage of GDP.

**Source** prepared by the researchers based on the data of table (1) and the program outputs EViews 12.

### 2.3.3 Agriculture sector:

The agricultural sector is an important economic activity because of its importance in providing food consumption needs and its contribution to the provision of primary materials as inputs to a number of manufacturing industries, and the agricultural sector is one of the most important economic sectors in the Kingdom because of its great contribution to providing and raising the level of food security ( Al-Muhanna, 2019) and the economy of the Kingdom before the discovery of oil was as simple as the majority of the Kingdom's population they work in traditional economic activities, represented by agriculture, fishing, cattle breeding and some other professions, so the Kingdom was ranked among the countries with the least productive level of economic activity at the world level at the end of The fourth decade of the last century, and then after the discovery of oil, the Kingdom gained great importance among the countries of the world thanks to the possession of huge reserves of oil and natural gas, which had a great impact on the formulation of new directions for the Kingdom's economy (Mojbal, 2018) after which the Kingdom of Saudi Arabia realized since the seventies of the last century the danger of its great dependence on the oil sector as the only and basic source of income, in the presence of challenges such as market fluctuations, international policies, and sudden crises (Abalkhel and al-Bakr, 2019). The Kingdom of Saudi Arabia uses less than 2% of the total land area in the country for agriculture due to the lack of water, which contributes to the decline in agricultural production in Saudi lands, so the government of the Kingdom of Saudi Arabia resorted to buying agricultural land in countries such as the United States, Indonesia, Argentina, and Thailand. In addition to the purpose of storing water for irrigation and as a means of flood control in turn, huge stores of groundwater have been discovered in the central and eastern parts of the Kingdom and exploited in agriculture (the most important economic activity in National Messenger (almrsal.com)).

The graph shows the low percentage of the agricultural sector's contribution to GDP during the research period (1990-2021), and the percentage of contribution was almost stable at 2% and exceeded this percentage only in different periods of time. This is due to many reasons, including the desert nature that the Kingdom enjoys. Despite all the measures taken by the Kingdom to reach self-sufficiency, it faces many obstacles. On the other hand, the desire of workers to work in this sector is low because of the low wages in it on the one hand, and on the other hand, the domestic product of the agricultural sector is governed by large fluctuations in the domestic product with oil revenues, which are associated with prices. Besides all this, the government of the Kingdom has decided to stop growing a range of agricultural products, mainly cereals, as it will depend on the import of cereals entirely from abroad in order to preserve the water resource, as the agricultural sector consumes up to 80% of the water resource in the Kingdom, and the state is shifting to increasing agricultural investments abroad in cooperation with Saudi companies (Aljazeera capital, 2016).



**Figure 3:** The percentage of the contribution of the industrial sector as a percentage of GDP.

**Source** prepared by the researchers based on the data of Table (1) and the program outputs EViews 12.

### 2.3.4 Budget deficit and surplus:

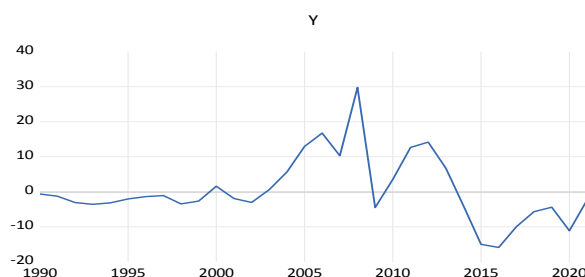
In 2016, the Kingdom of Saudi Arabia announced Vision 2030, which called for a radical change in the economic and social situation of the Kingdom, and the budget is one of the most important tools that must reflect this change, so the general budget can be defined as a financial statement of the general economy and its relationship with the national economy, and a financial plan includes detailed estimates of public revenues and expenditures. It will be approved by the legislative and executive authorities of the state and directed for the purpose of achieving the Financial Policy and the economic and social goals of the state (al-Anzi and Al-Bassam, 2022). The Saudi economy is one of the largest influential economies in the global economy, so the general budget in the Kingdom is facing difficulties and challenges of oil price fluctuations, which are reflected on revenues and, in turn, affect its ability to finance its increasing expenses. He notes that the Kingdom, like other oil countries, has witnessed cases of fluctuations in its oil revenues despite the Kingdom's continuous attempts and the extent of its development plans to reduce dependence on oil and enhance the role of sectors. However, despite the strong source of oil revenues enjoyed by the Kingdom's budget, it was not able to reduce the deficit of its budgets during the research period (Bukhari et al, 2022). From Table 1 in the appendix, the significant volatility in world oil prices indicates the obvious ups and downs experienced by the Kingdom of Saudi Arabia in the general budget and also notes the close link between oil prices and the government deficit. It is noted from the note in Table 2 in the appendix that the year 2013 was the last year in which the Kingdom achieved a surplus in its budget, as it is noted that the Kingdom was enjoying external surpluses and rapid economic expansion as a result of high oil prices, and this continued for four consecutive years (Almarzoqi and El Mahmah, 2021). With the decline in oil prices in mid-2014, the surpluses turned into the analysis of the research period, and it can be discussed based on three periods in order to give a more in-depth and comprehensive analytical picture of what the general budget went through during the research period.

