

The Impact of Oil Prices on Economic Activity: The Case of Azerbaijan

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Abstract

The strategic purpose of the economic policy of Azerbaijan is to ensure sustainable growth. The external factors including oil prices in the world market and investments have a significant influence on economic activity in Azerbaijan. The relationship between oil prices and gross domestic product has been scrutinized and the sensitivity of macroeconomic indicators to oil prices has been investigated. The dependence of investment activity, including foreign investments on oil prices has been determined. In the research, econometric models have been constructed in the purpose of studying the impact of oil prices on key macroeconomic indicators from the qualitative and quantitative point of view. At the same time, a comparative analysis of oil reserves of Azerbaijan with other oil countries has been conducted. According to the results, the government should determine new and sustainable growth pillars based on risks emerged from oil price, improve economic policy and accelerate the transition to innovative high-tech models of economic development.

Keywords: oil prices, economic growth, import, export, natural capital

1. Introduction

Being one of the main goals of the macroeconomic policy of the state, like the component of economic development the economic growth is a process of increase in national income. In the time economic growth is also aimed at solving the issues such as improving living and education, maximizing employment, protection of environment and increasing ecological security. Austrian economist J. Schumpeter in his work *Theory of Economic Development* has given different definitions for economic growth and economic development. He wrote that economic growth is a quantitative change, but the economic development is a qualitative change with the employment of new technologies in the production process.

In the purpose of development, it needs to achieve quality change, not quantity change (Schumpeter, *J.A.*, & Opie, R. 1983). The developed countries are characterized by a high standard of living, in these countries economic growth is characterized by qualitative rather than quantitative and economic growth rates are not high, in most cases, the growth rates are stable. The purposes of the economic policy of the state is to keep the economic growth in a stable, ensure employment and achieve price stability.

During the period of 1995-2019, both recession and progress were observed on the gross domestic product in Azerbaijan. The main objective of economic policy of Azerbaijan for ensuring the sustainable economic development is to enhance the economic growth, to build a diversified economy and to maintain competitiveness in the world market. It is important to establish a modern economy through the implementation of strategic development programs and the expansion of scientific-research and innovation activity. From this point of view, fundamental economic reforms have been implementing in the country in order to minimize the dependence of the country on oil revenues, create a favourable business environment, stimulate the non-oil sector, attract new investments and expand the export potential of the non-oil sector. The Global Competitiveness Report 2018/2019 prepared by the World Economic Forum on the new methodology demonstrated that Azerbaijan was ranked 58-th

out of 141 countries in terms of competitiveness and Azerbaijan was reported as a country providing with maximum level of social equality.

By moving ahead on some indicators, it ranked 1st in population's electricity supply rating by earning 100% and 31st in business dynamism rating.

At the same time, in the report of Doing Business 2019 Azerbaijan was also ranked 25th among 190 countries in the overall ranking and improved its position on several indicators. Based on the report, Azerbaijan was included in the list of the top twenty most reforming countries. In terms of indicators such as "Acquisition of permissions for Construction" and "Acquisition of Loans" have made significant progress by moving forward by 100 steps.

Besides, according the indicator "Protection of interests of small investors" Azerbaijan has reached the second place in the world and succeeded the 9th place in the "Start a Business" indicator.

2. Literature Review

In countries rich with natural resources, the impact of oil revenues on the economy is ambiguous. Increasing oil revenues from the 1970s in Saudi Arabia and the Persian Gulf have led to unprecedented economic and social development in the region. These processes have expanded the trade and the mutual relations in the region and have influenced on human development indicators positively. Besides, oil reserves have also adversely influenced the economic development of some countries in the region (Al-Sheikh, H., & Erbas, Nuri S. 2012. P2). The experience of these countries shows that oil revenues can result in a source of development for some countries, a source of misfortune for another country - one-sided economic development, as well as the creation of a "resource curse".

