



RESEARCH ARTICLE

Investigating the Effect of Oil Revenues Fluctuations on Financial Development with the Moderating Role of Governance in Selected Countries

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ABSTRACT

Oil as an important commodity in the world market has always been of interest and its fluctuations have a great impact on the economy of countries. Fluctuations in oil revenues and financial development have mutual and significant effects on each other, and in the financial literature, such an effect has received the attention of economic experts, considering the importance of this issue, in this article, the effect of Fluctuations in oil revenues on financial development is investigated. In addition We investigated the moderating role of governance. Data were collected from Iran, Iraq, UAE and Saudi Arabia, in the period from 2010 to 2021.the study used econometric models method to evaluate the correlation. The finding show that there is a sign a negative relationship between oil revenues fluctuations and financial development. Also, the results show that governance does not have a moderating effect on the relationship between oil revenues fluctuations and financial development. The study helps to contribute to a review of previous studies on the relationship between Oil revenues Fluctuations and Financial Development in developing countries. The study points out some policy implications for regulators on financial development.

INTRODUCTION

Oil is a dominant commodity in the global market, and therefore price volatility is unpredictable. In oil-importing countries, price volatility is considered “bad news” because scarce national resources are transferred to oil-exporting countries. But for exporting countries, which rely heavily on oil revenues for social, economic, financial and infrastructure development, it is considered “good news.” Conversely, a one-unit drop in oil prices without an immediate cut in government spending translates into a massive budget deficit that has a significant impact on overall economic performance (Etim et al 2023) Fluctuations in oil revenues and financial development have mutual and significant effects on economic growth, The economy of the Middle East countries, especially the developing countries, has many distinctive features, the most important of which is that they are single-source economies that are highly dependent on the production and export of one commodity, namely oil, since the incomes of these countries are largely dependent on the incomes of oil and to a lesser extent depends on other financial sources such as taxes and foreign investment income. Hence

these incomes provide the public expenses of these countries, so an increase in oil revenues leads to an increase in the entry of foreign currencies to these countries and This increase lead to an increase in government deposits, which take to an increase in the government's monetary position thus leading to an increase in government spending. Government expenditures in developing countries are closely related to oil revenues, the movement of the public budget in the form of expenditures And its income depends on a basic variable, and that is foreign income from oil exports (Hyam Khazal Nashour, 2012). Oil revenues are an important and necessary resource for countries, because oil is the main source of income for many oil-producing countries, and it is almost the only source of national income for some countries, and has the largest share in financing the budget. The oil sector is related to the global oil market, because the price of oil in the world market is characterized by strong and continuous fluctuations as a result of the imbalance between supply and demand, any change in the price or production of crude oil affects the revenues. In the Middle East, especially developing countries, these countries are dependent on oil revenues to provide budgets and achieve financial development, and most countries depend on the oil sector as the only source of income, in addition, due to the low percentage of the share of other sectors Economically, most of the oil-dependent countries are weak and they are almost entirely dependent on oil revenues, and oil revenues have not been directed to achieve diverse incomes like developed countries. As some developed countries have worked on it (Baida Jawad Kazem, 2020). The aim of these countries have to be to creating a strong economic base, diversify the sources of income and increasing the share of other non-oil economic sectors, by moving towards economic diversification that guarantees the improvement of the performance of the countries and enhance their stability (Maytham Abboud et al, 2022).

The financial system, it is considered one of the most important pillars of economic growth, therefore, everything that flows in the development of the financial system will somehow reflect on economic growth (Saab Abbas, 2022). Financial development plays a major role in the growth of developing countries, because the growth of financial markets leads to the expansion of the scope of economic growth. Financial development has a multi-dimensional and well-known concept that these factors, policies and institutions, in addition to the expansion of capital and services, lead to effective financial intermediation (Khalaf, Ammar, 2011). Financial development is the growth and development of the financial sector. It refers to financial and monetary indicators (Beck, T et al., 2000)). The importance of financial development and economic growth has increased today, because financial development plays a major role in achieving economic growth (Abd al-Majid, Mirfot Abd Salam, 2010). Financial development is a prerequisite for achieving economic growth. Financial development stimulates economic growth by directly increasing incomes and savings, which leads to capital formation (Menyah, K. et al (2014). Through oil revenues, it can help improve the rate of financial development, which leads to an increase in income. becomes national, but long-term dependence on oil leads to damage to economic growth because the price of oil is constantly fluctuating (Zarai and Lajordi, 2017). Economic because of their financial system and economic reality is not precisely known (Paun, C. V., Musetescu, R. C., 2019, and Topan, V. M., & Danuletiu, D. C. 2020).

