

Oil Price Shocks and Russia's Economic Growth: The Impacts and Policies for Overcoming Them

Liudmila Popova¹, Farkhondeh Jabalameli², Ehsan Rasoulinezhad^{3*}

1. Associate Professor of World Economy, Saint Petersburg State University (l.v.popova@spbu.ru)
2. Associate Professor of Theoretical Economics, University of Tehran, Iran (fameli@ut.ac.ir)
3. PhD in Economics St. Petersburg State University (Corresponding Author: erasoulinejad@gmail.com)

(Received: 21 Jan. 2017 Accepted: 18 Apr. 2017)

Abstract

Considering Russia's rich and vast oil resources, this country is one of the world's greatest producers and exporters of this nonrenewable energy resource, and like other petrostates, receives a major part of its national income in this way. The dependence of Russia's budget on oil has raised the significance of world oil price fluctuations for this country. Since 1970s, the global oil market has experienced numerous shocks, which have in turn, had significant effects on Russia's economy. Therefore, the theoretical study of oil shocks and their historical impact on Russia's economy, as well as the policies adopted by this country to reduce the effects of those shocks, is considered a practical issue for Iran's oil-based economy. The outcomes of this research indicate the positive impact of historical oil shocks on Russia's economic growth. The establishment of a stabilization fund in 2004 and its development into the Reserve Fund and the National Welfare Fund in 2010 are considered to be this country's most important policy in reaction to oil price shocks.

Keywords: crude oil, the National Welfare Fund, Price shock, the Reserve Fund, the Russian Federation, Stabilization fund.

Introduction

The oil sector and the impact of crude oil pricing on petrostates' economy are critical issues, petroleum being the main source of income for these governments. This sector has the potential, as a powerful lever, to affect the countries' macroeconomic indicators either positively or negatively. The issue needs to be observed more carefully in the case of Russia, due to its dependence on oil, as well as due to the recent conditions of the international sanctions (related to Ukraine and the separation of Crimea). Owing huge oil resources, Russia is considered as one of the major petroleum producers and exporters across the globe. As Klare (2012) indicates in his book, this field of energy has caused the political racism of the United States toward petrostates, such as Iran, Russia, and Iraq, and may be used against Russia by the Western governments, as a non-military weapon.

The impact of oil pricing might be an exogenous factor, stemming from global oil prices, such as the North Sea oil, West Texas oil, or the prices of the OPEC basket. Therefore, Russia's economy and its macro variables are affected by unstable factors. Accordingly, any fluctuations and instabilities in the global oil market will cause imbalances and even crisis inside a country Jahādi, & 'Elmi, (1390 [2011 A.D]), unless efficient policies are adopted by planners and policy makers in return.

In order to control oil price shocks, Russia has pursued policies such as nationalization, politicization, developing the oil export market of the Russian Federation, developing joint oil fields, etc. The establishment of a stabilization fund in 2004, after the 2003 oil shock, is considered as the most prominent policy against the global oil price shocks. Russia developed this fund in 2008 and split it into two separate funds, named the Reserve Fund and the National Welfare Fund. The Reserve

Fund maintains a short-term perspective and is more in the service of providing for and supporting the federal government budget, while the National Welfare Fund maintains a long-term perspective at the community level and has had investments regarding the pensioners' welfare and the country's infrastructure development.

This article first presents the historical and analytical impacts of oil price shocks on the economic growth of the Russian Federation (the former Soviet Union up to the early 90s and Russia thence) during the years 1972 to 2014, and analyzes the Russian stabilization fund as the country's most prominent policy against the negative impacts of oil shocks. Next, a review of the literature will be observed. Then, a brief introduction to the Russian Federation's economy will be presented; the impacts of the oil price shocks on the country's economy, specifically its economic growth, will subsequently be reviewed. The last section will refer to the policy of establishing a stabilization fund and its development.

Research Questions

Considering the occurrence of various oil shocks across the history and their impacts on the economic growth of Russia as one of the main crude oil producers and exporters, this article will attempt to investigate the following questions:

- a) How was Russia's economic growth affected by oil price shocks?
- b) What policies has Russia adopted in order to control the negative impacts of oil price shocks?

Review of the Literature

Since the 70s, oil price shocks and fluctuations have been

scrutinized in many investigations in terms of their effects on the performance of an economy and its indices (see e.g. Taghizadeh Hesary et al., 2015; Rasoulinezhad, 2016; Taghizadeh Hesary et al., 2017). It may be assumed, in general, that all economies in the world, especially those of petroleum exporting countries, are affected by oil prices. Therefore, any fluctuations in the prices may lead to positive or negative effects on the economic indices of countries across the globe. However, one might begin by asking “what causes the oil price fluctuations in the first place?”