The following features mainly define the "resource curse" (sometimes called as "abundance paradox"):

- ✓ Increasing the level of dependence of the state budget revenues on oil and reduction of budget non-oil revenues and decrease in solvency of budget expenditures;
- ✓ As a result of weakening the non-oil sector's competitiveness, increasing the share of the oil - gas sector in the structure of exports sharply and decreasing the specific weight of traditional export products;
- ✓ Strengthening the national currency, because of getting of revenues from the sale of oil into the foreign exchange market.

Moreover, increasing government subsidies for ensuring the survival of non-profit enterprises, weakening relations between the state and citizens, deepening of stratification, etc. are included in the negative tendencies of the "resource curse":

The study fulfilled by Oxfam organization also proved that oil and other mineral wealth not only reduce the level of poverty, even make deeper it. The results of a study fulfilled by Michael Ross who is one of the most famous researchers on the relationship between natural resources and social conflicts stated that natural resources can't be the only cause of social conflicts. Each conflict combines itself with the different types of causes: poverty, ethnic or religious dissatisfaction, ineffective governance etc.

The richness in natural resources or incorrect distribution of revenues coming from these resources can accelerate the beginning of conflict or complicate the solution to conflicts that have already begun (Ross, M. 2006). Noted that the Middle East and North Africa region is a rich in financial resources and energy and with a approximately population of 44 million and exists the structural problems, weak institutional structures and social fragmentation (Siddiqi, M. 2015)

Based on some authors, the "Paradox of Abundance" is not connected with resource volume, but its use and management. Oil reserves cannot influence diversification and economic growth negatively in case of the government uses resources effectively and establishes strong institutional mechanisms for revenue and investment management (Al-Sheikh, H., & Erbas, Nuri S. 2012.p3).

There are interesting studies about the scale of the influences of oil prices on aggregate economic activity. Members of the Organization of Petroleum Exporting Countries (OPEC) could fulfill their desires for the fourfold increase in oil prices because of the 1973 Middle East War. In response to the 1979 revolutionary disorder in Iran, oil prices went up again. Consequently, the world price of a barrel of oil went up from \$ 2.5 to \$ 34 in the 1970s. Noted that during the short time, the price of a barrel of oil reached \$147 in 2008, and beginning from 2015, it has dropped to \$ 50.

Since the 1970s, changes in oil prices have significantly impacted on economic activity. Based on calculations, the worldwide oil price elasticity equals to -0.29. So, increasing oil prices by 10 percent led to a 2.9 percent drop in

real GNP. Studies fulfilled over the past decade show that oil prices are in the state of fluctuation and their impact on economic activity continues to decline (Hoffman, Robert).

According to Yadulla Hasanli's research, oil revenues and oil price have an impact on foreign debt level. So 1% increasing in oil prices will increase foreign debt by 3.17% (Yadulla, H. 2017).

Javier F. Mory has shown in his research that the rise or fall of oil prices during 1951-1990 had asymmetric impacts on production volumes and other macroeconomic indicators (Mory, J.F. 1993).

In one of his studies, Hamilton, J. D. (1983) noted that changes took place in oil prices during the years 1948-1980 had impacted significantly on real growth in the United States and there was a negative correlation between the two economic factors. Mork, K.A. (1989) has shown that the relationship between oil prices and GDP has been in the opposite direction during the period until 1988: GDP growth has a certain negative relationship with rising oil prices. That is to say, GDP growth rates were low conversely in the context of rising oil prices and statistical relationship were negatively correlated.

In accordance with the BP estimates, the worldwide volume of oil discovered in 1991 was equal to 1,032.7 billion barrel. During the past 27 years, the volume of oil reserves have increased by 67.5 percent and reached \$ 1729.7 billion barrel in 2018. (Table 1). The main volume of oil reserves in the world was registered in Venezuela (17.5%), Saudi Arabia (17.2%), Canada (9.7%) and Iran (9%). On the whole, 47.9% of the world's oil reserves fall to the Middle East's share. Although the history of oil in the territory of Azerbaijan refers to ancient times, the establishment and development of the oil business coincides with the early 20th century. The volume of oil reserves of Azerbaijan was estimated at \$1.2bn barrels in 2001, \$7bn barrels in 2018. The volume of oil reserves in the country increased by 5.8 times and its share in total oil reserves in the world grew up to 0.4%.