Countries have paid a lot of attention to the application of governance and its approach, which includes a set of systems, decisions, rules, controls, and foundations that aim for countries and organizations to achieve a premium level of performance and quality by choosing effective methods to achieve to the goals. Countries plan through a rigorous and robust approach that establishes policies and procedures to determine management methods efficiently and effectively, based on accountability, transparency and disclosure to develop and continuously improve performance and achieve it in the best way. In other words, the governance system requires the strengthening of relations between the main factors affecting the performance, governance at the levels of the public sector, its institutions and offices and the private sector, its companies and institutions with the aim of eliminating ambiguity in the work and procedure of executive offices and the need for transparent dealings, It is applied from the administrative and financial point of view. one of the most important advantages of governance is achieving the principles of integrity, transparency, justice and rationality in the use of power, wealth and resources in the public and private sector and paying attention to the

interests of the relevant parties through performance development. Organization and its continuous evaluation and the establishment of integrated and effective accounting and auditing control systems in the correct legal and regulatory framework that guarantees the improvement of work, performance, and reduction from corruption to success and achievement of strategic goals. (Hussam Ali et al., 2021). Governance has an effect on the country's public revenues, especially oil revenues, the government has tried to control the entire budget and financial balance plan and move from one stage to another calmly. so it is necessary to take the concept of governance seriously. the purpose of governance is to guarantee the governance of the public sector is to protect the public budget and optimal use of available resources. It is necessary for the government to use the latest administrative methods to reduce the financial deficit and increase self-reliance. using, these methods are based on governance and provide an environment that allows the effective collection of oil revenues, the issue of governance due to its multiplicity of mechanisms and its association with modern phenomena and as an effective tool in the government It is one of the important issues. governance is one of the basic elements in regulating the relations between the main parties. Because its purpose is to promote the principles of transparency and accountability through a set of rules for supplementary work and government management (Mohamed N. et al, 2022).

According to the mentioned factors, the research question is whether governance has a moderating effect on oil fluctuations and financial development and accountability or not?

LITERATURE REVIEW

Financial development

The financial system of a country consists of various financial markets, tools, and products. From the perspective of existing theoretical and empirical perspectives, developed financial systems play a fundamental role in improving the role of financial intermediation by reducing monitoring costs, transactions, and access to studies. Efficient financial systems expand investment opportunities by identifying and financing suitable business opportunities, equipping savings, covering and diversifying risk, as well as facilitating the exchange of goods and services. In the literature of the financial system, financial development has a special concept and place. The improvement of which increases the efficiency of the financial system and ultimately the optimal allocation of resources, the promotion of investment, and the acceleration of capital accumulation and provides the cause of economic growth (Sahabhi and Zulfiqari 2019). Also, efficient financial systems reduce the obstacles of foreign financing and by facilitating the access conditions of production and industrial units to foreign capitals, they provide the basis for the expansion of investment and economic growth (Dodgar, Nazari 2008). Financial development is a comprehensive concept that is defined in six different dimensions, including the development of the banking sector, the development of the non-banking financial sector, the development of the monetary sector and monetary policy, banking regulations and supervision, the openness of the financial sector and the institutional environment. Evidence shows that natural resource intensity is inversely related to financial development. In other words, high dependence on natural resources will hinder the development of the financial sector as well as growth (Batul Zarei, Hassan Lajordi 2017). The definition of financial development is factors, policies and institutions that lead to the creation of financial markets and effective financial intermediaries and provide deep and wide access to capital and financial services (Ahmadian et al., 2019). The concept of financial development has been of interest to economists for a long time, and attempts are made to highlight the role of the financial system in the process of economic development due to the important functions it performs, which consist of mobilizing savings, redeploying them, and pumping them into The economy is for productive purposes, through an advanced financial system that works to perform its tasks effectively, in such a way as to ensure the stimulation and strengthening of economic activities. Considering the role of financial institutions and financial markets in transferring savings from economic units with financial surplus to economic units with financial deficit to finance their investments, which leads to the optimal use of existing financial resources and creating financial growth and economic progress, conceptual financial development It is multi-dimensional and it is not possible to find a specific and precise definition for

it, financial development, is defined as the factors of policies and institutions, that in addition to the expansion of capital equipment and financial services lead to effective financial intermediation (World Economic, 2011).