**First Term (1990-2002):** This period includes 13 years, and this period is characterized by a semi-permanent deficit, except for the year 2000, in which the Kingdom recorded a surplus of 6053 million dollars, i.e., (1.60% as a percentage of GDP) due to the rise in oil prices from its estimated price in the budget, amounting to 19 dollars per barrel. The highest level of deficit reached by the budget during that period was in 1993, which amounted to (-12368 million dollars) by (3.57%) as a percentage of GDP, declining for the following years.

**Second Term (2003-2013):** As for this period, which reaches 11 years, it was characterized by significant rises in world oil prices, which directly reflected on revenues versus public expenditures, resulting in surpluses in the general budget, except in the year 2009, which recorded a deficit of 22632 million dollars, estimated at 4.5% as a percentage of GDP, due to the decline in oil prices than estimated and a decrease in the amount of oil production. In addition to the increase in the expenses of the projects of the Holy Mosques and military projects, the highest surplus reached by the general budget was in the year 2008, where it reached 152895 million dollars by 29.78% as a percentage of output total local area (Mohammed Al-hasmeh, 2023).

**Third Term (2014-2021):** The return of the deficit in the general budget of the Kingdom can be observed during the remaining period due to the world's wars, economic instability, and the epidemic that hit the world, which had negative consequences on the rate of global demand for oil and its prices and prompted the world in general and the Kingdom in particular to take the relevant containment measures. For the period between 2014-2017, it reached 274,737 million dollars in 2014. After, it was about 304211 million dollars and reached its lowest level in this period, reaching 136,579 million dollars in 2017 with a low negative rate of (0.5%) during the period 2014-2017. After the growth rate was positive by 3.16% during the period (2003-2013) and after 2017, the government of the Kingdom of Saudi Arabia took a set of measures in 2018, including continuing the Kingdom's efforts to diversify its revenues away from oil, increasing non-tax revenues such as increases in financial compensation for expatriates, and the introduction of value-added tax by 5% in 2018 (KPMG, 2020). As a result, public revenues increased from 179,358 million dollars to 241,213 million dollars and finally to 257,463 million dollars during the periods 2017, 2018, and 2021, respectively. The growth rate is positive by 6% during the period 2018-2021; after that, it was negative in the previous year except for 2020 and has fallen in the Moscow public in (208489) million dollars; after that, it was (247159) million dollars in 2019, when this decrease in Moscow in the slowdown of economic activity is the result of the spread of pandemic Corona. The decline in oil prices to recover in the next year has increased Tuesday after (257463) million dollars in 2021.

As for public expenditures, it is noted through the data table (2), which indicates the fluctuation of expenditures between high and low, that, during the last period of research 2014-2020, public expenditures increased even more, and this increase in expenditures is attributed to additional allocations to the healthcare sector due to the outbreak of the coronavirus pandemic "COVID-19" expenses related to the empowerment of citizens abroad public expenditures in 2021 will decrease by 277,049 million dollars due to the reduction of allocations of programs to achieve the Kingdom's vision and giant projects and the postponement of some initiatives and projects. Capital (Island, 2020) in addition to the government canceling, extending, or postponing a number of elements of operational and capital spending by 19.1%, in addition to maintaining the level of spending on major sectors such as education, health care, defense, and social development, this year the government also made an effort within the framework of the specialization program, which is also a source of public revenue besides being a reform goal, which includes increasing partnerships between the public and private sectors, and in turn, this will relieve pressure on the Saudi government regarding capital spending (KPMG, 2020).



**Figure 4:** Deficit and surplus of the general budget in the Kingdom of Saudi Arabia during the research period.

**Source** prepared by the researchers based on the data of table no. (1) & the program outputs EViews12.

#### 2.4 Measuring and analysing the impact of the imbalance in the sectoral structure on the public budget Data sources and research variables:

The research used time series data during the period (1990–2020) and focused on the economy of Saudi Arabia Kingdom. The data was obtained from the website [www.Knoema.com-free](http://www.Knoema.com-free). In order to identify the factors that affect the public budget deficit, the following variables were taken:

$\gamma$ : The surplus or deficit in the public budget represents the dependent variable.

