Diversification and Economic Growth in Emerging Economies: The Kurdistan of Iraq Experience

1Beston M. Qadir - 2Soran Zaher Abdullah - 3Hawre L. Majeed

Oil And Gas Management Charmo University/Public Administration and Natural Resource

Economic Science Charmo University/Public Administration And Natural Resource

International Economics and Finance Kurdistan Technical Institute. Accounting Department, Qaiwan International University

Correspondence: hawre.latif@kti.edu.iq

Abstract

This study aims to understand the Kurdistan Region of Iraq’s experience of diversification and economic growth because the Kurdistan Region is the main source of this income from oil sales. This economic diversity can boost growth and stability. This study highlights the Kurdistan Region’s lack of economic diversity, which is part of Iraq that needs multiple income sources, so the method described is used to analyze the agriculture, industrial, and oil sectors realistically. The method used in the study is a descriptive research article. Excel program has been used to analyze the data. A productive country has a diverse economy that generates much domestic income, especially in industry (manufacturing and transportation) and agriculture, which must directly contribute to the state’s income. Diversify the state’s economy. Thus, the oil sector in the Kurdistan Region of Iraq has not driven economic growth or stability, and the fiscal balance of GDP has declined due to public revenue declines. The main result of this study is that Kurdistan's economy is mainly dependent on oil revenues, so the Kurdistan Region is economically unstable, as oil revenues are more dependent on the global market. These revenues are related to high and low demand for energy resources. In addition, this will increase and decrease public revenue in the Kurdistan Region. To diversify the economy of the Kurdistan Region, it should pay attention to other sectors; the Kurdistan Regional Government must follow this method because the Kurdistan Region is rich in natural resources, and agriculture also has a favorable environment for the development of the industrial sector. The study suggests that oil sales revenues should be used for economic allocations rather than agriculture and industry. At the end of the study, several recommendations are presented, the most important of which is that oil revenues should be used to fund investment projects in exchange for reducing operating costs, which will lead to the development of economic infrastructure in the Kurdistan Region, attention should also be paid to other sectors to increase revenue sources.

Keywords: Economy Diversity, Oil Revenues, Agriculture Sector, Industrial Sector, GDP
1- Introduction

Economic Diversity is one of the options for economic development in most oil-related countries, one of the most critical factors for achieving economic stability, and also for avoidance of crises and problems for the future of each different economic structure. The Kurdistan Region, which is part of Iraq, is strongly linked to one primary source of income: the oil sector. Economic diversification, which requires active participation in a wide range of sectors and is firmly integrated into different regions, can generate robust growth and great potential to increase the Kurdistan region's resilience and contribute to long-term economic growth and development. Successive Kurdistan of Iraq governments have advocated diversifying the economy to reduce its near-total reliance on oil and gas revenues. Kurdistan Region policymakers and stakeholders now see diversifying the economy as essential after the oil price crash.

Kurdistan Region's economy depends only on oil. Unemployment is on the rise, and productivity is at its lowest level. The speed of economic diversification has been plodding; Diversity in the Kurdistan region's economic framework now means creating new ways to develop and develop the economy. It involves using the right strategy to raise revenue in other parts of the economy. It means facilitating the development of other economic sectors and, in this way, returning the effects of the economic crisis and returning the economy to the path of continuous growth and development in this era of the destruction of COVID-19. However, it can recognize the oil and gas sector if it is. However, receives the most revenue from the sector, and there must be significant participation in the private sector in rapid investment in the Kurdistan Region's economy to be diverse. At the same time, the Diversity of the economy of this factor can provide a stable economy, Qadir, B. M (2021). The government must attract and facilitate private investment, particularly in specific areas, strengthening the parallel between government policy and private investment. That is why oil is the backbone of Iraq's income and the Kurdistan Region, which creates national income, where metals, agricultural products, and other industries remain weak.

The Kurdistan Region has an unstable and shaky economy, and in the past and now, because of its political, constitutional, and economic problems with the Iraqi country, it has not been able to provide the necessary money to provide the salaries of the services, despite the loss of all economic and service projects. The Kurdistan Region has gained some aboriginal independence because it finds customers for oil, Hama, H. H. (2019), and it can strengthen the economy but still relies on oil revenues. However, at this point, it should be done as a response to the new economic reality.
Kurdistan region is one of the countries that focused on development policy to solve the problem of economic autocracy and imbalance in its structure, which caused the oil sector to dominate the proportional participation for GDP, which has not taken other sectors and continues on that basis. It is, however, to be undertaken at this point as a response to the new economic reality, Majeed, H. L., (2021).

The KRG should prioritize economic Diversity as the only way to survive global economic uncertainty and low oil prices. The government does not believe that oil is an endless source of income or that the Kurdistan Region's economy is solely based on oil. Kurdistan's region is poor, unemployed, and producing little. The Kurdistan region's economy sank in 2016 and 2020, with the central government's blockade on the region and the shock of oil prices on the other. However, severe and practical steps have yet to be taken to diversify. Tenant countries that suffer from a significant imbalance and distortion in their economic structures because of their dependence on crude oil as a significant source of income have found that autocracy characteristics Majeed, H. L. (2022).

This paper aims to highlight a vision based on economic institutions based on financial policy dynamics to encourage the growth of the oil sector's alternative economic sector to create financial returns in diversifying income sources in order to explain the concept of Diversity and its needs for the national economy through a positive statement that has been obtained if the policies that are set for them are implemented for scientific, in international prices and clarifying them on the size of public income.

This study contributes to the total revenues in the Kurdistan Region and the contribution of each sector of oil production, industry, and agriculture in providing revenue in the Kurdistan Region of Iraq. This study is important because the diversity process is the foundation for economic growth, increase exports while recognizing and encouraging local products and industry. The article problem the Kurdistan Region's lack of income variety, reliance on oil earnings, and concentration of oil profits over other resources. This study explains economic diversity, which drives economic growth, using economic resources and money. Kurdistan, Iraq relies on oil money, but other sources can assist lift the economy. Finding Kurdish economic and social growth principles does this.
1.1 Statement of the problem

The problem of the study is the dependence of the Kurdistan Region's economy on the oil sector as the only source of public income and the lack of Diversity of income sources and participation in the concentration of oil revenues at the expense of other revenues in the total revenues. The research problem arises: Is the Kurdistan region's economy determined by diversifying its structure and thus diversifying its economic components?