There are many factors which are considered to be the economic causes of an oil price rise, such as the rise in oil demand, expecting lack of oil supply, changes in the global gold price, the world stock markets, as well as financial crises. Also, noneconomic factors such as wars, outbreak of dangerous diseases, turbulences, terrorism, diplomatic speeches, as well as changes in diplomatic relations, may play a role in creating oil price fluctuations across the globe.

Brown (2006) believes in an impending increase in the global oil demand, especially from the United States as well as from emerging economies such as China and India, as another reason for the increase in the world oil prices. As Tertzakian (2010) explains in his book, these countries have experienced a rapid industrialization and their manufacturing factories require petroleum and oil products. That is why such economies play an effective role in the global oil market, as consumers with a growing high demand. Also, in recent years, the global market has experienced severe fluctuations in the supply of crude oil, due to problems such as Iran sanctions, the United States’ attack to Iraq (2003), the Arab Spring, the attack of the International Coalition to Libya, as well as the domestic problems of Nigeria and Venezuela. Moreover, there have been sudden rises and falls

in the prices of this exhaustible source, stimulated by the United States' financial crisis and Europe's debt crisis in 2007 and 2008, as well as by Syria's crisis and the emergence of the ISIS in Iraq. Krugman (2008) even believes rumors to be potent of creating tranquility or tension in the market, for example, a rumor regarding a non-nuclear deal between Iran and the P5+1 might create tension in the global oil market. However, it must be taken into consideration that severe shocks or fluctuations are short-term phenomena and that supply and demand reach equilibrium again in the long run, according to the market's economy.

Many researchers have investigated the ways in which oil price shocks affect the economic growth of a country or of a group of homogeneous countries, such as the petroleum exporting countries. The investigations, in general, indicate either a positive relationship between crude oil price shocks and economic growth, or a negative one. In the case of oil-rich developing countries such as Iran, there exists a negative relationship between the two variables, according to most investigations, which is a sign of Dutch disease in the economy. However, according to studies such as Ito (2012), Shibanova-Roenko and Guznova (2012), as well as Rasoulinezhad (2014), Russia's economic growth has had a positive relationship with oil price shocks since the dissolution of the Soviet Union during the 90s. Some of the most significant studies are presented in Table 1 below.

Table 1. Background studies regarding the relationship between oil price shocks and economic growth

Type of finding	Author (year)	Elaboration
Dutch disease	Bruno & Sachs (1982), Corden & Neary (1982), Corden (1984), Neary & van Wijnbergen (1984), Gelb (1988), Spatafora & Warner (1995), Torvik (2001), Sosunov & Zamulin (2007), Lartey (2008), Lama & Madina (2010), Jacob Imo (2012), Corden (2012)	There is a negative relationship between the increase in the price of natural resources and the economic growth
Positive relationship	Morādi (2010), Eqbāli et al. (2004), Gounder & Bartleet (2007), Schneidar (2009), Berument et al. (2010), Zuhair (2010), Du et al. (2010), Peersman & Robays (2012), Jawad (2013)	There is a positive relationship between the increase in the price of natural resources and the economic growth

Reference: Authors

In the neoclassical school of economics, oil is considered to be one of the major factors in the economic growth of petroleum exporting countries, such as Russia. Therefore, it seems only logical that the prices of this natural resource, as the production function inputs, have various impacts on the development of those countries. The impacts, according to Roubini and Sester (2004), depend on the size of the shock, the intensity of the shock, the dependence of the economy to oil, as well as the impact of the oil sector on the monetary and financial policies. In a simple economy, a high positive oil shock would, all of a sudden, multiply the amount of the government's income through foreign exchange, which would in turn increase the value of national currency. When the national currency of a country is strong, other countries' merchants will consider the

national currency of that country to be expensive, and will have to spend more for imports. As a result, the products of that country will be more expensive for them, which would lead to a decrease in the volume of exports from this country. In a larger scale, there will be a decrease in the competitiveness of non-oil industries, such as agriculture and manufacturing industries, with those of other countries. This situation is called “Dutch disease” in economic terms, and leads to the increase of the social gap in the developing oil-rich countries, such as the African countries. Abubakar (2004) writes of the African oil-rich countries as rich regions with a poor society. On the other hand, when there is a negative shock in the oil price, the state budget will face a severe deficit; consequently, the governments will attempt to obtain international funds, as well as loans from other countries, which would, in turn, increase their foreign debt (Auty, 2004).

In the following sections, a more detailed and theoretical analysis of the impact of different oil price shocks on a petroleum exporting country such as Russia will be presented.