The independent variables for this research are:

$\chi_1$ : oil price

$\chi_2$ : The agricultural sector's contribution to GDP

$\chi_3$ : The mining sector's contribution to GDP

$\chi_4$ : The industry sector's contribution to GDP

The standard model can be formulated as follows:

$$\gamma = \alpha + \beta_1\chi_1 + \beta_2\chi_2 + \beta_3\chi_3 + \beta_4\chi_4 + \varepsilon t \quad (1)$$

##### 2.4.1 The ARDL cointegration approach :

This research used the autoregressive distributed lag model (ARDL), which was introduced by Pesaran and Shin and later developed by Pesaran. Autoregressive models were combined with the distributed lag models into one model. (Pesaran et al, 2001). The ARDL model includes testing the presence or absence of a long-term equilibrium relationship between the research variables by using the bounds test according to the hypotheses:

The null hypothesis is that there is no cointegration between the variables

$$H_0 = \beta_1 = \beta_2 = \beta_3 = 0$$

The alternative hypothesis is that there is cointegration between the variables

$$H_1 \neq \beta_1 \neq \beta_2 \neq \beta_3 \neq 0$$

To explain the relationship between variables, this model can be applied if the time series are integrated at the level  $I(0)$ , the first difference  $I(1)$ , or a mixture between them. (Pahlavani, 2005).

### 2.4.2 Empirical Results

**Table 1:** Unit Roots Test

Variable	Test in	ADF-test statistic	Prob.	PP-test statistic	Prob.	Order of Integration
<b>Y</b>	At-Level I~ (0)**	-2.395238	0.3744	-2.344042	0.3993	No
	1st difference I~ (1)*	-6.536617	0.0000	-11.55031	0.0000	I(1)
<b>X1</b>	At-Level I~ (0)**	-1.440636	0.8274	-1.635978	0.7541	No
	1st difference I~ (1)*	-4.444360	0.0073	-4.312957	0.0099	I(1)
<b>X2</b>	At-Level I~ (0)**	-1.295498	0.8697	-1.206433	0.8910	I(0)
	1st difference I~ (1)*	-5.419442	0.0007	-5.686477	0.0004	I(1)
<b>X3</b>	At-Level I~ (0)**	-1.521768	0.7992	-1.518321	0.8005	No
	1st difference I~ (1)*	-6.778077	0.0000	-7.010839	0.0000	I(1)
<b>X4</b>	At-Level I~ (0)**	-0.971693	0.9322	-2.154771	0.4961	No
	1st difference I~ (1)*	-5.848862	0.0003	-5.328838	0.0009	I(1)

**Source** The table was prepared by the researchers based on the results of the EViews12 program.

The results of the static tests appeared in the above table, according to the Augmented Dickey-Fuller and the Phillips-Peron tests, that the dependent variable (PB) that represents the public balance was not static at the level I~ (0) and that it suffers from a unit root problem, but after taking its first difference I~ (1), it became stationary, and the same applies to the other independent variables, which were not stable at the level I~ (0) and stable at taking their first difference I~ (1).

After conducting a stationary test for the time series of the research variables, they suffered from a unit root and stabilized after taking the first difference, so the most appropriate model to measure the relationship between the dependent variable and the independent variables is ARDL.

**Table 2:** Estimated Long run coefficients using the ARDL approach (2, 2, 0, 1, 2)

Dependent Variable: Y				
Regressor	Coefficient	Standard Error	t-Statistic	Prob (t-statistic)
<b>Constant</b>	69684.78	101073.3	0.689448	0.4998
<b>Y(-1)</b>	-0.329007	0.200808	-1.638415	0.1197
<b>Y(-2)</b>	0.552922	0.158685	3.484402	0.0028
<b>X1</b>	2629.793	247.0942	10.64288	0.0000
<b>X1(-1)</b>	330.3651	679.4947	0.486192	0.6330
<b>X1(-2)</b>	-2992.103	712.2437	-4.200954	0.0000
<b>X2</b>	-25.69854	12.60188	-2.039262	0.0573
<b>X3</b>	0.346448	0.134159	2.582366	0.0194
<b>X3(-1)</b>	0.221934	0.099346	2.233958	0.0392



<b>X4</b>	-3.132662	1.077850	-2.906398	0.0098
<b>X4(-1)</b>	1.906034	2.255647	0.845005	0.4098
<b>X4(-2)</b>	3.785249	2.534350	1.493578	0.1536
<b>R-squared</b>	0.962365			
<b>Adjusted R-squared</b>	0.938013		Durbin-Watson stat.	2.564471
<b>F-statistic</b>	39.51872		Prob(F-statistic)	0.000000

**Source** The table was prepared by the researchers based on the results of the EViews12 program.

Table 2 represents the estimation of coefficients in the long run by the ARDL methodology, which emphasizes the existence of a long-term relationship between the variables in this model. The number of lag time periods is chosen according to Akaike's criterion AIC or Schwarz Bayesian criterion SBC before estimating the model, which was in this research (2, 2, 0, 1, 2) according to Akaike's criterion.