Table 1. Trends in wealth per capita and proved reserves 2018

	Total proved reserves ¹		Natural capital per capita (US\$) ²		Natural capital as share of total (%)
	Thousand million barrels	Share of total (%)	Total	Subsoil assets	
Venezuela	303.3	17.5	38151	32026	23.5
Saudi Arabia	297.7	17.2	252186	249105	49.2
Canada	167.8	9.7	52438	27915	5.2
Iran	155.6	9	-	-	-
Iraq	147.2	8.5	71520	68498	70.3
Russian Federation	106.2	6.1	46921	38247	24.9
Kuwait	101.5	5.9	591229	588862	52.6
Yemen	97.8	5.7	10491	6699	45.8
USA	61.2	3.5	23624	8651	2.4
Kazakhstan	30	1.7	66,606	53440	36.8
Norway	8.6	0.5	103184	83251	6.2
Azerbaijan	7	0.4	45935	35938	53.8
Total World	1729.7	100	15841	7262	9.4

Note: ¹: At end 2018 ; ²: Estimates are in 2014 U.S. dollars per capita at market exchange rates.

Source: BP Statistical Review of World Energy 2019 , pp. 14 and the changing wealth of nations reports, 2018, pp. 123

The results of studies conducted by World Bank for 141 countries in 2018, total wealth in the world in 2014 was \$ 1143 trillion. The structure of the total wealth of each country is one of the indicators characterizing its economic development. In high-income countries, the major part of the total wealth comprises of human capital, but in low-income countries natural capital. The specific weight of natural resources in the structure of total wealth was 47% in low-income countries, 27% in middle-income countries, and 3% in OECD developed countries for 2014. The

share of natural capital in the structure of total wealth was 9.4% (107,427 billion US \$) in the world.

Natural capital is measured as the discounted sum of the value of rents generated over the lifetime of the asset (energy and minerals, agricultural land, forests and protected areas). (*The changing wealth of nations reports, World Bank 2018, pp.28*). Note that the total wealth per capita in Azerbaijan was \$ 85,341. The share of natural capital in the structure of total wealth was 53.8% in Azerbaijan. Nevertheless, the share of natural capital in the structure of total wealth was 53.8%.

According to the opinion of experts of World Bank, getting rich is not about liquidating natural capital to build other assets. Development is about more efficient use of natural capital, and its sustainable management in the case of renewable natural capital, bringing to bear other assets to increase productivity, together with the strong institutions and policies that make investment attractive. (*The changing wealth of nations reports, World Bank 2018, pp.48*).

2.1 Growth of GDP in Azerbaijan in the Context of Fluctuations in Oil Prices

Since 1991, Azerbaijan has passed a period of economic transformation and development. As seen from the graph a high rate of economic growth can be observed from year to year (Figure 1). The years 1991-1994 is characterized by recession, the weakening of foreign economic relations, instability, hyperinflation and the devaluation of the national currency. The implementation of economic reforms, the economic benefits of the oil strategy have already started to yield fruit since 1995. The formation of sustainability of foreign exchange reserves and budgetary financial sources coincided with the period of 1995-2004. At that time, economic growth was provided with an average of 6.1 percent.

Having sold the oil at a high price during 2004-2008 in the world market caused the increase in oil revenues. Directing the oil revenues to the economy, increasing the investments to the oil-gas sectors, expanding economic relations have strengthened economic growth in Azerbaijan and GDP increased averagely by 16.9 percent. In the oil -gas sector, GDP grew on average by 24.9% and the non-oil sector by 11.7%.