1.2 Aims of the study.

This study aims to explain the concept of economic diversity, which has the most crucial role in the economic path by taking advantage of economic resources and money in the service of economic development. The Kurdistan Region, which is part of Iraq, relies mainly on oil revenues, while many other sources can be used to achieve a variety of economic strains. This is achieving by finding various fundamental factors for developing the Kurdish economy and society.

1.3 Importance of the study

The importance of the study is that the essence of the diversity process is the basis for raising the rate of economic growth, which will lead to a stable and diverse economy, which will reduce imports and increase exports, with the importance of acknowledging local products and encouraging local industry.

2- Literature Review

We found no research concerning the role of diversification on Kurdistan's economic growth, thus our review of experimental studies is limited to foreign studies. A previous study has empirically assessed the relationship between diversification strategy and economic growth for both developed and emerging economies. Baghebo and Atima (2013) showed the detrimental effects of oil and corruption on economic growth in Nigeria. The resource curse theory is confirmed in Nigeria. Also suggests that resource-rich countries may experience a resource curse due to decreased returns on human investments due to natural resource exploitation and inefficient resource allocation due to bad economic management.
Kareem et al. (2012) revealed that short-term FDI flow into the oil sector negatively impacts economic growth using a co-integration methodology. The study found that domestic capital formation had a lesser impact than FDI in the oil sector. They viewed this as proof of foreign investors' dominance in the oil industry. The effects include exogenous control, capital flight, brain drain, widespread technical and skilled unemployment, and underdevelopment of indigenous technology. Their proof allows them to be categorized. In their analysis of the link between diversity and value in the 1980s, Lang and Stulz (1994) found that diversification hurts firm value. This finding holds for several measurements and after controlling for other firm value determinants.

According to Berger and Ofek's (1995) intriguing findings, overinvestment and cross-subsidization are the main causes of diversification's value loss. Furthermore, Servaes (1996) studies how diversity affected value in the 1960s and 1970s. The findings show that there was a significant discount in the 1960s, but in the 1970s, there was no discount at all. Using 230 diversifying enterprises between 1981 and 1997, Stowe and Xing (2006) evaluate the diversification discount on diversified and single-segment firms. Even after accounting for the variation in growth prospects between diversified and undiversified enterprises, they still discover a sizable valuation discount in diversified firms. Berger and Ofek (1995) looked into the possibility that the diversification discount is partially a result of subpar corporate governance in a more recent study. The findings indicate that governance characteristics mitigate the detrimental effect of diversification on value destruction in panel data models.

The Economic Complexity Index (ECI) measures an economy's knowledge intensity through its product types (Hidalgo and Hausmann, 2009; Hausmann et al., 2014; Hidalgo, 2015). A country is complicated if it exports both numerous and complex items. Countries like Saudi Arabia, Chile, Paraguay, and Ghana have poor ECI due to excessive reliance on basic resources like crude petroleum, copper, soybeans, and cocoa beans. In contrast, Japan, South Korea, and Germany export complicated products like microchips, medicines, and vehicle parts, resulting in high ECI.

Export trade is crucial for economic growth as it boosts employment, foreign exchange revenues, and balance of payments. Evidence supports this claim in several investigations. Onayemi and Ishola (2009) found that export promotion policies lead to greater income per capita growth. Other research, such as Ayomide (2011), Basher (2012), have confirmed that export promotion improves
growth performance. Bhawati (1978), and Papageorgious et al. (1991) suggests that export promotion policies can lead to sustainable income per capita growth. According to Basher (2012), a small non-oil export and exchange rate can hinder economic growth, despite earlier favorable effects. Emphasized, nevertheless, the necessity of supporting the expansion of local content laws in the extractive industries to maximize the benefits of such sectors for economic development and expansion.

2.1 The characteristic of the Kurdistan region's economy

The Kurdistan Region of Iraq has seen several stages of economics, the most important of which was the economic change in the Kurdistan Region since 2003 when the economic revenue source was part of Iraq's financial system. In 2012, the Kurdistan Region opened to the world's markets. Many foreign companies have turned to the Kurdistan Region for investment, especially for renovating and building roads, bridges, and public services, even though there are more opportunities for the Kurdistan Regional Government, which has many Sign an energy investment contract to extract and find energy sources, especially oil and gas, to find a good oil reserve and a good market for Kurdistan region's oil, Gündüz-Hoşgör, A. (2003).

When the relations between the central government and the Kurdistan Regional Government were good, every month, the central government sent the Kurdistan Region the necessary revenue to provide the Kurdistan Regional Government's income, which was 17%. However, it has yet to become a local investment area for local products, so it is not directed toward developing the Kurdistan Region's economy. As a developed country in economics, we need to see and recognize the economy of the Kurdistan Region well. Then, we must find the factors that cause growth and diversity of economics. Although the Kurdistan Region relies on exports and oil revenues to provide revenue sources in the Kurdistan Region, its economy remains unstable, so the oil sector is more facing the world's markets and production and The sale and income of foreign countries, so the economy of the Kurdistan Region is shaky and has not yet stabilized.

Hence, the government's revenue sits solely to provide government officials' salaries and some Public services. To find out the factors that should be the reason for the diversity of the economy, the territory of the Kurdistan Region is rich in energy sources such as oil and gas, with suitable lands, rivers, and climates, with the existence of land. An essential and raw resource for industrial
investment, as well as the population and market of the Kurdistan Region, has the necessary money; as agriculture and industry from abroad come to the Kurdistan Region, it is possible to take advantage of the policy of imposing taxes. This research focuses on the essential changes to diversify the Kurdistan Region's economy.