Yule confirmed that the phenomenon of spurious regression appears in the nonstationary time series, and this was observed when the value of Durbin-Watson was low. While according to both Granger and Newbold, the estimated regression is spurious if R2 is greater than Durbin-Watson, it is a good rule. (Gudjrati, 2003). In this research, the statistical value of D.W was high and greater than 2, and R2 was about 0.96, which is less than D.W (2.56), meaning that the estimated regression is not a spurious regression.

**Table 3:** ARDL approach

<b>Variable</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>t-Statistic</b>	<b>Prob (t-statistic)</b>
<b>X1</b>	-41.16165	736.0061	-0.055926	0.9561
<b>X2</b>	-33.11307	13.04253	-2.538853	0.0212
<b>X3</b>	0.732371	0.305135	2.400159	0.0281
<b>X4</b>	3.296831	1.650757	1.997163	0.0621

**Source** The table was prepared by the researchers based on the results of the EViews12 program.

**Table 4:** F-Bounds Test

<b>F-Bounds Test</b>		<b>Null Hypothesis: No levels relationship</b>		
<b>Test Statistic</b>	<b>Value</b>	<b>Signif</b>	<b>I(0)</b>	
	<b>I(1)</b>			
<b>F-statistic</b>	9.258087	10%	2.45	3.52
<b>K</b>	4	5%	2.86	4.01
		2.5%	3.25	4.49
		1%	3.74	5.06

**Source** The table was prepared by the researchers based on the results of the EViews12 program Table4: The results of the limits test for co-integration showed that the calculated F value was 9.258087 and that it was greater than the upper limit I (1) (5.06), as well as greater than the lower limit I (0) (2.45) at all levels of significance, rejecting the null hypothesis that states that there was no co-integration, which confirms the existence of co-integration between the variables.

**Table 5:** t- Bounds Test

t-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic		Value	Signif	I(0)
		I(1)		
t-statistic	-7.561898	10%	-2.57	-3.66
		5%	-2.86	-3.99
		2.5%	-3.13	-4.26
		1%	-3.43	-4.6

**Source** The table was prepared by the researchers based on the results of the EViews12 program. The results of the t-Bounds Test in Table 5, which represents the logic of the long-term relationship, showed that the t-statistic (-7.561898) and by taking its absolute value, we found that it was greater than all values at the minimum I (0) and the upper limit I (1) and at all levels of significance, and this result confirms the logic of the long-term relationship and the accuracy of the statistical results of the F-Bounds Test.

**Table 6:** Estimated Short run coefficients using Dynamic Error correction model

Dependent Variable: D (Y)				
Regressor	Coefficient	Standard Error	t-Statistic	Prob (t-statistic)
CointEq(-1)*	-0.776085	0.102631	-7.561898	0.0000
R-squared	0.948982	Akaike info criterion		21.96838
Adj. R-squared	0.931976			
Durbin-Watson	2.564471			

**Source** The table was prepared by the researchers based on the results of the EViews12 program. According to the ARDL co-integration model, the short-term relationship between the dependent variable and the explanatory variables was estimated, and the results of the estimation are shown in Table (6). The value of the adjustment coefficient was -0.776085. This means that the adjustment takes place relatively quickly, i.e., the speed of adjustment is relatively high.

#### 2.4.3 Diagnostic Tests:

**Table 7:** Heteroscedasticity Test: Breusch–Pagan–Godfrey

Null hypothesis: Homoskedasticity			
F-statistic	1.408855	Prob.F(5,25)	0.2544
Obs*R-squared	13.82956	Prob.chi-square (5)	0.2426
Scaled explained SS	4.923820	Prob.chi-square (5)	0.9348

**Source** The table was prepared by the researchers based on the results of the EViews12 program.

The results of the Breusch-Pagan-Godfrey test included in Table 6 confirmed that the model used did not suffer from the problem of heteroskedasticity: its value was 0.2455, which was greater than 0.05, so we accept the null hypothesis.

**Table 8:** Breusch–Godfrey serial correlation LM test

Null hypothesis: No serial correlation at up to 2 Lags			
F-statistic	1.453827	Prob.F(2,23)	0.2648
Obs*R-squared	4.708710	Prob.chi-square (2)	0.0950

**Source** The table was prepared by the researchers based on the results of the EViews12 program.

The Breusch-Godfrey serial correlation LM test was employed to test for serial correlation. The results of the serial correlation of the residuals listed in Table 8 confirmed the acceptance of the null hypothesis and the rejection of the alternative hypothesis in the absence of autocorrelation of the residuals, which amounted to 0.2648, which was greater than 0.05.

#### 2.4.4 Normality test results:

It is considered one of the necessary tests in the case of small samples that cannot be ignored; the normal distribution of the residuals can be tested by the Jarque-Bera statistic. The probability value of the Jarque-Bera statistic was equal to (0.958), which was greater than the level of significance (0.05). Therefore, we cannot reject the hypothesis. The graph below showed all statistical measures, and the bell shape confirmed that the residuals were normally distributed.