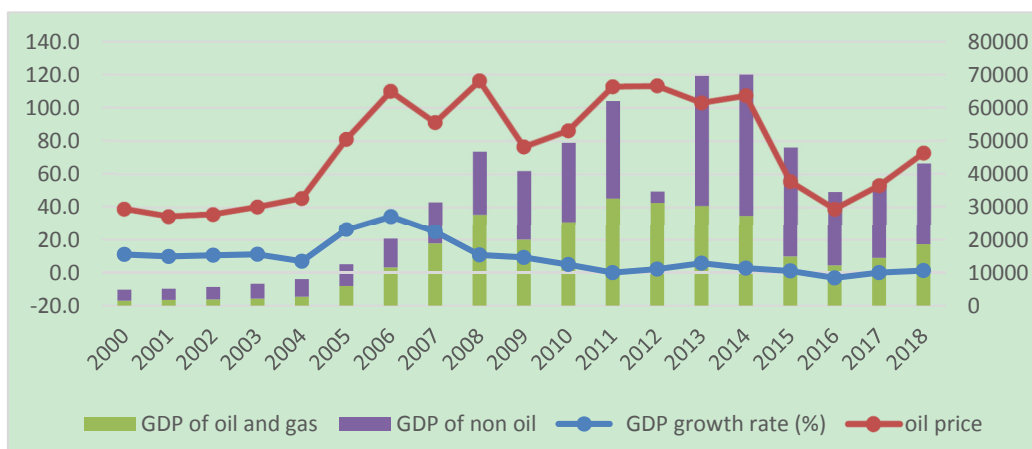


Figure 1. Oil price and GDP, GDP on oil and gas, GDP of non-oil in Azerbaijan

Source: <https://www.banki.ru/quotes/brent/> and www.stat.gov.az

The economic activity began to weaken after the financial crisis in the US and other developed countries, when oil prices were high in 2008. Financial institutions encountered the financial risk and the most part of the loans were not been repaid. Therefore, the demand for oil in the world market declined. OPEC countries reduced 4.2 million barrels of oil in a day. Decrease in oil revenues influenced the economy of Azerbaijan and GDP growth rate was averagely by 3.8% during 2008-2014, which compared to the previous period decreased by 2.3%. Since 2010, investments in the non-oil sector have led to economic growth by 8.8% and approximately 80% of all budget revenues derived from oil industry, taxes on the State Oil Fund of the Republic of Azerbaijan (SOFAZ) and the oil sector. The sensitivity of the economy to fluctuations in oil production coincided in 2011 and 2012, when the annual GDP growth was by 0.1% and 2.2% respectively.

The negative impact of cheapening of oil price on economic activity has sharply manifested itself since 2014, consequently it resulted in a decrease in state budget revenues and exports in 2015 and a twice devaluation of the national currency against the US dollar. GDP growth rate went down -3.1% in 2016. The weakening of economic activity, the emergence of the crisis, the transition to the post-oil era required a new approach that would ensure

the development in Azerbaijan. GDP increased by 1.4% compared to the previous year and amounted to \$ 47112.9 million in 2018. The value added in the non-oil sector increased by 1.8%, and in the oil sector by 0.6%.

Azerbaijan took the first place in terms of economic growth rate compared to the CIS countries and GDP growth rates were at record levels in 2005-2009.

The comparative analysis of countries with natural resources in the CIS during 2010-2015 shows that the average growth rate was 10.3% in Turkmenistan ranked first, 5% in Kazakhstan ranked second, 3.2% in Russia ranked third and 2.8% in Azerbaijan ranked fourth. Turkmenistan have maintained its leadership in 2016-2018 and Azerbaijan ranked the last place.

3. Results

Besides the oil prices, investment activity that considered as structural problems is also affecting the economic growth in Azerbaijan (Figure 2). As shown from Figure 2, the largest investment coincided in 2004-2014. Total investment in the economy during this period was \$ 139.2 billion and its specific weight in GDP was 62%. During this period, the reason of the investment activity was influenced by directing of oil revenues to the economy. Note that, about 45% of total investments has fallen to foreign investments and 55% to domestic investments. The volume of direct investments during this period was 78 billion, of which 66% has fallen to the oil sector's share and 34% to the non-oil sector's share. The low oil prices in the world market since 2014 have not been attractive for investors to make investments in the oil sector.