The agricultural sector is the most crucial sector for the economy of the Kurdistan Region because now the markets of the Kurdistan Region need the agricultural products of neighboring countries, which are agriculture. It can be the basis of a stable economy and an increase in the domestic average, as well as because of the environment of the Kurdistan Region, the existence of raw resources and materials, and the need for industrial investment. Hence, the Kurdistan Region is in the stage Heshmati, A. (2012). Building and stepping, therefore, the industry sector is one of the most critical factors that can be caused by the Kurdistan region's economy providing stability and new revenues to the Kurdistan Region, as well as evaluating government policy and imposing taxes because several foreign local companies have been registered, analyzing the average domestic product.

2.2 The first axis: the conceptual aspect of diversifying the production structure Production Structure & Economic Diversification Indicators

First, production structure is defined economically as the set of ratios and relationships that characterize the economic entity at a particular time and place, i.e., the relative importance of each constituent element of the economic structure. Thus, the production structure is an organized framework for economic sectors' characteristics, relationships, and ratios, i.e., the percentage of their contribution to the formation of GDP.

Underdeveloped countries are characterized by the predominance of primary activities, especially agricultural activity, which occupies the most critical, the first relativity in generating output and absorbing labor resulting from the forces and relationships of backward production. The backwardness of the production methods used leads to a decrease in the level of capital accumulation, which leads to poor investment in the agricultural sector and, thus, the inability to develop the productive forces in it, which results in the predominance of low productivity of the labor force in this sector Hvidt, M. (2013). The lagging of production forces also results in
investment in other productive sectors with a weak potential for expansion and a decline in their relative contribution to GDP, as well as the inability of these sectors to absorb increasing numbers of the workforce.

The concept of diversification in the structure of production: Before the definition of diversification in the structure of production, it is necessary to identify the definition of economic diversification. In general, which we include in the following table:

3 Table 1: Definition of economic diversification

<table>
<thead>
<tr>
<th>Source</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson, D. A. (1975)</td>
<td>&quot;The process of expanding the economic base with the aim of establishing the pillars of a real economy consisting of a productive, financial and service base, which contributes to the creation of other sources of income instead of rentier sources.&quot;</td>
</tr>
<tr>
<td>Hvidt, M. (2013)</td>
<td>&quot;Using oil money to create a sustainable base for the post-oil economy through the establishment of heavy industry, the development of infrastructure and investment in areas of real production.&quot;</td>
</tr>
<tr>
<td>Barkat, K. (2020)</td>
<td>&quot;A process aimed at reducing the contribution of oil to GDP and government revenues, reducing the role of the government sector and enhancing the contribution of the private sector to economic activity&quot;</td>
</tr>
</tbody>
</table>

After the concept of economic diversification is identified, what is meant by diversification in the production structure, which means "a process that refers to the adoption of an increasing group that participates in the composition of output." On the other hand, it is meant as "the process of diversifying sources of income by increasing the contribution of all components of GDP in order to rid the economy of the risks of relying on the dominance of the traditional (extractive) sector to expand in the rest of the other sectors."

Diversification in the production structure is achieved through an increase in the percentages of the contribution of the oil sector versus non-oil sectors to the GDP over time, as well as by measuring the actual growth rates of GDP by each sector. The percentage of the contribution of the value added of each sector to the total value of all economic sectors that make up the GDP is measured. Thus, the growth in this ratio reflects the change in the production structure to indicate
that the country depends on a specific sector or on some sectors that make up its structure, Barkat, K. (2020).

Structural or structural theories have overwhelmed the process of bringing about development in countries as they need deep structural transformations in the production structure and the use of development strategies in order to differ instead of reaching the possibility of diversifying sources of income and expanding the contribution of economic sectors by relying on a single source of it that comes from one sector, and this will not be achieved except through structural changes and transformations in the economic structure, which are carried out through the process of development and economic diversification and radical transformations that occur in the contribution of sectors different in GDP including, this leads to the continuity of its growth.

If other production sectors, apart from the oil sector, can replace others, they can achieve a balance in government revenues. Oil in the Kurdistan Region is exported more than any other sector, Dadashpoor, H. (2015). This policy has remained in many newly developed countries because it earns much money from this sector, and the decision-makers are now thinking about other sources and other sectors of the economy.

2.3 Economic Diversification Indicators

1. Average degree of structural changes: This indicator is reached through the percentages of the contribution of primary sectors, especially oil versus non-oil sectors, to the GDP as well as The growth or decrease of the contribution of these sectors, as well as by measuring the real growth rates of GDP by each sector, i.e. measuring the percentage of the contribution of the value added of each sector to the total value of all economic sectors that make up the GDP, as the development of this ratio reflects the amount of change in the structure of production and sources of national income.

2. Percentage of GDP Structure: - This indicator shows the GDP's commodity and service composition and compares all economic sectors to the dominant rentier sectors. Economic diversification is measured by the private sector's enormous GDP contribution. The public and private sectors' contributions to GDP have grown, reflecting the private sector's role in economic diversification and development, Barkat, K (2020). The higher the percentage of private deductions in fixed capital accumulation. The financial portfolio theory, which involves adding
more than one financial asset to a portfolio to avoid or minimize losses, is similar to diversification, but diversification is more necessary. All-level integration. In other words, in order for countries, including Iraq, to emerge from the rentier trap of natural resources, they must provide Diversification of the economy causes its long-term survival. Accordingly, diversification has also been defined as an economic process based on diversifying the sources of growth and economic income of a country so that the country becomes dependent in one way or another on all sectors of the economy. So that dependence is not limited to one sector without another so as not to lead to the repeated depletion of natural resources and then enter into severe crises of lack of resources and funding.

3. **Industrial Regulation Index**: Under this index, the most diversified sector should be the most competitive, and a country that seeks to make its economy diversified should have the largest number of sectors and the distribution of economic activity between sectors is associated with a higher degree of economic diversity.

4. **Percentage of the contribution of non-oil exports to the volume of national exports**: This indicator is one of the important indicators not to measure the degree of economic diversity in oil economies, the greater the proportion of the contribution of primary non-oil exports to the total exports, Barkat, K (2020). This indicates a high degree of economic diversification, and vice versa if oil exports constitute a very high percentage of total exports. College, this indicates a decrease in the degree of economic diversification and an increase in commodity concentration, i.e. excessive dependence on the commodity of oil in exports.