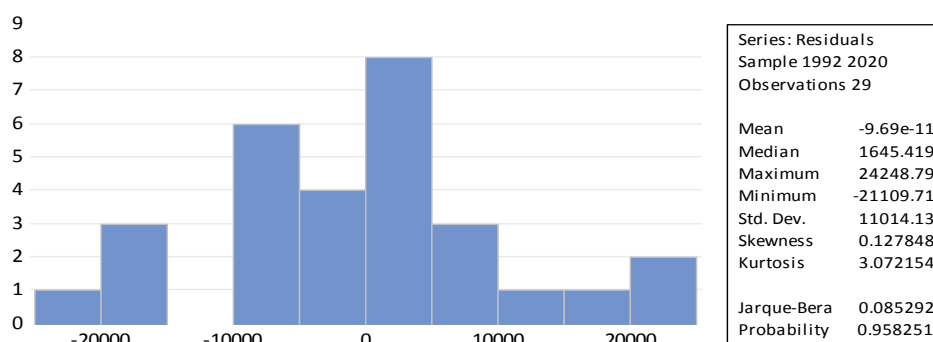


Figure 5: Normality test result

Source Outputs of EViews12 program

### 3. Discussion of Results:

**3.1 Long term results:** The results of Long term that oil price was not significant (0.95610); in other words, it did not have a clear effect on the public budget. As for the agricultural sector's contribution to GDP, it had a negative and significant effect on the public budget in Saudi Arabia in the long term. The effect of the mining sector's contribution to GDP was positive and significant (0.0281). This result was expected for an oil-rich country like Saudi Arabia due to its heavy dependence on the mining sector. The industry sector's contribution to GDP had a positive and significant effect (at a significance level of 10%).

**3.2 short-term results:** The significance of the slow-down coefficient is the error correction term, which reveals how quickly the variables return to equilibrium at a level less than (1%) and the appearance of the coefficient with a negative sign, which means the presence of cointegration between the variables and the convergence of the short-term kinetic model. As for the error correction model, which reveals how quickly variables return to equilibrium in the short term, the results show that (77%) of all deviations or imbalances in the short term are corrected within one year in order to return to the long-term equilibrium situation. Thus, it was shown that the model's adaptation was rapid.

**3.3 Diagnostic Tests Results:** Diagnostic tests are considered important tests for the ARDL methodology as they relate to the model as a whole. The results of heteroscedasticity showed that there is no problem with heteroscedasticity. By conducting the Breusch-Pagan-Godfrey test, it was shown that the model overcomes this problem. As for the problem of serial correlation of errors, and by conducting a test LM, the results confirmed that the model is free. Of which. As for the test for the distribution of the residuals, the Jarque-Bera statistic confirmed that the residuals are distributed normally, and thus the model passed all tests for the model.

#### **4. Conclusions:**

**The research reached a set of conclusions, the most important of which are:**

1. It can be noted from the above that Saudi Arabia is still continuing to implement the initiatives and structural reforms that it has adopted over the past years, which aims to diversify its economic base and reduce its dependence on oil revenues, which will reflect positively on its financial sustainability and thus raise the growth rates of non-oil GDP, but it still plays an influential role on the oil market through its policies however, this sector is characterized by the depletion of local resources and their depletion in the future, which affects future generations.

2. Considering that Saudi Arabia is an oil country, its oil revenues contribute to the development of other economic sectors, and therefore the outputs of this sector are one of the most important sources of financing for the general budget in the Kingdom of Saudi Arabia.

3. The standard results obtained by applying the ARDL methodology indicate the existence of co-integration between the variables of the study, that is, the existence of a long-term relationship between the dependent variable represented by the deficit or surplus in the general budget and the independent variables represented by the output from the agricultural sector, the industrial sector, the mining sector, and also the price of oil, through Pound's test, which confirmed the scope of this relationship during the research period.

4. The results of ECM showed that the error correction factor, which represents the speed of return of the dependent variable represented by the deficit or surplus in the general budget towards its value in the long term, was (77%), which is a very high ratio. In other words, when the dependent variable deviates during the short term from its equilibrium value in the long term (77%), this imbalance is corrected to reach equilibrium in the long run.

5. As for the diagnostic tests for the model as a whole, there are the heteroscedasticity, the LM, and the normality tests. They all proved the validity of the chosen model and that it is free of econometric problems.

#### **Authors Declaration:**

Conflicts of Interest: None

-We Hereby Confirm That All The Figures and Tables In The Manuscript Are Mine and Ours. Besides, The Figures and Images, Which are Not Mine, Have Been Permitted Republication and Attached to The Manuscript.

- Ethical Clearance: The Research Was Approved By The Local Ethical Committee in The University.