Studies and research show that the development of the financial sector plays a major role in economic development, because by increasing the rate of savings and mobilization and accumulation of savings, it encourages economic growth through capital accumulation and technological progress, generating investment information to facilitate encourage and increase capital flows, Foreign as well as improving capital allocation Countries with developed financial systems grow faster in long periods of time (Beck, T., Levine, R. and Loayza, 2009). A meta-analysis of 67 empirical studies shows that financial development is strongly related to economic growth (Valikova & Havranik, 2013).

Understanding financial development requires placing it in a comprehensive framework to control various factors affecting it. The financial structure, the institutional and legal environment, as well as the institutions in the financial system, are all factors that affect financial development and then expand it. The factors are as follows:

1- Institutional environment: The institutional environment includes prudential supervision of the financial system through laws and regulations that enable the development of intermediation and making the financial market more efficient and deeper. Functionally underdeveloped institutions are one and the main institutional environment to achieve It includes, financial development as well as general laws and systems to supervise the financial sector (Suliman & Nabi, 2008).

2- Financial stability: It refers to a situation where the financial system and all its institutions are able to perform their basic tasks, i.e. mobilizing savings, granting various loans and effectively settling payments, especially in times of financial crises caused by the financial system itself (The Central Bank of Iraq, 2018). The instability of the financial system has shown its strong negative impact on economic growth in various past financial crises. Instability can lead to large losses for investors due to systemic banking risks, corporate crises, currency crisis and Government debt crisis.

3- The level of financial services: banks are the most important factors that determine the level of financial development, most countries are still completely dependent on the banking sector, banks may be a guarantee for savers by giving diversified returns with high and low liquidity, risk through long-term non-liquid investments (Levine, 1997).

4- Inflation rate: There is a non-linear relationship between the inflation rate and financial development, that is, there is a threshold limit for the inflation rate above which the relationship between the inflation rate and financial development is negative and at low inflation rates Moreover, this relationship is positive, there are arguments in justifying this inverse relationship between inflation rate and financial development, a severe inflation rate causes a more severe inflation rate and a severe fluctuation in stock returns as a result of increasing risk in the financial market and hindering financial development.

Financial development literature generally examines the role of intermediaries and financial markets in improving economic growth in the form of endogenous growth patterns, while the financial structure literature examines the role of various types of financial systems as well as the perspectives of financial services and finance and laws. In the improvement of economic growth, another part of economic literature is dedicated to the relationship between financial development and economic growth and the causality of this relationship using Patrick's test (1966). put forward, the supply-led growth hypothesis states that the expansion of the financial sector leads to the expansion of the real side of the economy, in other words, an efficient financial sector leads to an increase in the supply of financial services and causes economic growth in different sectors, and the hypothesis Financing according to the demand, this hypothesis states that high economic growth can provide the necessary demand for the formation and creation of tools and fields for the development of financial markets, and these markets are forced to adjust themselves with the demand and changes created in different sectors. Coordinate the economy. In other words, economic growth is the reason for the growth of the financial sector, and the hypothesis of the stage of development of this hypothesis explains that

there is a two-way causal relationship between the development of financial markets and economic functions. In other words, a country by taking advantage of a developed system of financial markets can create an environment for economic growth through technological changes and innovation in services and products, and on the other hand, it can witness the creation of a significant demand for financial products and services (Levine, 1997).

The effect of oil fluctuations on financial development

In the 1980s, most studies confirmed the negative relationship between economic growth and the abundance of natural resources in developing countries, and many studies discussed this matter, the causes of the resource curse. In these studies, they have tried to explain the reason for this negative relationship with economic growth in countries with a lot of oil resources, but they have been oblivious to the effect of abundance of resources, on financial development and paid little attention to the role of financial development in this relationship. It can be said that the curse of resources can also happen in financial development and weaken the country's financial system. All the mechanisms that cause slow economic growth in countries dependent on oil exports could weaken financial development. The impact of oil fluctuations on financial development can be examined from two direct and indirect aspects.

Many researchers have been attracted to the relationship between the abundance of natural resources and the development of the financial sector. Various studies have been conducted in this field, but the results obtained differ from one country to another and a single policy cannot be developed in this context. According to some studies, the relationship between the financial sector and the abundance of natural resources is unclear and depends on financial development indicators. The poor quality of financial institutions and the lack of optimal and good allocation of financial resources have had a negative impact on the financial development sector, which is referred to as the financial sector. An example of countries that have abundant oil resources, and the extraction of resources and income from them has not been able to overcome obstacles and problems in the path of development in this country, such as unemployment and fluctuations in the growth rate... Issues and problems related to natural resources still exist in this country, given the importance of the relationship between the financial sector and the abundance of natural resources to develop the necessary policies in the path of achieving economic growth and development (aghaei et al, 2023)