5. **The evolution of the ratio of non-oil revenues to the total government revenues**: This indicator indicates the extent of the success of the oil countries in developing new sources of non-oil revenues, as the general budget in those countries depends largely on oil revenues in financing public spending in both current and investment, and this is evidenced by what we see from the contribution of the oil sector in the budget, as it reaches more than 90% of the total revenues, which indicates a clear imbalance It is the lack of diversity in the economic machine.

6. **The non-continuation of gross domestic product and its relationship to the non-continuation of oil prices**: The continuation of oil economies is related to the stability of oil prices, and since the latter is characterized by continuous volatility, so it misses, Barkat, K (2020).
Thus, economic diversification is the basis on which the oil countries rely in reducing instability by reducing dependence on the oil sector in the conduct of economic activity.

7. Various sources of economy and economy policy in Kurdistan region

How economic growth is developed cannot be transferred from one country to another. However, real economic growth is to find the factors of development to achieve a variety of economic strains that will benefit the resources and wealth of the homeland. The Kurdistan Region of Iraq is a country rich in fertile land and vast land and the existence of energy sources, especially oil and gas. The Kurdistan Region is part of Iraq, rich in energy sources, with proven crude oil in the Kurdistan Region (45) billion barrels and another 25.5 billion barrels, one-third of Iraq's oil. Natural gas reserves worldwide are also estimated at 187 trillion and 300 billion cubic meters. The Kurdistan Region-Iraq is estimated at 5.67 trillion cubic meters, accounting for 6% of the world's natural gas, and is the ninth largest country with natural gas reserves, despite the richness of Iraqi Kurdistan's territory owning a fertile land for agriculture of various resources and minerals for industrial investment.

Although the Kurdistan Region of Iraq has a rich industrial investment base, its economy suffers from imbalances and various economic problems to the extent that the political economy in the Kurdistan Region relies entirely on oil revenue sources, which have so far prevented local natural gas investment from investing in natural gas and then benefiting from the aim of increasing the overall income of the Kurdistan Region. Although the region has the most energy resources, the Kurdistan region's reliance on one source of income is deepening the economy day by day, and the KRG has no clear policy for facing the economy, despite the government's failure to take advantage of the money it receives from oil sales.

The policy of the Kurdistan regional government is disorganized and organized by the labor forces in the Kurdistan Region.

2.4 The diversity and activity of the economy in the Kurdistan region

The Kurdistan Region of Iraq relies on one source of income in general. However, it has many other sources of income that need to be regulated and systematic to benefit from as a source of income to diversify public income, the most important of which is Sectors such as the agricultural sector. Farmers are not encouraged to invest in agriculture and expand production in this
insignificant sector in the Kurdistan Region. In contrast, the Kurdistan Region has fertile land, broad land, and average agricultural production in the Kurdistan Region. The annual (2018) yield of millions of dinars is 1054,596.5, which (13%) fills the structure of local products, according to the Ministry of General Assembly, while for the year (2022) it is relatively close to that number. Over 80% of the region’s primary products are imported, and an open border has made it a market for substandard or contaminated goods. Poultry, grains, fruits, vegetables, and livestock may help the region break this dependence, Auzer, K. (2018). These agricultural areas need improvement:

1. Poultry has potential despite its outdated business model.
2. Fruit, nuts, and vegetables have potential, but agro-processing and cold chain technology are lacking.

The total arable land suitable for agriculture is 1,535,794 hectares (6,143,176 donum) in the KRI. However, the total irrigated area by the ponds, deep-wells, small and big irrigation projects is assumed to be 327, 428 hectares (1,309,712 donum), which represents less than 22% of the total land available for irrigation. This situation is occurring despite the seemingly large water availability in the region. The current water resources have been estimated at 38 billion cubic meters annual flow of surface water and large aquifers in the KRI, which represent a major source of water. Additional research is required in order to estimate the storage capacity and total amount of groundwater available in the region.

Table 2: Storage capacity and total amount of groundwater available in the region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainfed arable agricultural land area/hectares</td>
<td>2021</td>
<td>1,368,388</td>
</tr>
<tr>
<td>Irrigated arable agricultural land area/hectares</td>
<td>2021</td>
<td>328,428</td>
</tr>
<tr>
<td>Not arable land area/hectares</td>
<td>2021</td>
<td>2,754,608</td>
</tr>
<tr>
<td>Natural forest area / dunm</td>
<td>2020</td>
<td>2,507,521</td>
</tr>
<tr>
<td>Artificial forest area / dunm</td>
<td>2021</td>
<td>35,472</td>
</tr>
<tr>
<td>Natural pasture area / dunm</td>
<td>2020</td>
<td>6,937,769</td>
</tr>
<tr>
<td>Rainfed orchards area/dunm</td>
<td>2021</td>
<td>139,967</td>
</tr>
<tr>
<td>Irrigated orchards area/dunm</td>
<td>2021</td>
<td>121,597</td>
</tr>
</tbody>
</table>

Resource: Ministry of Agriculture & Water Resources\ General Directorate of Animal Wealth and Veterinary
The total rainfed land in KRG is 4,833,466 donum representing 79% of the total cultivated areas and the irrigated land is 1,309,710 donum representing only 21% of the total cultivated areas. The rain-fed area covers 50% guaranteed rain-fed area, 35% semi-guaranteed and 15% non-guaranteed. The agriculture workforce in the Kurdistan Region has about 3.1% of the total population and the number of winter crop farmers is 68,704 while the number of summer crop farmers is 23,160. Decades of conflicts negatively impacted many agricultural areas in Kurdistan Region. However, the agriculture sector in KRI has undergone a tangible development in recent years up to the prefinancial crisis in 2014. Due to the financial crisis, the sector confronted many problems such as lack of agricultural equipment and field machineries, need for fertilizer and high quality seed supply, and lack of investment. The region covers an area of about 40.6 thousand square kilometers and its population is about 15-20% of total Iraq population. The agriculture sector in KRI lacks diversity and production is uncompetitive. The main crops grown in the region include barley, wheat, fruit orchards, lucerne, vegetables, potatoes and livestock grazing. The KRI might be self-sufficient in some commodities, or even producing surpluses.