#### **5. References:**

1. Aba Al-Khail, A., Ahmed, A. (2019). "the contribution of economic activities to the growth rates of the private sector in the Kingdom of Saudi Arabia", Department of Economic Research, Saudi Arabian Monetary Agency. (p1-25)

2. Aba Al-Khalil, A. A. A. (2022). "Saudi Arabia's policy in the field of industrial sector development", faculty of Arts Research Journal, Vol.33, No. 131. pp 59-96.

3. Abouelnour, Kh. A. (2023). "The Evolution of Relationship between Governmental Spending on the Health Sector and State Budget in Saudi Arabia using the ARDL model", university of Sharjah Journal of Humanities and social sciences Vol. 20, No. 3 p .182-213.

4. Ahmed, M. I. (2020). "analysis of the sectoral structure of GDP in Iraq for the period (2006-2018)", scientific journal of Ceyhan - Sulaymaniyah University, Vol. 4, No. 2, 216-239.

5. Ahmed, A. N., Algaith, A. B., Tim, C. P. D., Amged, H. P., Khandelwal, M. P. and Hanoan, P. (2015). "Saudi Arabia: addressing emerging economic challenges to maintain growth", International Monetary Fund, Middle East and Central Asia management.

6. Al Jazeera Capital (2016). agriculture and food industries sector, Al Jazeera Capital Markets Company, a closed Saudi Joint Stock Company licensed by the Financial Markets Authority. [WWW.Aljaziracapital.com.sa](http://WWW.Aljaziracapital.com.sa).

7. Al Muhanna, A. S. (2019). "economic policies to achieve food security in the kingdom of Saudi Arabia during the period (1990-2017) wheat as a model", *Journal of economic, administrative and Legal Sciences*, Vol. (3), No. 13, pp21-52.
8. Al-Anazi, A. A., Bassam A. (2022). "public budget governance in the kingdom of Saudi Arabia", *international academic journal of Economics and Administrative Sciences*, International electronic banner, Vol. (4), No. (2). pp1-20.
9. Al-huwaysh, A. K. (2015). "the industrial sector in the kingdom of Saudi Arabia: a spatial analytical economic outlook", *Journal of the University of Sharjah for Humanities and Social Sciences*, vol. (12), No. 1. pp218-241.
10. Al-Jubran, J. (2019). "a look at the Saudi economy 2020", *Al-Jazeera capital, Al-Jazeera financial markets*, 1-11.
11. Almarzoqi, R., El Mahmah, A. (2021). "Non-Oil Revenue and Economic Growth on major net oil exporters? Evidence from Saudi Arabia", *Journal of Economic Structure*. Under review.
12. Al-Mutairi, O. H. (2022). "the impact of financial policies on economic diversification in the kingdom of Saudi Arabia: an analytical research for the period 2000-2022", *Journal of economic, administrative and Legal Sciences*, vol. (6), No. 23, AJSRP. pp131-154.
13. Al-nowaiser, S. N. (2020). "measuring the productivity of manufacturing activity in the kingdom of Saudi Arabia", working paper, Department of Economic Research, Mj Saudi Arabian Monetary Agency.
14. Bronić M., Stanić B. and Prijaković S. (2022). "The Effects of Budget Transparency on the Budget Balances and Expenditures of Croatian Local Governments". *South East European Journal of Economics and Business*, Vol.17, No. 1. pp. 111-124.
15. Bukhari, A. A., Halwani, A. A. and Bajaber, N. A. (2022). "enhancing local revenues to reduce the public budget deficit in the kingdom of Saudi Arabia: a standard research during the period (1992-2022)", *Journal of economic, administrative and Legal Sciences*, vol. (6), No. 22. pp 93-113.
16. Fares, N. S. (2016). "The economic effects of oil policy in the kingdom of Saudi Arabia", Centre for researches of Basra and the Arab Gulf, University of Basra, *Journal of Gulf economics*, No. 29. pp188-213.
17. Hussein, A. Kh. N. and Al-Musawi, R. H. A., (2022). "Analysis of the structure of GDP and the general budget in Iraq for the Duration (1990-2018)", *Kut University College Journal for Humanitarian science*, Vol 3, No. 1. p 109-121.
18. Kateryna, R., Volodymyr, O., Natalia, P., Ruslana, K. and Iryna Sh. (2022). "Analysis of financial flows in the budget process of Ukraine under the conditions of structural imbalances of the financial system". *Public and Municipal Finance*, Vol. 11, No.1. pp 37-53.
19. KPMG (2020). "The report of the general budget of the kingdom of Saudi Arabia for 2021", analyzing the general budget of the kingdom of Saudi Arabia for the fiscal year 2021 in the light of the latest economic developments, 1-15
20. Ministry of economy and planning, <http://www.mep.gov.sa>
21. Mohammed Al-hasmeh, N. A. (2023). "the impact of the crowding out of the public sector by the private sector on the domestic financial resources in the kingdom of Saudi Arabia for the period between 1991 and 2020", *academic journal of contemporary Business Research*, Vol. (3), No. (2). p121-133.
22. Mojbil, I. H. (2018). "the use of oil revenues in the transformation of the structure of the Saudi economy towards industry and the aspiration to build a knowledge society under Vision 2030", *Journal of the University College of Knowledge*, vol.27, No. 1. p586-613.
23. Muhaisen, Sh. R. (2020). "real imbalances in the Iraqi economy", doctoral thesis, Karbala university.
24. Pahlavani, M., Wilson, E., and Worthington, A. C. (2005). "Trade-GDP nexus in Iran: An application of the autoregressive distributed lag (ARDL) model".