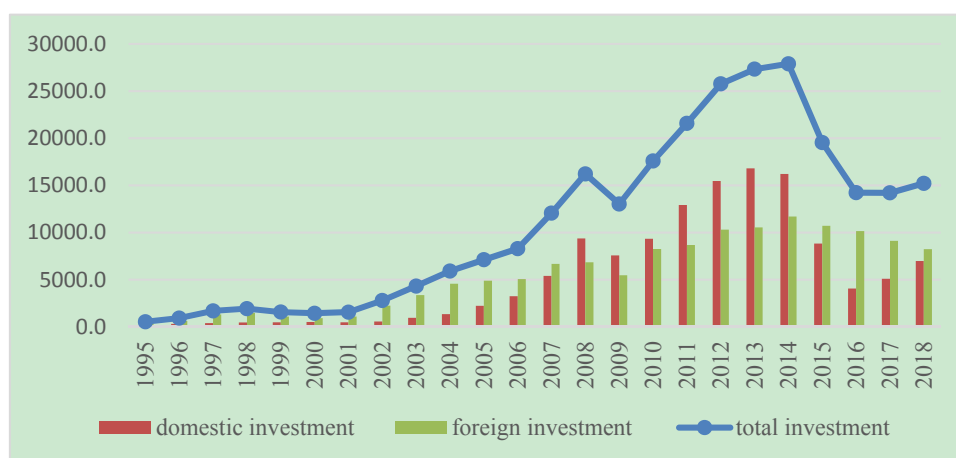


Figure 2. Total investment, foreign investment and domestic investment

Source: www.stat.gov.az

The decrease in direct foreign investment influenced the decrease in investment to economy. The volume of foreign investment in 2015 was \$ 10.7 billion and \$ 9.1 billion in 2017. About 63% of foreign investment falls to the share of direct investment. With comparison to the respective indicator of 2015, in 2017 there was a decline approximately by 15% in foreign investments and 24% in direct investments. The volume of direct foreign investment in 2018 was \$ 4.1 billion and during this period, 76.5% of foreign direct investment accounted for the oil and gas sector.

One of the factors affecting economic growth is exports. The fulfilments of oil contracts have affected significantly on exports. Note that because of the most part of commodity structure consists of mineral products, including oil and oil products exported to partner countries, cheapening of oil prices has influenced exports. In 2004-2017, oil exports were on average 16 times more than non-oil exports. In 2008, the foreign trade turnover was high growth due to high export volumes. Therefore, the foreign trade turnover was \$ 55 billion, import was amounted to \$ 7 billion, but export to \$ 47 billion 756 million. The main reason for the growth of exports was higher production from the Azeri-Chirag-Guneshli oil field and Shahdeniz gas field.

Since June 2008, oil prices have dropped and in 2009, exports decreased by threefold compared to the previous year. Cheapening of oil prices per barrel sharply in world market affected the nominal price of export products. Nevertheless, Azerbaijan has acted as an exporter among the foreign trade partners and consequently has performed a positive balance. Thus, the foreign trade turnover was amounted to \$ 20 billion 818 million and the volume of imports was amounted to \$ 6 billion 119 million and export to \$ 14 billion 698 million.

In generally the dynamics of exports and analysis of the structure of exports covering the reviewed period evidence that the share of mineral products in total exports has been high for many years. At the same time, over the period, there was an increase in imports too and imports went up by an average of 18 percent. The economic growth slowdown has influenced imports in 2011 and its volume decreased by \$ 568 million and became \$ 9.1 billion in 2014 and \$ 8.7 billion in 2017 respectively.

Thus, by taking into account the aforementioned issues, it is possible to study the mutual relationship between economic development and investments, export transactions and world oil prices from the qualitative and quantitative point of view and forecast through econometric methods.