1- River water: such as (zee khapur in Zakho) length (160 km) - large land in a long pile (473 km) - small sea in the long (4256 km) koper of Sirwan in Sharazur.

2- Dam water: such as (Dukan Dam: built on small land - Darbandikhan Dam - replaces three billion cubic meters of water.

3- Rainwater: The Kurdistan Region of Iraq is a relatively suitable area, with rainfall of approximately (750-800 mm) per year.

### Table 3: Storage capacity and total amount of groundwater available in the region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planted area of Rice in Kurdistan Region /Donum</td>
<td>2021</td>
<td>14,089</td>
</tr>
<tr>
<td>Production of Rice in Kurdistan Region /Ton</td>
<td>2021</td>
<td>12,179</td>
</tr>
<tr>
<td>Rice production yield per donum</td>
<td>2021</td>
<td>864.4</td>
</tr>
<tr>
<td><strong>Planted area of Wheat in Kurdistan Region\ Donum</strong></td>
<td>2020-2021</td>
<td>4,500,487</td>
</tr>
<tr>
<td><strong>Production of Wheat in Kurdistan Region\ Ton</strong></td>
<td>2020-2021</td>
<td>2,289,051</td>
</tr>
<tr>
<td>Wheat production yield per donum</td>
<td>2020-2021</td>
<td>508.6</td>
</tr>
<tr>
<td><em>The Cost of Rainfed Wheat production per donum (1000 ID)</em></td>
<td>2016-2017</td>
<td>121</td>
</tr>
<tr>
<td><strong>Planted area of barley in Kurdistan Region\ Donum</strong></td>
<td>2020-2021</td>
<td>492,861</td>
</tr>
<tr>
<td><strong>Production of barley in Kurdistan Region\ Ton</strong></td>
<td>2020-2021</td>
<td>185,182</td>
</tr>
<tr>
<td>barley production yield per donum</td>
<td>2020-2021</td>
<td>375.7</td>
</tr>
<tr>
<td><em>The Cost of Rainfed barley production per donum (1000 ID)</em></td>
<td>2016-2017</td>
<td>99.1</td>
</tr>
<tr>
<td>Planted area of chickpea in Kurdistan Region\ Donum</td>
<td>2020-2021</td>
<td>23,385</td>
</tr>
<tr>
<td>Production of chickpea in Kurdistan Region\ Ton</td>
<td>2020-2021</td>
<td>7,596</td>
</tr>
</tbody>
</table>
chickpea production yield per donum | 2020-2021 | 324.8
Planted area of lentil in Kurdistan Region\ Donum | 2020-2021 | 1,162
Production of lentil in Kurdistan Region\ Ton | 2020-2021 | 362
lentil production yield per donum | 2020-2021 | 311.1
Planted area of corn in Kurdistan Region\ Donum | 2021 | 20,024
Production of corn in Kurdistan Region\ Ton | 2021 | 67,795

Resource: Ministry of Agriculture & Water Resources\ General Directorate of Animal Wealth and Veterinary

In the number 2 table: it points to the importance of the fertility of the territory of the Kurdistan Region, which is a region rich in the production of wheat - barley - rice, in a way that can be used to a good extent. To fill local needs, but in the Kurdistan region of Iraq to provide more agricultural and animal products, it depends on foreign markets and Turkish and Iranian products. Production of Rice in Kurdistan Region /Ton (12,179) - Production of chickpea in Kurdistan Region\ Ton (7,596) - Production of corn in Kurdistan Region\ Ton (67,795).

The past years Less than 4 percent of the KRG budget been allocated for agriculture over the past years while international standards demand around 10 percent. This might be linked to the history of embargoes, wars and chemical attacks that changed the area from an agricultural producer to a consumer, relying largely on oil production to import commodities and goods, making it vulnerable to oil price fluctuations. Reviving the agriculture sector is necessary to increase the resilience against any economic or humanitarian crisis. Farmers need to produce enough to feed Kurdistan’s inhabitants and compete with the agricultural production and quality in neighboring countries.

Application of best practices in agro, meat and milk processing will not only support the local farmers, but also reduce the reliance on foreign products, create more jobs in rural and urban areas, and grow the economy. The appropriate climate, fertile soil, abundant water and geographical location encourage agriculture for various kind of agricultural crops where the total arable land in Kurdistan region is 6.6 million donums, the forest areas (natural and artificial) is 4,292,306 donum, orchards area 229,037 donum and pasture area (irrigated- natural) 4,892,779 donum. The total number of broiler poultry farms: in Kurdistan region the number of Poultry farms estimated at 1746 out of which 902 are working which makes %75 of the total farms with majority in Sulaimani governorate.

Farm halls average 843m2 in Kurdistan. Garmian's 951m2 hall holds 10408 chickens, the most in Kurdistan Region. Kurdistan Region halls average 9826 chickens. The regulation and investigation
of agricultural areas is crucial to the development of the agricultural sector, and the Kurdistan Region shows its composition in the region and to another region, with weather and water suitable for agriculture.

3. Methodology

The methodology for this descriptive research study involves the collection and analysis of secondary data from multiple sources to provide a comprehensive overview of the production, export, and sale of oil in Kurdistan, with a particular focus on data related to the water resources, animal wealth, and veterinary sectors. The study will cover the period from 2018 to 2022. This research will utilize a qualitative research design to explore the complexities of diversification and economic growth in emerging economies. Qualitative methods are well-suited to capture in-depth insights, perceptions, and contextual factors. Our research objectives are to understand the factors influencing economic diversification in emerging economies.

And to analyze the challenges and opportunities faced by businesses and governments in the diversification process. Review government policies, reports, and industry-specific documents related to diversification initiatives in the target emerging economies. This analysis will provide historical context and Economic perspectives. 