Financial development and Dutch disease

The term Dutch disease became popular after the discovery of natural gas in the Netherlands in the late 1950s and early 1960s. At that time, gas exports increased significantly and the real exchange rate simultaneously, which made conditions more difficult for other export industries and created problems for the country. In such a way the discovery of a natural resource and the increase in oil revenues from its export increases profits in the natural resources sector and the wages it pays to its workers. . Therefore, other sectors can no longer compete with the wages paid in this sector, and production factors move to the natural resources sector. The movement of production factors from production sectors increases production costs and reduces the competitiveness of these sectors in international markets. Also, the discovery of natural resources causes the outsourcing of public and private investment in other sectors and their flow into the natural resources sector (Rahmani & Golestani, 2009). In other words, the high income from the export of resources causes an increase in the value of the national currency, and therefore a decrease in the export of manufactured goods or the substitution of production factors, capital and labor from manufacturing industries to natural resource extraction industries, and as a result, production costs increase. An increase in the value of the national currency lowers the prices for the production of tradable goods such as manufactured goods and agriculture, relative to the price of non-tradable goods such as buildings, and labor and capital flow from the tradable sector to the non-tradable sector, so Abundance of resources shrinks the tradable part of the economy. But the commercial sector plays an important role in financial development (Rajbzadeh Mughani et al., 2017). Economists believe that the expansion of the trade sector in a country leads to an increase in the need of the industries and enterprises of that country for financial resources outside of them, and as a result, it leads to the improvement of the financial

system of that country (Rasti, 2018). . Therefore, Dutch disease in countries with natural resources reduces the potential demand for financing by reducing trade and investment and weakens financial development.

Governance

Good governance is one of the most important influencing forces on the amount of capital formation in countries. As Stiglitz and most economists believe that in countries with better governance, the performance of the market mechanism is better in them because good governance leads the country's resources to increase competitiveness and improve the productivity of factors by adopting correct economic policies, in other words In most cases, the economic performance of a country is determined to a large extent by the quality of governance. On the other hand, it should be noted that abundant revenues from natural resources create wealth for a country and provide the necessary financial resources to expand investment and economic progress (Shahabadi,et al, 2017). This emergence coincided with the emergence of other terms such as Privatization and Globalization, both of which are new terms in the economy of countries (Al-Shahat, 2007). The concept of governance has started to invade the economic discourse and has become one of the most important standards adopted to evaluate the performance of individuals, companies and even governments (Al-Rubaie, Al-Radi, 2011). The term corporate governance was first used in the Cadbury Committee report in 1992 in England, it is a term defined in the meaning of corporate governance. There are many terms that refer to this term, such as: governance,, institutional governance and Good governance (Al-Rubaie, Al-Radi 2011). In recent years, some researches have been conducted in the area of the investigated subject. As an example, Najafi et al. (2019) in a research entitled the role of good governance in the realization of knowledge-based economy in Iran reached the results that good governance through communication channels, property rights, guaranteeing the implementation of contracts, domestic and foreign investment, The development of human capital and research and development affects the realization of the knowledge-based economy. Ahani et al. (2019) in a research entitled cluster analysis of Iran's position in the world and future trends based on the components of good governance in the investigation of good governance and the quality of government institutions conclude that in the time horizon of 2021, the accountability index in the country will be problematic and the index The rule of law and corruption control remained almost unchanged, and on the other hand, the trend of other indicators showed a slight improvement. Dadkhah et al. (2018) have studied the role of good governance and resistance economy in urban development in a structural analysis. Their study showed that good governance with the dimensions of the right to comment and answer, the rule of law, corruption control, the quality and effectiveness of the government can solve many economic and social problems. Dahai (2019) in his research entitled Good governance for sustainable development concludes that good governance plays a very important role in the development process and the institutional dimension is very important for good governance and helps the government by creating a suitable environment for the functioning of sustainable development mechanisms. To participate effectively, efficiently and responsibly in development programs. Bassam (2019) in his research entitled "Creating an effective knowledge management system in Saudi Arabia using good governance principles" concluded that the importance of improving productivity in the public sector, fighting corruption and activating rule of law systems are the main factors. Good governance is very important to create a quality knowledge management system. StojanoviÅ et al. (2016) in a study titled good governance as a tool for sustainable development and with the aim of analyzing the effects of good governance on specific indicators of sustainable development, reached these results that good governance can promote higher per capita income, higher life expectancy, A higher level of health, the expansion of information technology in the society, more favorable general and specialized education will contribute to sustainable development.