Positive Shocks

Positive shocks occur when the oil price takes a sudden leap. But how does a positive oil shock affect the economy of other petroleum exporting countries, such as Russia? In the first phase of the shock, the government's income suddenly increases. In other words, the price rise enhances the real national income through the increase in the petroleum exports revenues. This might lead to the reinforcement of the national currency value (or foreign currency depreciation) in the exchange rate systems (fixed or managed floating systems). In the floating exchange rate system, the foreign exchange coming from the increase in the world oil prices would lead to the appreciation of the real exchange rate. In the fixed or managed exchange rate systems,

however, the entering of foreign exchange would increase the amount of national currency, liquidity, as well as inflation in the economy. Furthermore, the appreciation of the real exchange rate would, in turn, affect national trades. On the one hand, inflation increases the cost of production in the economy, and on the other hand, the economic institutions produce commodities whose production costs less for their foreign competitors. This circumstance in an oil-based economy would cause the onset of recession, the increase of deployment and inflation, and in one word, Dutch disease.

Apart from the effect of oil shocks through the mechanics of foreign exchange rate system mentioned above, positive oil shocks are indications of inflation, since oil prices directly affect the prices of goods produced from petroleum products. According to Tertzakian (2010), oil prices indirectly affect transportation costs, urban heating costs, as well as production and construction costs. The increase in those costs would, in turn, affect the costs of other commodities and services, due to a transfer of expenses from the producer to the consumer.

Moreover, a spike in oil prices might challenge the economic growth through affecting the supply and demand of other commodities. A positive shock in the oil price would negatively affect the supply of other commodities, due to the increase in their production expenses. On the other hand, there would be a serious decrease in the demand for other commodities, caused by the decrease of households' disposable income (due to rising inflation, increased consumer costs, as well as increased savings caused by concern over the economy's future) (Sill, 2007). It is noteworthy that some economists, such as Fernald and Trehan (2005), compare the effects of positive oil price shocks on the society to that of tax increase on the consumers.

Therefore, the Resource Curse Paradox (Проклятие ресурсов) might occur in petroleum exporting countries, such as

Russia, through the positive shocks of oil prices. This paradox is based on the fact that countries with enormous oil supplies become much weaker economically, in comparison with those lacking this divine gift. Therefore, oil is considered as an economic challenge for petrostates, and is referred to as a curse, instead of a gift.

Negative Shocks

This type of shock occurs with sudden drops in the world oil prices. In this case, there is a significant reduction in the government's foreign exchange earnings. As a result, import restrictions might be imposed in order to save foreign currency. According to the mechanics of the foreign exchange rate system, in the fixed foreign exchange rate system, although the government might manage to prevent the depreciation of the national currency, it will inevitably use the available foreign exchange for importing basic essential goods, as well as for paying its foreign debts. In this scenario, there will be a decrease in the imports of other commodities (non-essential commodities), and domestic production will inevitably suffer, since many economic institutions will be unable to import their raw materials and capital goods. In case the government would reduce the foreign exchange rate through manipulation according to the mechanics of the foreign exchange rate system¹, there will be an increase in the import costs as well as in the demands for domestic products, which will, in turn, cause inflation. Meanwhile, national currency devaluation will bring about mistrust among the investors, and will lessen the chances of direct foreign investments.

The devaluation of the national currency may also be analyzed through Game Theory. In other words, business

¹ According to the 1976 framework of the International Monetary Fund (IMF), central banks are prohibited from "manipulating the value of their national currency". However, many countries have adopted this policy in a fight against inflation, as in the Italian lira (1992), the Brazilian real (1993), the Russian Ruble (1998), and the Zimbabwean dollar (2008). More information is provided in the IMF website (<https://www.imf.org/external/about/econsurv.htm>).

partners will be concerned about the negative effects of the national currency devaluation on the export of their industries. Therefore, it is possible that they weaken their own national currency in an effort to fix the damages caused by the devaluation of the national currency of their business partner. This scenario is called Currency War or Competitive Devaluation, in Game Theory. Each party will make an effort to win in a game of national currency devaluation, so as to gain a competitive advantage in national currency in international trading.

In the case of a floating foreign exchange rate system, the national currency value is determined at the market. Therefore, in a negative shock, a national currency depreciation might occur by the market. National currency depreciation strengthens the economy of a country through an increase in the imports of other countries. However, the key point in this scenario is that most developing petroleum exporting countries do not enjoy enough potential and abilities among their domestic producers to increase exports. Also the shortage of foreign exchange, together with government restrictions will prevent the import of the raw materials. Therefore, the country might face inflation, depression, high unemployment rates, appreciation of foreign exchange rates, and even austerity.

The Russian Federation's Economy

Russia has one of the greatest economies with a high capacity. The current economic mechanics of this vast country is based on a market-oriented state economy. After the dissolution of the Soviet Union during the 90s, this country underwent an identity change in its economy. Russia's policies in the past decade included converging with global markets, finding a place among the emerging markets, and becoming a world economic power. Since 2000, the decision makers of the Russian Federation have

guided the closed and isolated economy of this country toward a universal and market-oriented economy. However, since this country owns huge and rich underground supplies, its economy is, in general, founded on oil and energy. Due to this fact, oil and its prices affect not only this country's economy, but also its policies. Therefore, the impact of the Russian economy on world energy markets has grown over time.