Table 4: The methodology

<table>
<thead>
<tr>
<th>Data Collection Source Selection</th>
<th>Data Extraction Secondary Data</th>
<th>Data Description</th>
<th>Data Analysis</th>
<th>Report Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The study will utilize reports from the Ministry of Agriculture and Deloitte Company as primary sources of data. These sources are chosen for their reliability.</td>
<td>Secondary data will be extracted from the chosen reports for the years 2018 to 2022. Data will include information on oil production, export figures, and sales data.</td>
<td>Collected data will be described in detail, highlighting trends, fluctuations, and key figures within the specified time frame.</td>
<td>Descriptive statistical methods, including tables, charts, and graphs.</td>
<td>The findings will be compiled into a descriptive research paper, providing insights into the relationship between oil production, exports, sales, and their potential impact on water resources, animal wealth, and</td>
</tr>
</tbody>
</table>
This methodology ensures a systematic approach to gather and analyze data, aiming to offer valuable insights into the described sectors over the specified timeframe.

Use purposive sampling to select participants who have expertise and experience in the field of economic diversification. Aim for diversity in terms of sectors, roles, and perspectives to capture a wide range of viewpoints. This descriptive research paper uses Ministry of Agriculture and Deloitte Company reports to collect secondary data from 2018 to 2022. Then, describe the data regarding the production, export, and sale of oil in Kurdistan and the data shown by the water resources general directorate of animal wealth and veterinary.

4. **Industrial sector**

Small family businesses dominate industrial production in the Kurdistan Region. The region lacks infrastructure, especially reliable electricity and clean water, which deters many would-be manufacturers and makes the industrial sector uncompetitive in the face of international competition. If left to its own devices, this industry will grow. Trade boosts industry. Opportunity exists. Agro-processing offers the Kurdistan Region a near-term industrial and trade opportunity due to rising national and global demand for agricultural products. The KRG must invest in integrated technology to improve productivity to seize these opportunities.

Supply value-chain economics drive industrial/manufacturing sectors in countries. The Kurdistan Region's industrial sector has large supply chain gaps, resulting in low-quality, non-compliant products. The regime collapsed in 2003 with only four large state-owned enterprises. International competition has made the sector uncompetitive. The Kurdistan Region manufactures metal pipes, furniture, construction materials, detergent, agro-industrial products, and simple clothing. Small family businesses dominate industrial production in the Region. The Region lacks infrastructure, especially reliable electricity and clean water, technology transfer from foreign companies, and a skilled workforce, which deters many would-be manufacturers.
Figure 1: Big Industrial Establishments in KRI, Comparison between 2018 and 2013

Due to job creation, the industrial sector boosts economic growth and GDP. Therefore, with ministry of trade and industry, especially general directorate for industrial development, and board of investment. In 2018, KRI had 132 big-size establishments, up 48% from 2013. In 2018, Erbil overnorate had 59 establishments, Sulaimani 56, and Duhok 17 of 132.

Note: The frame and interview have different numbers of establishments for the following reasons:

1. 9102 businesses not working.
2. Some businesses were unfinished until 2019.
3. Converting some industrial activities to non-industrial.

Employees

Due to the increase in big industrial establishments in KRI, the number of workers increased by 52% from 2013 (8,406) to 2018 (12,737). Erbil has 4,975 workers, Sulaimani 6,832, and Duhok
Manufacturing employs 8-10% of the workforce, mostly men (84%) and 26% youth. Some small companies (mostly private sector, for metal products and furniture) but 79% are large, mostly government-owned. KRI has some large companies, but over half of its manufacturing is done by small companies, especially bakeries, textiles, printing, metal, rubber, and furniture. KI has 90% private manufacturing. In 2009–2012, the manufacturing sector doubled in value, but political crisis and economic downturn have reduced its value. Baiji's closure hurt oil refining. The COVID-19 pandemic reduced KRG tax income to 578 billion IQD (about $3.9 million) in 2020. The KRG's $5.5 million tax income in 2021 came from Erbil, Sulaimani, and Dohuk provinces. 72% of the $5.5 million came from company and border gate taxes, while 16% came from residential property taxes. Commercial shops and small businesses paid 10%, while public residential properties paid 2%. The Kurdistan Region taxes 24,169 companies and 415,445 shops and other small businesses. 1.410 million autonomous region residents pay property taxes to the government.

The role of the oil sector in diversifying the economy of Kurdistan

The Kurdistan Regional State negotiated with foreign companies to secure its control over its natural resources and set oil prices. Northern Iraq's resource-rich Kurdistan Region. 45 billion barrels of oil and 3–4 trillion cubic meters of gas are proven reserves (Oil and Gas Year, 2014). Compared to the rest of Iraq, peace and security in the Kurdistan Region have allowed the regional
government to develop the oil sector and lease much of its land to international and local exploration companies.

The KRG and foreign and local companies sign product-sharing contracts (PSCs) (Ministry of Natural Resources, 2016). The KRG issued 58 PSCs by 2014. (Oil and Gas Year, 2014). KRG, the petroleum owner, contracts international oil companies to provide technical and financial services for exploration and development under the PSC model.

International companies often commit to several projects to boost host country capacity under such contracts. International oil companies may invest millions or billions in industry infrastructure, Soran Zaher, (2018). Extractive industries, which require skilled labor, may reduce local unemployment. International oil companies can also train domestic petroleum workers. This is crucial for host oil-producing countries to establish national oil companies (NOC) to gradually manage all external oil- and gas-related relations with international corporations.

The 2007 Kurdistan parliament's petroleum law attracts foreign investors. The region's oil and gas industry is growing rapidly due to direct foreign investment (Oil and Gas Year, 2014). Since 2007, Kurdistan has produced more oil (Ministry of Natural Resources, 2017). Five Kurdistan Region oilfields—Tawke (DNO), Taq Taq (TTOPCO), Khurmala, Bai Hassan, and Avana—can produce significant amounts (operated by the Kar Group). Since 2003, oil production has grown steadily. KRG fields produced over 500,000 barrels of crude oil per day in December 2015.
### Table 5: Production and exporting of oil revenues in Kurdistan Region