Oil prices and oil revenues

Crude oil is very important from various aspects, especially from the economic aspect, and due to its chemical, physical and economic nature and characteristics, it is a vital commodity on the global

economic scene, because crude oil is one of the most important commodities. Oil is an important source of energy that most countries seek to achieve through its production, import or export, crude oil also plays an important role in determining international policies and for all countries of the world, including producers or the consumer, has economic and political dimensions, so the increase or decrease in the price of crude oil has important effects on the balance of those countries due to the fluctuations in the price of crude oil and as a result the increase or decrease in the productivity of oil producing and consuming countries, especially most of the producing countries Oil, crude oil is completely dependent on oil revenues to finance its public budget (Rasha Khaled Shehayeb, 2019). Global crude oil prices have been exposed to a lot of fluctuations and instabilities in recent decades, or as oil shocks, there are two types of oil shocks. The first one is related to oil demand and the other is related to oil supply. Oil price instability is caused by internal and external factors, most of which are related to the growth of economies and the resulting increase in demand, or factors related to supply such as inability in growth Oil investments to keep up with the growth of oil demand, there are other non-economic reasons that are geopolitical or security in nature, such as subversive actions or even monopolistic actions of operating companies will necessarily lead to negative effects on the economies of producing and consuming countries. As for the state's public budget, which is represented by its public expenditures and revenues, this is the first interface through which the government faces the risk of oil price shocks, meaning that the state budget is the gateway through which the government can to attract resources through it. The negative effects of this risk and preventing its transmission or reducing the intensity of its transmission to other sectors of the economy as well as benefiting from the positive features of these shocks are beneficial to the economy and society(Naeem & Al-Janani, 2020).

In general, oil revenues make up the majority of the government budget and the dependence of the government budget on oil revenues is very high. In this sense, if mechanisms are not designed to stabilize the government budget, the oil impulses will strongly affect the government budget. the issue of government budget fluctuations caused by oil price fluctuations and oil revenues is an important issue, but another important issue is the allocation of government revenues and the composition of its expenses, and especially how to spend additional revenues during periods of increased oil prices. Government expenses generally include current expenses, construction expenses, and investment, since in OPEC member countries, the government budget has a huge share in the overall demand of the economy, therefore, the government budget and its expenses are one. It is one of the most important channels of impact of oil shocks on total demand; In fact, the more the dependence of the government's budget on oil revenues and its impact on oil impulses, the more the fluctuations in the demand of the whole economy will be. Disconnecting the government expenses from oil revenues fluctuations, the total demand will be more stable in the face of oil impulses (Mehrar & Ahmadian et al. 2019).

The impact of oil revenues fluctuations on countries

A. Developing oil exporting countries

Most of the governments consider increasing the flow of foreign exchange (oil revenues) to meet their public budget and other financial obligations as one of their priorities, most of the governments have created sovereign funds and huge reserves but they have failed and are still failing In the management of huge oil revenues, because most of the fund's money is used to finance growth (O. Abdulwahab, 2012).).

The decrease in oil prices leads to an increase in the inflation rate caused by the budget deficit as well as the current account deficit (Jean-Pierre Allegret, 2014). Also, the decrease in oil prices itself causes a decrease in the GDP, because the decrease in oil prices affects all sectors of the economy, which greatly decreases the GDP and also increases the unemployment rate, while with the increase in oil prices The opposite happens (S. O. Binuomote & K. A. Odeniyi., 2013).

B. Developing countries that import oil

The economies of oil-importing developing countries are heavily affected by oil price fluctuations due to the high use of oil and their reduced ability to overcome financial obstacles caused by the increase in oil import costs. This leads to inflation in the economy as well as a decrease in corporate profits, resulting in a decrease in investment, an increase in unemployment and a decrease in GDP (Eshita Gupta, 2008).

C. Industrialized countries

The impact of oil price fluctuations on the GDP of advanced economies such as (the United States of America, Great Britain, France, Germany, China, Japan) is much less than that of emerging economies (South Korea, Vietnam, Thailand, Singapore) due to the reliance of these countries on options Alternatives are nuclear energy, natural gas, renewable energy (Lutz Kilian, 2008).

The relationship between governance and oil fluctuations

In oil-exporting countries, oil revenues go back to the government, so institutional quality and governance play an important role in the curse or blessing of resource use, The role of institutional quality can be studied in two dimensions. The first dimension relates to the maturity of the institutional framework. If oil is discovered in a country that has mature and effective institutions, oil rents will be a blessing, and if it is discovered in a country that has mature and ineffective institutions, oil rents will be a curse, the second case relates to the immaturity of the institutional framework in countries. In such a case, oil revenues provide the basis for the formation of a rentier government. In most developing countries, oil rents have led to changes in the institutional structure, slowing the pace of economic growth. Therefore, oil not only directly affects economic growth, but also indirectly affects the economy and financial development through institutional quality (Sadeghi et al., 2013).