Following Russia's economic developments in 1990, most country's industries became privatized, except energy and military industries. Since 2011, Russia has turned into a pioneer in petroleum production. In 2014, this country produced approximately 10.85 million barrels per day, which was a contribution equal to 11.66% of total world production, the total world production being 93 million barrels per day. Also, according to the statistics reported by the International Atomic Energy Agency, this country is considered to be the second largest natural gas producer in the world, owning the hugest supplies of this source of energy. Tables 2 and 3 demonstrate a comparison between the volumes of crude oil and petroleum reserves of the Russian Federation, and those of several selected countries and of the world, between the years 2011 and 2014.

Table 2. Crude oil resources (million barrels)

Country	Year			
	2011	2012	2013	2014
The Russian Federation	60	60	80	80
Iran	137	151	155	157
Iraq	115	143	141	140
Saudi Arabia	263	267	268	268
Venezuela	211	211	298	298
The world	1476	1528	1649	1656

Reference: the International Energy Agency (2014)

Table 3. Natural gas resources (trillion cubic feet)

Country	Year			
	2011	2012	2013	2014
The Russian Federation	1680	1680	1688	1688
Iran	1046	1168	1187	1193
Iraq	112	112	112	112
Saudi Arabia	276	284	288	291
Venezuela	179	195	195	196
The world	6708	6809	6845	6973

Reference: the International Energy Agency (2014)

It must be noted that regarding the share of oil and gas exports in GDP (Gross Domestic Product), in 2013, the volume of GDP produced in Russia equaled 2113 billion US dollars, and petroleum and natural gas exports equaled 173 and 73 billion US dollars, respectively, the amounts equaling 8% of the petroleum exports, as well as 3% of the gas exports in the Russian Federation's GDP. It must be mentioned that considering the total exports of the Russian Federation to be 523 billion dollars in 2013, the shares of crude oil and petroleum product exports in total exports equaled 54%, while that of natural gas equaled 13%. Figure 1 indicates the shares of petroleum and natural gas in GDP, as well as in the Russian Federation's exports in 2013.

Oil Price Shocks and Russia's Economic Growth:
The Impacts and Policies for Overcoming Them

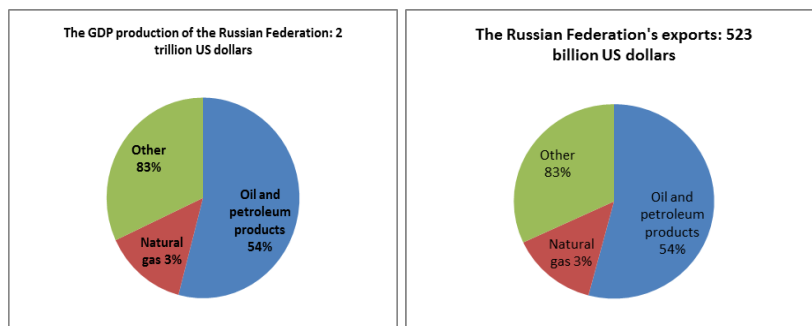


Fig. 1. Petroleum and natural gas shares in the Russian Federation's GDP as well as exports (2013)

Reference: Ministry of Finance of the Russian Federation (2014a)

In addition, this country demonstrates a strong and acceptable performance in the field of foreign trade. The exports volume of this country excelled the imports volume in 2014. According to the data, the country's exports advanced from 114 billion dollars in 2000 to 421.7 billion dollars by the end of 2014. Moreover, the imports of the country were increased from 61 billion dollars in 2000 to 259.7 billion dollars by the end of 2014 (Fig. 2).

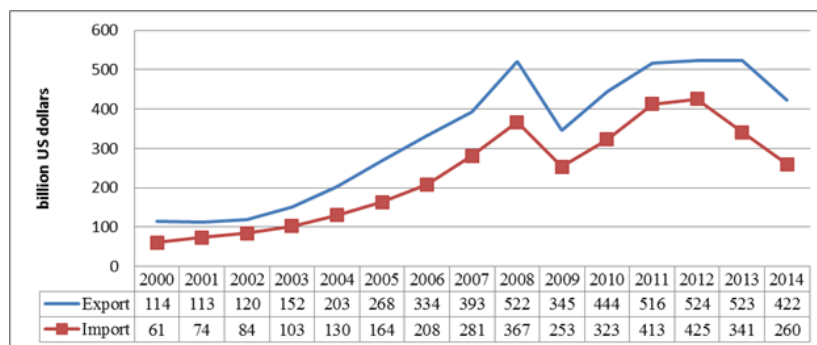


Fig. 2. The international trade of the Russian Federation (2000- 2014)

Reference: Ministry of Finance of the Russian Federation (2014a)

As complementary to the above statistics, it must be mentioned that according to the 2013 statistics of the United States' Central Intelligence Agency (the CIA), the main business

partners of the Russian Federation in the export sector included Netherlands (10.7%), Germany (8.2%), China (6.8%), Italy (5.5%), Ukraine (5%), Turkey (4.9%), Belarus (4.1%), and Japan (4%). Also, the major business partners of this country in the import sector included China (16.5%), Germany (12.5%), Ukraine (5.2%), Belarus (4.9%), Italy (4.4%), and the United States (4.3%).