<table>
<thead>
<tr>
<th></th>
<th>2021</th>
<th>First Quarter</th>
<th>Second Quarter</th>
<th>Third Quarter</th>
<th>Fourth Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oil Production</strong></td>
<td>40,042,771</td>
<td>41,257,260 bbls</td>
<td>40,715,801 bbls</td>
<td>40,512,784 bbls</td>
<td></td>
</tr>
<tr>
<td><strong>Exporting barrels</strong></td>
<td>38,135,373</td>
<td>39,215,239 bbls</td>
<td>37,641,238 bbls</td>
<td>37,557,760 bbls</td>
<td></td>
</tr>
<tr>
<td><strong>Local use barrels</strong></td>
<td>124,238</td>
<td>175,842 bbls</td>
<td>505,618 bbls</td>
<td>315,925 bbls</td>
<td></td>
</tr>
<tr>
<td><strong>Use of KRG power plants</strong></td>
<td>1,783,160</td>
<td>1,866,179 Bbls</td>
<td>2,351,751 bbls</td>
<td>2,355,937 bbls</td>
<td></td>
</tr>
<tr>
<td><strong>Revenue of exporting</strong></td>
<td>1,833,324,620 USD</td>
<td>2,275,079,490 USD</td>
<td>2,393,733,513 USD</td>
<td>2,535,749,399 USD</td>
<td></td>
</tr>
<tr>
<td><strong>Revenue of local use</strong></td>
<td>7,388,907 USD</td>
<td>11,288,944 USD</td>
<td>36,028,560 USD</td>
<td>33,393,623 USD</td>
<td></td>
</tr>
<tr>
<td><strong>Total revenue</strong></td>
<td>1,840,713,527 USD</td>
<td>2,286,368,434 USD</td>
<td>2,429,762,073 USD</td>
<td>2,569,143,022 USD</td>
<td></td>
</tr>
<tr>
<td><strong>Average price of a barrel</strong></td>
<td>48.961 USD/bbl</td>
<td>57.706 USD/bbl</td>
<td>62.868 USD/bbl</td>
<td>68.430 USD/bbl</td>
<td></td>
</tr>
</tbody>
</table>


In 2014, the Kurdistan Region signed a new oil agreement with Iraq's federal government to offset its entitlement to 17% of Iraq's budget after the government cut it (Coles et al., 2015). The KRG would export 550,000 barrels of oil per day through the Kurdish oil pipeline to global oil markets under the new oil deal. After Kurdish forces retook Kirkuk, they added 300,000 barrels per day from Kirkuk oil fields to Kurdistan's producing fields (Hawramy and Beaumont, 2014). After the military retook Kirkuk's oil fields in October 2017, the federal government rescinded this oil deal.

According to figure (4), their contact with the Kurdistan regional government, Deloitte Company for audit, consulting, advisory, and tax services is continuing to publish reports on oil production and marketing in Kurdistan. According to its report on the Kurdistan oil sector in the first quarter of 2021, oil companies produced approximately 40,042,771 barrels. 38,135,373 barrels are sold on global oil markets, while 124,238 barrels are sold to local companies and refineries. The government purchases approximately 1,783,160 barrels to meet its energy needs during that quarter. Furthermore, the government earns 1,833,324,620 USD from oil exports, while it earns 7,388,907 USD from local sales. The government earned a total of 1,840,713,527 USD during these three months, while the average price of a barrel of oil was around 48.961 USD.
Figure 4: Gross value of crude oil and condensate sold (2017-2021)

Total oil production is 41,257,260 barrels per day through the second quarter of 2021. During that time, the companies exported over 39,215,239 barrels and sold 175,842 barrels within the country. Furthermore, the government consumes approximately 1,866,179 barrels of energy. The Kurdistan regional government, on the other hand, has earned approximately 2,286,368,434 USD from the oil sale process. The revenue from oil exporting to the target energy markets is approximately 2,275,079,490 USD, and the revenue from selling oil to local companies and refineries is approximately 11,288,944 USD. During these three months, the average oil price per barrel is 57.706 USD.

According to reports, the Kurdistan regional government has produced approximately 40,715,801 barrels from the government-controlled oil walls. Approximately 37,641,238 barrels of oil are exported to be sold in global energy markets, while 505,618 barrels are used within the country, selling to businesses and local refineries.

The Kurdistan Region of Iraq invests in the energy sector in various ways and employs various methods of selling, extracting, and inspecting oil, and oil sales revenues are derived from local sales to refineries. Oil pipelines and crude oil exchanges against diesel, as well as heavy oil fuel for KRG energy stations and foreign sales after passing through the Kurdistan Oil Pipeline.
According to the above (figure 5), the total value of crude oil, the contract sold and exported through the pipeline, as well as the domestic sales for (2017-2021), was (7923412194-7914746875-8448835268-9125987056) billion. US dollar, but the revenue stability received by the KRG during the sale of oil and related activities this year is (3,891,513,211-4,343,741,250-4,515,421,625-2,345,477,711-3,964,814,502) us dollars.

The final quarter of the year 2021 shows that the government, with the help of exporting oil companies, exported 37,557,760 barrels of oil from the oil wells under the control of Kurdish reign, and 315,925 barrels were sold inside the region while the government used more than 2,355,937 barrels of oil to be used to fulfil its needs of energy. So the total amount of oil production during the fourth quarter of 2012 was 40,512,784 barrels, and the total income achieved during that time was 2,569,143,022 USD.

During that time, the government used approximately 2,351,751 barrels for its needs. The total amount collected from this Process is 2,429,762,073 USD, which is approximately 2,393,733,513 USD. The money is obtained by selling the exported oil, while the total income from selling the oil to local companies is 36,028,560 USD. During that quarter, the average price of a barrel of oil was 62.868 USD. The KRG commissioned Deloitte companies to audit production, export, use, and oil revenues between, (2017-2021). Deloitte reported four different reports for a year of different scrutiny and follow-up and then conducted one general report, i.e. the final year report on revenue, exports, and production.
The government has gotten 2,535,749,399 USD from exporting oil during that period, while the amount of money achieved from local sales is 33,393,623 USD. During these three months, the average price of oil is 68.430 USD for each barrel. (Deloitte, 2021). The Kurdistan region's economy may be steady in part due to oil earnings and energy sources. This article shows that, especially in the Kurdistan region, oil-producing governments need to diversify their economies in order to become economically independent and grow. While oil revenues can provide a steady source of income, they also expose regions to volatility in global oil markets and create economic vulnerability. Relying solely on the oil sector can limit a region's ability to weather economic shocks and seize new opportunities for development.