The relationship between governance and financial development

How the abundance of resources affects the financial development of countries can be influenced by the conditions governing the economies of countries and environmental factors and conditions. In other words, the way of governance can affect how the abundance of resources affects financial development. For example, Norway - although it is the second oil exporting country, but so far no sign of resource disaster has been seen in that country. A major reason is the time of oil discovery and the arrival of oil revenues in this country; Because before oil was discovered, Norway was a developed country and its social institutions were mature and the financial system was relatively developed (Sadeghi et al., 2013).

The government and its policies are one of the most important factors affecting the development of the financial sector (Sadeghi et al., 2013). Various empirical studies have shown that the government plays an important role in providing financial services. Most of the studies conducted in this field have focused on government policies (commercial and financial liberalization). The study of economic literature shows that the improvement of political and economic institutions and the formation of legislative institutions play an important role in the development of the financial sector. Among the factors that have received less attention so far is the role of the government as an important social institution in creating suitable conditions for the development of the financial sector (Sadeghi et al., 2013).

Type of research

In terms of correlation and methodology, this research is quasi-experimental and in the field of post-event research. This research is carried out using real information and because it can be used in the process of using information, it is considered a type of applied research.

Research hypotheses

- 1- Fluctuations in oil revenues affect financial development
- 2- Governance has a moderating role due to oil revenues fluctuations on financial development

Scope of research

Thematic scope of the research: Investigating the effect of oil revenues fluctuations on financial development with the moderating role of governance

Time: from 2010 to 2021

Geographical territory: The geographical territory of the countries of Iran, Iraq, Saudi Arabia and the United Arab Emirates.

Hypothesis testing models

Model 1:

$$FD_{i,t} = \beta_0 + \beta_1 \text{op}_{i,t} + \beta_2 TP_{i,t} + \beta_3 Gi_{i,t} + \beta_4 \text{pop}_{i,t} + \beta_5 No_{i,t} + \beta_6 Ex_{i,t} + \beta_7 Un_{i,t} + \beta_8 In_{i,t} + \epsilon$$

Model 2:

$$FD_{i,t} = \beta_0 + \beta_1 \text{op}_{i,t} + \beta_2 \text{gov}_{i,t} + \beta_3 \text{gov}^* \text{op}_{i,t} + \beta_4 \text{pop}_{i,t} + \beta_5 No_{i,t} + \beta_6 Ex_{i,t} + \beta_7 Un_{i,t} + \beta_8 In_{i,t} + \epsilon$$

Financial development: The ratio of the value of traded shares to GDP

Independent variables

Fluctuations in oil revenue: Changes in oil revenue in each year compared to the previous year divided by the previous year's oil revenue based on dollars

Moderating variable

Governance: The index provided by the World Bank (<https://info.worldbank.org>)

Control variables

Inflation: index of changes in the general level of prices, population growth: annual population growth rate, number of companies admitted to the stock exchange: number of companies admitted to the stock exchange at the end of the year, exchange rate fluctuations: changes in the dollar rate in one year, uncertainty: global index (WUI) and interest rate: official interest rate of the country.

Data analysis method.

The method of data analysis has been generalized in the form of integrated analysis of time series and cross-sectional data using multivariate least square regression. Multivariate regression is a method to analyze the collective and individual contribution of two or more independent variables to the changes of a dependent variable. In cases where the relationship between a dependent variable and one or more independent variables is considered and the goal of the researcher is to estimate the parameter (parameters) for the independent variable (variables) based on this relationship and using historical data and by presenting the model to predict

Data analysis

Descriptive indices of variables

In order to better understand the nature of the society studied in the research and to get more familiar with the variables of the research, before analyzing the statistical data, it is necessary to describe these data. Also, the statistical description of the data is a step towards identifying the pattern governing them and a basis for explaining the relationships between the variables used in the research (Khorshidi and Qureshi, 2014, 2015).

Before testing the research hypotheses, the research variables are briefly reviewed in Table (1). This table contains indicators to describe the research variables. These indicators include centrality indicators, dispersion indicators, and distribution shape indicators.