Russia's economy (as well as that of the Soviet Union before 1991) has undergone various crises, such as the dissolution of the Soviet Union (1991), Russian Flu (1998), as well as the financial crisis in the US and Europe (2008). All those crises have had their impacts on the different sectors of the Russian Federation's economy. As an example, Russia's economy suffered during the 2008 financial crisis, due to the decrease of the world oil prices, and the foreign credit of the Russian banks was threatened.

Regarding direct foreign investments, Russia faced challenges related to foreign capital flight during the 2008 to 2011 crisis, according to the report by Russia's Ministry of Economy Development (Минэкономразвития России). However, based on the report by *rus-stat* (the Statistics Center of the Russian Federation), the foreign capital in the Russian Federation amounted to 170 billion dollars in 2013, which indicates a 10% growth in comparison with 2012.

Russia's oil economy has moved toward absolute nationalization since the 90s. Before the dissolution of the Soviet Union and especially during *Gorbachev's* reconstruction programs, private oil companies were active in the Soviet Union. However, those companies were gradually converged and dissolved with the formation of Russia. As an example, *Rosneft* (Роснефть [Russia's public petroleum company]) in 1993 purchased most of the shares of the private company of *Yukos* (Юкос). Also, numerous international petroleum

companies were present in the petroleum sector of the Russian Federation during the 90s; however, public petroleum companies gradually played a greater share in the activities. Gazprom, for example, forced the *Shell* and *BP* companies to sell the majority of their assets in *Sakhalin 2* (Сахалин 2) and *Kovytko* (Квитка) oil fields in 2013.

Russia believes its golden period regarding economic growth to have started at the beginning of 2000 and lasted until the financial crisis of the US and Europe. Figure 3 indicates the trend of the economic growth in the Russian Federation (the former Soviet Union before 1991), from 1972 to the end of 2014. It is noteworthy that a comparison between Russia's economy and that of the Soviet Union is wrong, since each of the fourteen republics separated from the former Soviet Union had had their own shares in the production as well as the export of crude oil and natural gas. However, in order to review the historical trend, we will only compare the economic growth of the governments in an attempt to understand the differences.

During *Leonid Brezhnev's* (Леонид Ильич Брежнев) tenure, which was from 1972 to 1982, as indicated in the Table above, a remarkable growth was witnessed in 1973, due to the emergence of petroleum as the key source of income for Russia's government, as well as an increase in the country's petroleum exports. From 1972 to 1985 (the presidency of *Yuri Andropov* [Юрий Владимирович Андропов] and *Konstantin Chernenko* [Константин Устинович Черненко]), Soviet experienced a positive but decreasing economic growth. During the presidency of *Mikhail Gorbachev* (1985- 1991), economic programs of reconstruction and transparency were started; however, the programs failed, causing the dissolution of the former Soviet Union. The collapsed Soviet Union faced a negative economic growth during the year-long presidency of *Gennady Yanayev* (Геннадий Иванович Янаев), as well. (The economic growth

of the Soviet Union decreased from 1.4% in 1989 to -3% in 1990. Petroleum production was reduced to five million barrels per day from 5.4 million barrels, and inflation rose from 2.8% to 6.8%.) *Gennady Yanayev* was one of the opponents of Gorbachev's reconstruction and transparency programs and suggested that the three-year-old economic program be altered; however, he could not prevent the dissolution of the Soviet Union. With the coming to power of *Boris Yeltsin* (1991-1999) (Борис Николаевич Ельцин) and with the reconstruction of the new Russia, as well as the beginning of the Ruble Crisis in 1998, Russia took form. The economic growth during that period was negative but increasing.

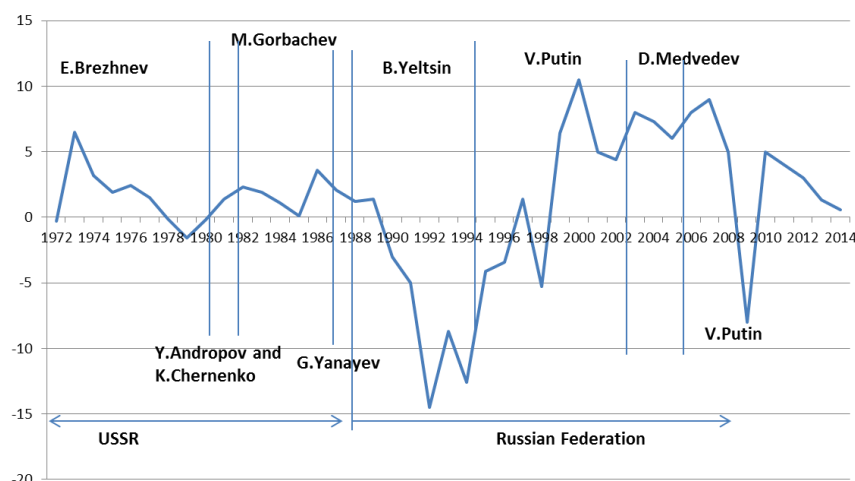


Fig. 3. The trend of the economic growth of the Russian Federation (the former Soviet Union) since 1972 up to 2014