25. Pesaran, M. H., Shin, Y., and Smith, R. J. (2001). "Bounds testing approaches to the analysis of level relationships". *Journal of applied econometrics*, Vol. 16, No. (3). p289-326.
26. Bank Audi. (2023). "A significant reform momentum delivering net structural improvements to KSA'S economy", *Saudi Arabia economic report*. 1-16.
27. Saudi Arabia economy vision goals by 2030, <https://www.vision2030.gov.sa/v2030/overview/thriving-economy/>.
28. Thakur, S. K. (2011). "Fundamental economic structure and structural change in regional economies", *A methodological approach. Region et development*, Vol. 33. p 9-38.
29. Thomas K. M. (1982). "Structural determinants of government budget deficits in developing countries", *World Development*, Vol. 10, No. 6. p 467- 473.
30. Todorova, T. P. (2019). "Government budget balance and economic growth", *Journal of International Scientific Publications*, Vol. 13. No. 9. p 1689-1699.
31. Yunus, A. H., Abdawn, T. A. and Rashed, Sh. (2015). "the reality of structural imbalances in the Iraqi economy (2003-2012)", *Journal of management and economics*, Karbala University, Vol. IV, No. XVI. p104-136.
32. Zaki, C. (2017). "An overview of Structural Imbalances in Egypt", *Égypte/Monde arabe*. p 99-124.
33. Yeboah, S. and James Nyarkoh, B. (2022). "The Impact of Mining on the Ghanaian Economy" *A Comprehensive Review (1992-2020)*. <https://mpira.ub.uni-muenchen.de/117502/>
34. Al-Hayaly, A. G. K. J. (2022). "Industrial Sector and Development of Iraqi Economy by Kaldor's Approach for Years (2017-2030)", *Journal of Economics and Administrative Sciences*, Vol. 28, NO.132, p. 45-61.
35. Slama, S. A. (2015). "The Impact of Oil Price Swings on the Public Budget in Saudi Arabia: An Empirical Research by Using the Johansen Co-Integration and Error Correction Model for the Period (1981-2014)", *International Journal of Research in Business Researches and Management*, Vol. 2 No. 5. P. 7-23.
36. Jawad, H. T. (2022). "Measuring and analysing the response of the public budget tools and GDP in Iraq to oil price shocks for the period (2004-2017)", *Tikrit Journal of Administration and Economics Sciences*, Vol. 18, NO. 57 part 2, p. 457-470.
37. Bayati, Y. F. K. A. and bin Al-Hamid, Z. B. N. (2022). "The impact of oil price fluctuations on the general budget and the Iraqi gross domestic product from the period 2010 to 2020", *Journal of Business and Management Studies*, Vol. 4, NO. 3, p. 121-140.
38. Kosárová, D. (2020). "February. Saudi Arabia's vision 2030. In *Security forum*", p. 124-134.
39. Screpanti, E. and Zamagni, S. (2005). *An outline of the history of economic thought*. OUP Oxford.
40. Medema, S. G. (2004). *The history of economic thought: a reader*. Routledge

Appendix

**Table 1:** The general budget, oil prices, and the percentage of contribution of the main economic sectors (agriculture, mining, industry) as a percentage of gross domestic product during the period (1990-2021).

Years	PB	Oil p.	Agri. GDP	MinGDP.	Ind.GDP.
1990	-0.63	22.26	3.10	64.26	7.40
1991	-1.25	18.62	2.77	68.40	6.27
1992	-3.07	18.44	2.83	67.84	6.27
1993	-3.57	16.33	2.97	66.90	6.54
1994	-3.17	15.53	2.88	67.03	6.75
1995	-2.03	16.9	2.90	67.14	6.96
1996	-1.39	20.3	2.82	67.09	7.72
1997	-1.09	18.7	2.88	65.90	7.79
1998	-3.46	12.3	2.82	66.00	7.72
1999	-2.64	17.5	3.00	63.88	8.26
2000	1.60	27.6	2.95	64.73	8.17
2001	-1.90	23.1	3.00	63.48	8.52
2002	-3.04	24.3	3.13	61.30	8.93
2003	0.65	28.2	2.84	64.09	8.67
2004	5.66	36	2.72	63.93	9.01
2005	13.00	50.6	2.60	63.37	9.10
2006	16.75	61.1	2.56	61.63	9.52
2007	10.29	69.1	2.56	59.29	10.05
2008	29.78	94.4	2.44	58.77	10.33
2009	-4.50	61	2.52	55.46	10.70
2010	3.54	77.4	2.64	53.80	11.01
2011	12.68	107.5	2.50	54.85	10.90
2012	14.18	109.5	2.44	54.61	10.77
2013	6.74	105.9	2.46	52.95	10.84
2014	-3.92	96.3	2.43	52.52	11.45
2015	-15.00	49.5	2.35	53.03	11.73
2016	-15.89	40.7	2.32	53.45	11.97
2017	-9.96	52.43	2.53	25.36	12.83
2018	-5.68	69.78	2.14	28.82	12.34
2019	-4.39	64.04	2.20	27.43	12.37
2020	-11.14	41.47	2.54	20.31	12.12
2021	-2.35	69.9	2.31	25.67	13.06