Table 1 descriptive indices of research variables, central indices, dispersion indices

Descriptive statistics of quantitative variables						
max	min	Std.dev	mid	mean	observations	Symbol
48/33	0/002	13/10	2/47	8/834	48	Financial development
1/06	-0/48	0/39	0/004	0/09	48	Oil revenue flections
80/11	6/23	28/33	36/17	39/21	48	Governance
43/4	-2/11	11/27	2/45	7/19	48	Inflation
6/40	0/1	1/13	2/30	2/31	48	Population
720	73	188/19	138	231/64	48	Number of companies
1/41	-0/07	0/27	0/00	0.08	48	Exchange rate fluctuations
0/41	0.000	0/09	0.16	0/17	48	Uncertainty
22	0/6	6/38	3/60	6/49	48	interest rate

Table (1) shows that the dependent variables of the research is financial development. It has an average of 43,360, which indicates that companies respond to a favorable ratio. Inflation control variables show that there is negative inflation among the research years, which is related to the countries of Saudi Arabia and Iraq in 2019 and Saudi Arabia in 2017. The most fluctuating exchange rate is related to Iran, which occurred in 2018 after Trump withdrew from the JCPOA. In this same year, the highest uncertainty is 41. 0 has been observed for Iran, which shows that there is a direct correlation between the uncertainty and the fluctuation of currency exchange. The highest interest rate is related to Iran, which recorded 22% interest in 2014. On the other hand, the lowest interest was related to Saudi Arabia in 2011, which is less than 1%.

Correlation of research variables

Table (2) Correlation of research variables

<i>intrested</i>	WHU	ERF	number	population	Inflation	GOV	OP	FD	Variable
								1/000	FD
							1/000	0/77	OP
						1/000	0/119	-0/033	GOV
					1/000	0/58	0/114	-0/032	Inflation
				1/000	0/116	0/109	0/366	0/115	population
			1/000	0/118	0/52	0/59	0/064	-0/039	number
		1/000	-0/24	-0/074	0/289	0/341	0/309	0/006	ERF
	1/000	0/378	-0/561	0/34	-0/44	-0/39	-0/103	0/0052*	WHU
1/000	-0/6	-0/025	0/642	0/178	0/642	0/578	0/062	-0/039	intrested

Using Eviews software, the correlation matrix between research variables was calculated and presented in Table 2. According to the results of Table 2, the correlation coefficient of oil revenues fluctuations with financial development are significant at 0.77 respectively.

Fitting models and testing hypotheses

Before estimating the hypothesis test models, it is necessary to perform the Chau test (F-Limer) in order to check and use the panel method against the OLS regression method. After that, the classical assumption of regression is checked and the final fitting of the models is done.

The hypotheses of this test are as follows:

: The normal regression model is preferable to the panel model

: The panel model is preferable to the normal regression model

The results of Chow's test are shown in table number (3).

Table. (3): Results of Chave's test (F Limer)

	P value- chow	result
Model 1	More than 0.05	pool
Model2	More than 0.05	pool

Autocorrelation test

In a classical linear regression model, it is assumed that the covariance between disturbance components is equal to zero. In other words, there is no correlation between the disturbance components. Violation of this assumption creates a problem called autocorrelation. In this research, the Brosch-Godfrey test was used to check this hypothesis, the null hypothesis of which is based on the absence of autocorrelation. The results of this test in Table 5 indicate the absence of autocorrelation of research hypothesis data.

Table 5 - Godfrey Brosh test

Hypotheses	Godfrey Brosh test		Result
	t-statistic	Prob	
1 st hypothesis	0/462	0/314	No autocorrelation
2 nd hypothesis	0/202	0/498	No autocorrelation

Variance heterogeneity test

One of the most important assumptions of the linear regression model is that the disturbance components that appear in the regression function have the same variance. Otherwise, the coefficients obtained from the OLS model cannot be trusted. In this research, the WHITE test was used to investigate this issue. The results of this test in Table 6 show the absence of heterogeneity of variance in the data of all research hypotheses.

Table 6- heterogeneity test

Hypotheses	WHITE		Result
	t-statistic	prob	
1 st hypothesis	1/02	0/393	no heterogeneity
2 nd hypothesis	1/31	0/274	no heterogeneity

The results of research hypotheses test

The results of the first and second models have been developed to check the first and second hypothesis.

$$FDi.t = \beta_0 + \beta_1 op\ i.t + \beta_2 TP\ i.t + \beta_3 Gi\ i.t + \sum it\ control\ variables + + \epsilon$$