Economic growth data reference: World Bank

Categorization reference: the authors

The golden period of Russia's economic growth began with the coming of *Vladimir Putin* (1999-2008) and thus continued. As *Dmitry Medvedev* (2008-2012) came to power at the beginning of the financial crisis of the US and Europe, Russia's economic growth remarkably decreased due to the crisis pressure. With the return to power of *Vladimir Putin* in 2012,

Russia joined the World Trade Organization after eighteen years of waiting, and its economy entered a new phase of prosperity, attracting foreign investments. However, the tension among Russia, Ukraine and the Western countries, the diplomatic, economic and technological sanctions in the petroleum and gas sectors, as well as the 2014 oil shock, have caused Russia currency fluctuations, inflation, as well as a decrease in the economic growth during the past years.

The Russian Federation's Economy and the World Oil Shocks

This section attempts to examine the economy of Russia (and of the Soviet Union before 1991) during the historical oil price shocks.

Since the initial extraction of crude oil during the 60s, oil production, supply and prices were managed and supervised by great cartels such as the *Standard Oil Trust*, and then the *Seven Sisters*¹. Along with oil nationalization, cooperation was gradually formed in the developing countries, which lead to the foundation of the OPEC. However, the OPEC's authority was not universal before the 70s. During the 70s, the OPEC countries decided to reduce the supply of oil and to raise its world prices. The first world oil price shock, therefore, occurred in 1973, as the OPEC countries refused to supply oil to the countries which supported Israel in the *Yom Kippur War*². As Perron (1988) believes, the shock was the first crisis since the Great Depression during the 1930s. The oil supply shortage (about 4.5 million barrels per day) caused an exponential increase in the oil price, although the price rise brought a good

1. Included the oil companies of Anglo-Persian, Gulf Oil, Standard Oil of California (Now Chevron), Texaco, Royal Dutch Shell, Standard Oil of New Jersey (Esso/Exxon), and Standard Oil Company of New York (Socony and trading as Mobil now [part of ExxonMobil]).

2. This war occurred between Israel, and Egypt and Syria.

opportunity for the Soviet Union (the current Russia), which owned huge petroleum resources. The shock turned petroleum into the Soviet Union's key source of income (Shibanova-Roenko & Guznova, 2012) and thus it was exported to many European countries such as Poland, Romania, Bulgaria, Hungary, etc. The new oil revenue caused a 7.7% growth in Russia.

The second oil price shock (Iran's oil crisis) occurred in 1979, as a follow-up to the Islamic revolution of Iran (a decrease in Iran's oil production from 5.8 million barrels per day in June 1978 to about 1.5 million barrels per day in January 1979). During that period, Saudi Arabia, (raising its 8.5 million barrels per day to 10.5) along with other petrostates, compensated for the more-than-a-third decrease in Iran's petroleum production. Meanwhile, the Soviet Union was at war in Afghanistan and was suffering recession, and thus could not use the opportunity to increase its share in the global oil market.

The Iraq-Kuwait war in 1990 created another oil shock across the globe. The Soviet Union's GDP during that shock equaled about 776.8 billion dollars and the country was considered to be the world's seventh economy. However, the economic programs of the Soviet Union's leaders failed at that point and the Soviet Union's society faced many difficulties. According to the research article by Heleniak and Motivans (1991), sugar and meat turned rare in all of the Soviet Union's cities at that point.

Asian tigers, along with the Russian Federation's financial crisis caused the next oil price shock in 1998. On the one hand, Thailand, the South Korea, and several other East Asia countries decided on changing the nature of their currency, imposing a severe shock on the financial markets. On the other hand, Russia devaluated its currency as an OPEC nonmember. As a result, petroleum price in 1998 sank to 12 dollars per barrel. In other words, petroleum price

fell to its lowest level since 1972. The Russian Federation's GDP growth per year turned -5.8% and the value of this country's petroleum exports dropped to 14.5 billion US dollars.