Source <http://ar.knoema.com/atlas>

**Table 2:** Public revenues, public expenditures and the general budget during the period (1990-2021)

Years	TR Million \$	EX Million \$	PB
1990	43684	45526	-0.63
1991	41316	45526	-1.25
1992	44737	55526	-3.07
1993	37105	49474	-3.57
1994	33947	45000	-3.17
1995	38684	45789	-2.03
1996	47105	52105	-1.39
1997	54211	58158	-1.09
1998	37105	50000	-3.46
1999	38947	48421	-2.64
2000	67895	61842	1.60
2001	60000	67105	-1.90
2002	56053	67105	-3.04
2003	73158	70526	0.65
2004	104211	79474	5.66
2005	153514	93514	13.00
2006	183514	104054	16.75
2007	173784	124054	10.29
2008	289737	136842	29.78
2009	134211	156842	-4.50
2010	195263	176579	3.54
2011	294211	220526	12.68
2012	328158	241316	14.18
2013	304211	261842	6.74
2014	274737	300263	-3.92
2015	161053	262895	-15.00
2016	136579	246316	-15.89
2017	179358	247940	-9.96
2018	241213	287575	-5.68
2019	247159	282461	-4.39
2020	208489	286862	-11.14
2021	257463	277049	-2.35

Source <http://ar.knoema.com/atlas>.

## تحليل وقياس أثر الاختلال الهيكلي للاقتصاد السعودي على توازن الموازنة العامة للمدة (1990-2021)

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Received: 2/10/2023

Accepted: 25/2/2024

Published Online First: 1 /10/ 2024

هذا العمل مرخص تحت اتفاقية المشاع الإبداعي نَسَب المُنْصَف - غير تجاري - الترخيص العمومي الدولي 4.0

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### مستخلص البحث:

يهدف البحث الى بيان أثر الاختلالات الهيكلية للقطاعات الرئيسية في المملكة العربية السعودية عن طريق اختبار العلاقة في الاجل القصير والطويل بين متغيرات هيكل القطاعات الرئيسية من الصناعة والزراعة والتعدين بالإضافة لسعر النفط كمتغيرات مستقلة وبين الموازنة العامة معبرا عنه بالعجز وفائض في الموازنة العامة وذلك باستخدام منهجية الانحدار الذاتي للابطاءات الموزعة (ARDL) للمدة (1990-2021).

وقد أسفرت النتائج عن وجود علاقة طويلة الاجل ما بين القطاعات الرئيسية وسعر النفط وبين عجز وفائض الموازنة العامة وبمعامل تصحيح سالب قدره (-0.77) من أجل الرجوع للوضع التوازني من الاجل القصير إلى الاجل الطويل، وتوصل البحث إلى مجموعة من الاستنتاجات، أن السعر المتغير للنفط لم يكن كبيرا ؛ بمعنى آخر ، لم يكن له تأثير واضح على الموازنة العامة. أما بالنسبة لقطاع الزراعة ، فقد كان له تأثير سلبي وكبير على الميزانية العامة في المملكة العربية السعودية على المدى الطويل. كان لتأثير كل من قطاع التعدين والقطاع الصناعي تأثير إيجابي على الميزانية العامة. وتقتصر الدراسة بضرورة تواصل حكومة المملكة في تنفيذ الإصلاحات الهيكلية التي اعتمدها خلال رؤية المملكة 2030 في تنويع القاعدة الاقتصادية والانتاجية والقيام بتقليل الاعتماد على الإيرادات النفطية مما سينعكس ايجابا على استدامتها المالية ورفع معدلات الناتج المحلي الاجمالي غير النفطي.

نوع البحث: ورقة بحثية

المصطلحات الرئيسية للبحث: الاختلالات الهيكلية، القطاعات الاقتصادية الرئيسية، الموازنة العامة، الاقتصاد السعودي،

ECM ،ARDL

(1)  
(2)  
(3)