The economic indicators have been estimated based on figures of the State Statistical Committee of Azerbaijan and the World Bank covering 1995–2018 and realized by means of software package E-VEWS 10. The statistical analysis of models has been fulfilled through F-criterion (testing the quality of equation), t-Student criterion (testing the statistical significance of coefficients of regression), R² – R square (size of adequacy), Adj R² - adjusted R square and heteroscedasticity.

Table 2. The models of impact of oil prices on key macroeconomic indicators

№	Cüt reqressiya modelləri	R ²	Adj R ²	F-stat
1	$\ln(GDP) = c_1 + c_2 \ln(OP) + \varepsilon_t$ $GDP = e^{3.548} \cdot OP^{1.637} \cdot e^{\varepsilon_t}$ $t_{stat} \quad 7.06 \quad 12.59$ $Prob \quad 0.00 \quad 0.00$	0.878	0.872	158.6 Prob(0.00)
2	$\ln(FI) = c_1 + c_2 \cdot \ln(OP) + \varepsilon_t$ $F\dot{I} = e^{3.684} \cdot OP^{1.222} \cdot \varepsilon_t$ $t_{stat} \quad 5.22 \quad 6.66$ $Prob \quad 0.00 \quad 0.00$	0.678	0.663	44.36 Prob(0.00)
3	$\ln(IM) = c_1 + c_2 \ln(OP) + \varepsilon_t$ $IM = e^{1.034} \cdot OP^{2.026} \cdot e^{\varepsilon_t}$ $t_{stat} \quad 1.365 \quad 10.328$ $Prob \quad 0.10 \quad 0.00$	0.829	0.821	106.67 Prob(0.00)
4	$\ln(EX) = c_1 + c_2 \ln(OP) + \varepsilon_t$ $EX = e^{3.352} \cdot OP^{1.277} \cdot e^{\varepsilon_t}$ $t_{stat} \quad 6.364 \quad 9.362$ $Prob \quad 0.00 \quad 0.00$	0.799	0.790	87.65 Prob(0.00)
5	$\ln(D\dot{I}) = c_1 + c_2 \ln(OP) + \varepsilon_t$ $D\dot{I} = e^{4.17} \cdot OP^{1.008} \cdot e^{\varepsilon_t}$ $t_{stat} \quad 5.037 \quad 4.900$ $Prob \quad 0.00 \quad 0.00$	0.789	0.788	24.01 Prob(0.00)

Here,

GDP-Gross Domestic Product

OP- oil price

$\dot{I}M$ - import

EXP- export

$D\dot{I}$ - direct investment

$F\dot{I}$ -foreign investment

S.E. - standard error parameters,

R-squared - determining coefficient,

Adjusted R-squared - shows the specified determinant coefficient

4. Discussion

Based on the results obtained from the realization of the models, we can say that constructed models are significant. These models are defined by a high level of R², lack of autocorrelation and heteroscedasticity. The statistical significance of coefficients are high in these regression models. Thus, t statistics are more than 3, by the reason of the number of observations is high the confidence interval is greater than 100%, and the dependence is absolutely significant. Based on high R², the changes in GDP, foreign investment, direct investment, exports and imports during the reviewed period are explained with high oil prices. The elasticity is one of the key indicators used in the modeling of economic processes that determines the effect of one percent change in the argument to the function. In case of the elasticity coefficient is greater than one, then the function is considered elastic in relation to the economic factor. The analysis of models (1) - (5) shows that 1% increase in world oil prices have led to growth of GDP by 1.64%, foreign direct investment by 1%, foreign investments by 1.22%, imports by 2.02% and exports by 1.28%.

Hence, an analysis of economic growth models shows the existence of macroeconomic stability, but the impact of the oil factor is significant and many macroeconomic indicators depend on oil prices. The dependence of the economy on oil for a long time cannot ensure the sustainable macroeconomic stability and will result in weakening of the development of the non-oil sector. The analysis of oil price dynamics manifests that during 2005-2008, there was the growth of GDP during the time when oil production was high and oil prices went up. However, the world financial crisis and significantly cheapening of oil prices and decrease in production during 2008-2009 and 2014-2015 have led to slowdown in GDP growth rates.