Another oil price shock took place in 2003, due to Venezuela's unrest, as well as the Second Persian Gulf War (the US- Iraq war). The crisis in Iraq, which was one of the OPEC's petrostates, created disorder in the supply of petroleum across the globe. Also, the internal turmoil in Venezuela during 2002 and 2003 imbalanced petroleum and gasoline production in this country. As a result, petroleum prices took a sudden rise from about 25 dollars in 2002 to 38.3 dollars by the end of 2003. The oil price increase during this period brought about a remarkable increase in the government revenues for Russia, and the huge budget was used for the reconstruction as well as the modernization of this country's economy (Bochkarev, 2006). According to the statistics by the Energy Information Administration, Russia increased its petroleum production during that shock from 7.6 million barrels per day in 2002 to 8.5 million barrels per day in 2003, and 9.2 million barrels per day in 2004. Also, the volume of petroleum exports from the Russian Federation rose from 291 billion dollars in 2002 to 396 and 590 billion dollars in 2003 and 2004, respectively.

Another oil shock took place during the years 2007 to 2009, following the downturn in the world oil production and the conflict in oil demand. During that period, the world oil prices rose from 50 dollars per barrel at the beginning of 2007, to 140 dollars per barrel in summer 2008, and then decreased to about 70 dollars in 2009. At that point, Russia suffered major recession through the danger of going into war with Georgia, as well as due to the decrease in the heavy *Urals* crude oil prices. According to the statistics from Russia's central bank, the volume of crude oil exports reached from 121 billion dollars per

day in 2007, to 161 billion dollars in 2008 and to 100 billion dollars in 2009.

During the first half of 2011, another shock occurred in the world oil prices due to various reasons, such as earthquakes, tsunamis, the nuclear power plant explosion in Japan, the Arab Spring, Libya's civil war, as well as the terror of *Bin Laden*. Thus, the world oil prices reached from approximately 80 dollars per barrel to 120 dollars. The shock created a suitable opportunity for Russia to increase its income. According to the customs' data of the Russian Federation, the revenue from petroleum exports of the country increased from 135 billion dollars in 2010 to about 181.8 billion dollars in 2011. Moreover, the oil export revenue share equaled 53.1% of Russia's total exports in 2011.

The last oil price shock took place in 2014, when the world oil price experienced a 40% decrease since June in that year and fell under 70 dollars from about 115 dollars. The most significant reasons behind the negative price shock included a decrease in crude oil demand, an increase in the production abilities of Libya and Iraq (a four million barrel increase per day in the two countries), which lead to the reinforcement of the crude oil supply sector, failure to reduce the supply by the OPEC members (Saudi Arabia's policies to put countries such as Iran, Russia, and the US under pressure), as well as the fact that the United States became world's first petroleum producer, which reduced its dependence on the imports of this source of energy. In the same year, although being one of the greatest petroleum producers and exporters, Russia suffered from sanctions from the West as well as severe budget deficit due to the decrease in petroleum revenues. According to Anton Siluanov, the Russian Federation's Minister of Finance, this country lost 40 million dollars in 2014 through the sanctions, and about 90-100 billion dollars through the decrease in

petroleum prices. The above-mentioned issues caused capital flight from the Russian Federation, the devaluation of Ruble (due to the monetary policies of Russia's central bank as well as due to a shortage of foreign exchange in the financial market), inflation increase, and a decrease in the economic growth. Moreover, according to the statistics by the International Atomic Energy Agency, Russia's petroleum production increased from 10.5 million barrels per day in 2012 to 10.8 million barrels per day in 2014. However, according to the Russian central bank statistics, Russia's petroleum exports decreased from 180 billion dollars in 2012 to 153 billion dollars in 2014.

Figure 4 briefly demonstrates some of the economic variables of the Russian Federation (the Soviet Union before 1991) between the years 1972 and 2014. The dotted lines in the Figure indicate the oil price shocks. The Figure detects nine oil price shocks across history, which have seriously affected the global market of this source of energy.

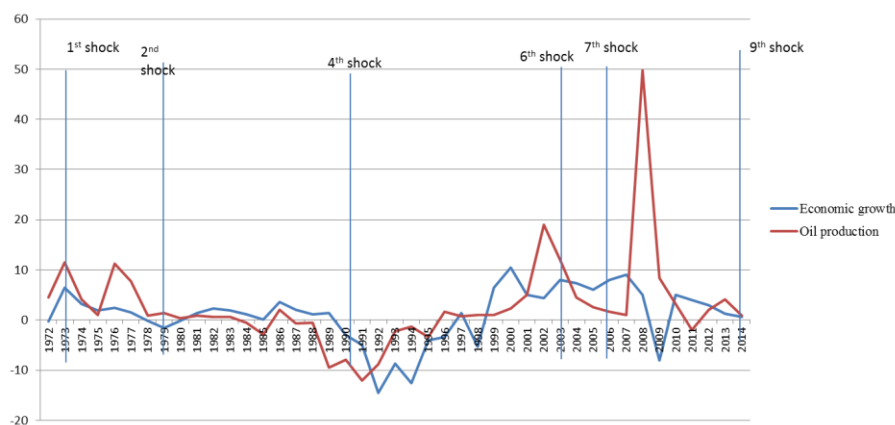


Fig. 4. The changes (%) in the economic growth and the crude oil production of the Russian Federation during the oil price shocks (1972- 2014)