In essence, this paper serves as a reminder that while oil revenues can be a valuable asset, the Kurdistan region must actively pursue economic diversification as a means to secure its financial dependence and promote sustainable growth. By doing so, it can enhance its economic resilience and provide a brighter future for its residents and the region as a whole.

5. CONCLUSION

In conclusion, the agriculture sector in the Kurdistan Region of Iraq (KRI) has faced numerous challenges, primarily stemming from the financial crisis. These challenges have included a shortage of essential agricultural equipment and machinery, a pressing need for fertilizer and high-quality seed supply, and a notable lack of investment in the sector. Despite these obstacles, the KRI boasts significant potential for growth and self-sufficiency in agriculture. However, the KRI's agricultural sector is currently characterized by limited diversity and a lack of competitiveness, primarily centered around the cultivation of staple crops such as barley and wheat, along with fruit orchards, lucerne, vegetables, potatoes, and livestock grazing.

In summary, while the KRI's agriculture sector has grappled with various issues due to financial constraints, its potential for self-sufficiency and surplus production remains a promising opportunity. With the right measures in place, the region can play a pivotal role in securing food production and economic stability in a broader national context.

To reduce the region's dependency on external sources and enhance its self-sufficiency, there is a need for strategic investments in agriculture and animal farming. This includes improving infrastructure, enhancing agricultural practices, and supporting local farmers to harness the full
potential of the region's fertile land. By doing so, the Kurdistan Region can not only secure its own food supply but also become a potential supplier for neighboring areas, thus contributing to the economic growth and stability of the region. Moreover, this shift towards self-sufficiency in agricultural production could reduce the region's vulnerability to external market fluctuations and strengthen its food security.

As the Kurdistan Region continues to navigate the complex dynamics of resource management and geopolitical challenges, its ability to negotiate and collaborate with external partners remains a key driver in harnessing the full potential of its natural resources. The region's success in this endeavor not only bolsters its own economic prospects but also has broader implications for the energy landscape and regional stability. It is a testament to the importance of effective resource management and diplomacy in the contemporary global context.

However, there is optimism in the air as the region moves closer to the year 2024, suggesting progress in this regard. To truly benefit from the untapped potential in agriculture and other sectors, it is crucial for the Kurdistan Region to implement comprehensive strategies, regulatory frameworks, and incentives to promote investment and expansion. Such efforts will not only diversify the region's sources of income but also strengthen its self-sufficiency, reduce reliance on a single revenue source, and contribute to the overall economic development and prosperity of the Kurdistan Region. While oil revenues can provide a steady source of income, they also expose regions to volatility in global oil markets and create economic vulnerability. Relying solely on the oil sector can limit a region's ability to weather economic shocks and seize new opportunities for development.

Diversification offers a path toward economic resilience and independence by expanding economic activities beyond the oil sector. This includes developing other industries, such as agriculture, manufacturing, services, and technology, as well as investing in human capital and infrastructure. By doing so, the Kurdistan region and other oil-dependent areas can reduce their susceptibility to oil price fluctuations and create a more balanced and self-reliant economy.
6. Result, recommendation and Future study

A. Result

1. The Kurdistan Region is a country rich in natural resources. It has extensive land for agriculture and agricultural product investment, even though it has an environment for developing the industrial sector.

2. The Kurdistan Region owns 45 billion barrels of oil reserves. Moreover, it has proved 3-4 trillion cubic meters of gas, but so far, the source of income in the Kurdistan Region is the money it produces and sells oil, which is less than in an oil country like Iraq, so it is the source of income.

3. The entire Kurdistan Region is economically unstable, as oil revenues are more dependent on the global market, and these revenues are related to high and low demand for energy sources. Moreover, this will cause more and less public income in the Kurdistan Region, so diversifying the economy of the Kurdistan Region and the economic reliance on other sectors is a grave necessity.

B. Recommendation

1. Because of the significant source of oil revenues in the Kurdistan Region, the income should be used to fund the investment project in return for reducing the cost of use, which will lead to the growth of the Kurdistan Region's economic infrastructure.

2. Therefore, the Kurdistan Region has a wide range of lands and an environment for agricultural development. This opportunity can be used to save the Kurdish Region from importing agricultural products, which will be a complete cause. Opening up local needs and increasing production can be exported to the markets of neighboring countries, which will enrich the Kurdistan Region's economy with other sources of economic income.

3. Due to a large number of slow people and industrial resources and the environment of the Kurdistan Region, the development of the industrial sector is the essential factor for a variety of sources of public income, so the revival of this sector provides stable income and can become an essential basis for the development of the Kurdistan Region's economy.

4. Despite the industrial sector and the agricultural sector, the Kurdistan Regional Government should consider reconstructing the statute of economic policy, which could lead to its economic escape from oil revenues to diversify the Kurdistan region's economy,
revitalizing the domestic market with local products and strengthening the economic policy of imposing taxes to accelerate economic growth.

5. Future studies should focus on the factors that encourage economic diversification. As emphasized in this paper, the Kurdistan Region has the potential not only to secure its own food supply but also to bolster economic growth and stability. By reducing its reliance on external markets and building a diversified economy, the region can mitigate vulnerability to external market fluctuations and strengthen its food security, ultimately enhancing the overall well-being of its population. Future research efforts can play a critical role in guiding policymakers and stakeholders toward achieving these goals, and further explain the use of economic diversification methods, and should focus on the agricultural, industrial and tourism sectors to increase income diversification.

A. Policy Analysis: A comprehensive study of existing government policies and incentives related to agriculture and other potential economic sectors. Identifying areas where policy adjustments or new initiatives are needed to promote diversification.

B. Infrastructure and Investment: Assessing the state of infrastructure, including transportation, irrigation, and technology in the agriculture sector, and examining investment opportunities and barriers that may exist.

C. Market Dynamics: Exploring the demand for locally produced agricultural goods in the region and neighboring areas, as well as identifying potential markets for other industries that could be developed.

References