The activity of investment allocated to the economy of the country has been observed decline and growth. While investment growth rates on average 17.9% in 2004-2010, the respective figure was 11.9% in 2011-2014. In spite of a 6% decrease in investments, the rate of economic growth went down by 14.2%. The major source of domestic investment was the public sector, while direct investment was made in the oil sector. Therefore, when oil prices dropped, investments in this sector was not attractive to investors. Nevertheless, foreign investment in the oil sector has been prevailing over non-oil sector. Attracting the investment in the non-oil sector is difficult and one of the main influencing factors is the weak financial opportunities of non-oil investors engaged in this sector. The reason of decrease in financial funds come from export transactions has also connected with world oil prices. Because more than 85% of the export structure consisted of crude oil and oil products, consequently it has led to a decrease in revenue of our country.

Therefore, the government should determine new and sustainable growth pillars based on risks emerged from oil price, improve economic policy and accelerate the transition to innovative high-tech models of economic development. In order to establish a diversified and modern economy, it is necessary to succeed the greater progress in the non-oil sectors of Azerbaijan.

References

- Al-Sheikh, H., & Erbas, N. S. (2012). The Oil Curse and Labor Markets: The Case of Saudi Arabia, Working Paper No.697, Economic Research Forum, p. 2,3.
- BP. (2019). *Statistical Review of World Energy*. Retrieved from <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2019-full-report.pdf>
- Hajiyev, N., & Rustamov, A. (2019). How oil price drops are reflected by imported inflation in Azerbaijan? *International Journal of Energy Economics and Policy*.
- Hamilton, J. D. (1983). Oil and the Macroeconomy since World War II. *Journal of Political Economy*, 91(2), 228-248. <https://doi.org/10.1086/261140>
- Hoffman, R. (2012). *Estimates of Oil Price Elasticity*, p.19, International Association for Energy Economics.
- Mork, K. A. (1989). Oil and Macroeconomy When Prices Go Up and Down: An Extension of Hamilton's Results. *Journal of Political Economy*, 97(3), 740-44. <https://doi.org/10.1086/261625>
- Mory, J. F. (1993). Oil Prices and Economic Activity: Is the Relationship Symmetric? *The Energy Journal*, 14(4), 151-161. <https://doi.org/10.5547/ISSN0195-6574-EJ-Vol14-No4-10>
- Muradov, A., Hasanli, Y., & Hajiyev, N. (2018). Crude Oil Price Forecasting Techniques in the World Market. 6th International Conference on Control and Optimization with Industrial Applications (COIA)
- Muradov, A., Hasanli, Y., Hajiyev, N. (2019). *World Market Price of Oil: Impacting Factors and Forecasting*. Springer International Publishing, pp. 184. <https://doi.org/10.1007/978-3-030-11494-7>

- Muradov, A., Hasanli, Y., Hajiyev, N., & Akbarov, R. (2018). Modelling the impact of the solar activity on demographic and economic indicators.
- Ross, M. (2006). A Closer Look at Oil, Diamonds, and Civil War. *Annual Review of Political Science*, 9, 265-300. <https://doi.org/10.1146/annurev.polisci.9.081304.161338>
- Schumpeter, J. A., & Opie, R. (1983). [1934]. *The theory of economic development: an inquiry into profits, capital, credit, interest, and the business cycle*. New Brunswick, New Jersey: Transaction Books.
- Siddiqi, M. (2015). The Prospects for Development and Growth in the MENA Region in the year ahead, Middle East online.
- The changing wealth of nations 2018: Building a Sustainable Future / Glenn-Marie Lange, Quentin Wodon, and Kevin Carey, pp. 255. Retrieved from <https://openknowledge.worldbank.org/bitstream/handle/10986/29001/9781464810466.pdf>
- Yadulla, H. (2017). Econometric model of dependence between the oi prices, and the global external debt level and oil production. *Economic Annals-XXI*, 166(7-8), 11-15. <https://doi.org/10.21003/ea.V166-02>

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