Financial development				
VIF	significance	t statistic	Coefficients	Variable
-	0/243	1/183	5/126	C
1/23	0/00	-3/624	-0/828	Oil revenue fluctuations OP
1/13	0/323	0/99	3/549	inflation
1/56	0/049	-2/003	-2/486	Population
1/12	0/462	0/742	0/012	Number of companies number
1/72	0/52	-0/649	-3/974	Exchange rate fluctuations ERF
1/89	0/365	-0/915	-15/77	Uncertainty WHU
1/46	0/000	6/047	2/331	interest rate interest
		0/000	F statistic	
		0/54	Adjusted coefficient	
		1/53	Durbin-Watson	

$$FDi.t = \beta_0 + \beta_1 op.i.t + \beta_2 gov.i.t + \beta_3 gov^*op.i.t + \sum it \text{ control variables} + \epsilon$$

Financial development				
VIF	significance	t statistic	Coefficients	Variable
-	0/065	-1/992	-10/53	C
2/23	0/00	-3/694	-0/729	Oil revenue fluctuations OP
2/98	0/004	3/88	0/215	Governance GOV
2/43	0/892	0/136	0/013	Governance GOV* Oil revenue fluctuations
2/41	0/42	0/813	3/884	Inflation
2/56	0/863	-0/172	-0/21	population
1/20	0/526	0/638	0/009	Number of companies
1/34	0/815	-0/235	-1/97	Exchange rate fluctuations
1/89	0/166	-1/413	-21/124	Uncertainty
1/34	0/000	7/912	2/731	interest rate
		0/00	F statistic	
		0/94	Adjusted coefficient	
		2/19	Durbin-Watson	

According to the significance level of F is less than 5%, the accuracy of the whole model has been proven, and according to the Durbin-Watson statistic, it is between 1.5 and 2.5, there is no serial

correlation between the errors, and the VIF value for all variables is less. It is out of 5, so there is no linearity between the research variables.

CONCLUSION

The results of 1ST hypothesis indicate the existence of a significant relationship between oil revenues fluctuations and financial development at the 5% error level. Because the p-value calculated for the coefficient of this independent research variable is 0.00 and it is less than 0.05. The negative coefficient of the variable of oil revenues fluctuations indicates the existence of an inverse relationship, so the first hypothesis for the relationship between oil revenues fluctuations and financial development the research is approved. This result is consistent with some studies. Various studies have addressed poor economic performance, resource-based economies, especially in oil-exporting countries, in various ways such as: Dutch disease (Sash and Warner, 1999), neglect of education (Glyfason, 2001) and rent-seeking (Tornell and Lin, 2000) is described. Glifason and Zuga (2001) have shown that capital from natural resources replaces physical capital and the greater the ratio of capital from natural resources to physical capital, the quantity and quality of investment and savings decrease. More dependence on the wealth obtained from natural resources and the provision of easily cashable financial resources from these natural resources can easily replace the financial services provided by the financial sector and slow down or even disrupt the development of the financial sector. This study showed that in the 85 countries examined, greater dependence on natural resource wealth is correlated with less development of the financial sector, and there is a negative relationship between these two variables.

Results of 2nd hypothesis indicate the absence of a significant relationship for the moderating role of governance at the 5% error level. Because the significance level calculated for the coefficient of fluctuation of oil revenues * governance is 0.52 and it is more than 0.05. Therefore, the third hypothesis is rejected.

The findings show that in the studied countries, the effect of oil revenues fluctuations on financial development is negative, which means that there is an opposite relationship between these two variables in the studied countries. Considering the negative impact of oil revenues fluctuations on economic growth in the countries under review, the financial system in these countries should direct the income from the sale of resources to productive investment and more production. In this regard, economic policy makers should implement policies that increase the efficiency of financial institutions, including banks. Also, the findings of the investigation of the second hypothesis indicate that governance has no effect on the relationship between oil revenues fluctuations and financial development in the countries under review and no significant relationship has been seen for this variable.

The main source of financial services in the countries under review, instead of individual savings and other conventional channels of the financial sector in the economy, are oil revenues or are created through it. As a result, the sharp and sudden increase in oil revenues causes further disruptions in the functioning of the financial sector and actually reduces economic growth.

Fluctuations in oil revenues cause households' insecurity in using their savings for investment on the one hand and companies' insecurity to continue production activities and as a result suffer from unstable market conditions and economic fluctuations on the other hand. Better management of oil revenues and not directing it directly to the financial sector on the one hand and strengthening the structure of the financial sector and reforming its legal system on the other hand can help to invest in activities with higher productivity to strengthen the non-oil production sector and the economy. The present study has focused its attention and focus on exportation and oil export as an effective factor in the development process. It is suggested to conduct studies on other countries that are not oil exporters. Before governance leads to development, development leads to improved governance. This is true for all countries. Therefore, paying attention to development, in addition to improving its indicators, improves governance conditions and improves performance.

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