References: World Bank, Worldwide Inflation Data, the budget system of the Russian Federation, the International Monetary Bank

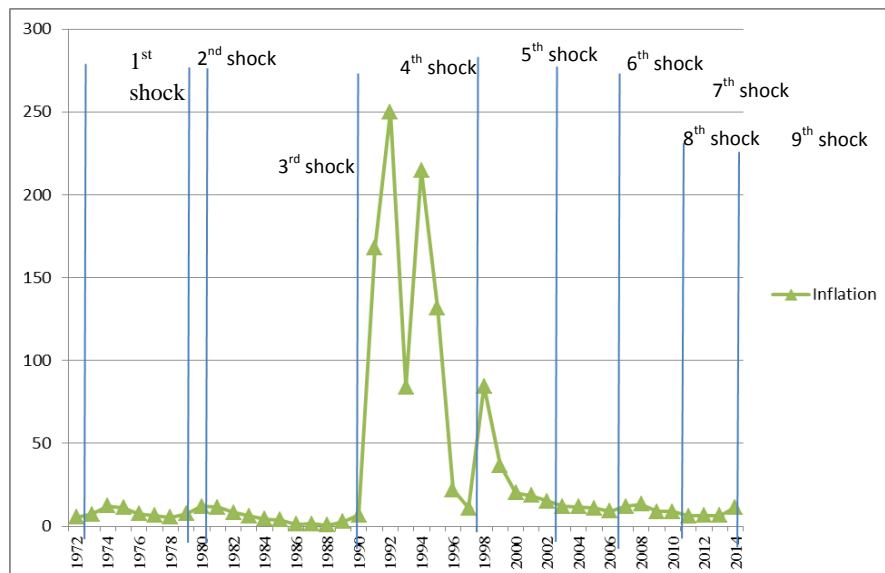


Fig. 5. The changes (%) in the inflation of the Russian Federation during the oil price shocks (1973- 2014)

References: World Bank, Worldwide Inflation Data, the budget system of the Russian Federation, the International Monetary Bank

The Soviet Union experienced a positive economic growth during the first oil shock, when petroleum became the Soviet Union's major source of income. The economic growth was also positive for the Russian Federation during the 21st century. Moreover, Figure 5 indicates the changes in Russia's inflation (the Soviet Union before 1991) during that period. As seen in Figure 5, Russia's inflation has not undergone any drastic changes during the oil price shocks, except in 1998 (during Russia's financial crisis).

Russia's Policies in Reaction to the Negative Impacts of Oil Price Shocks: the Stabilization Fund

During the oil price shock history, Russia has always been pursuing Resource Nationalism (Ресурсный национализм) and politicization (политизация) of the energy sector (since the dissolution of the Soviet Union), developing the exports market,

optimal effectiveness on world prices, as well as protecting the economy against oil price shocks. The development of the oil export market meant reducing the share of oil competitors, along with an increase in the dependence of other governments on this country. It is possible to have such a development with a production volume of more than 10 million barrels of crude oil per day; however, it will require the presence of international oil companies to aid the Russian oil companies in the exploration, extraction, marketing and transportation sections. Therefore, the presence of international companies such as *StatoilHydro* (now *Statoil*), *Shell* and *ExxonMobil* has further empowered Russia in the production and development of its market across the globe; although the development brings with itself further vulnerability to price shocks. With the rise of *Vladimir Putin* as Russia's political and economic decision maker, special attention was given to the policy of reducing and eliminating the effects of world oil price shocks and fluctuations, as well as optimal use of excessive revenues coming from positive oil shocks. Since the government of the Russian Federation earns its major revenue through the oil sector, the world prices of this natural resource are very critical to Russia, and this country's high vigilance against any type of price shocks, be it positive or negative, would further stabilize the economy and guarantee its continuous growth. It must be mentioned for further elaboration, that the oil revenues of the government of the Russian Federation are funded through four sectors related to oil activities, as follows:

1. Taxes and royalties on the extraction of hydrocarbon minerals (crude oil, liquid natural gas, etc.)
2. Export taxes on crude oil
3. Taxes on natural gas
4. Taxes on petroleum products

As mentioned in the previous section, Russia earned an

excessive income through the positive shock in the world oil prices during the sixth oil shock in 2003. Therefore, in the beginning of 2004 and based on the Law No. 184 of the Russian Federation, Vladimir Putin ordered for a stabilization fund (стабилизационный фонд) to be created from the sudden increases in the world oil prices, as a cover for the total impacts of oil price shocks and to secure the country's income.

According to the Law related to Russia's Ministry of Finance (Министёрство финансов Росси́йской Федера́ции [Минфин России]), the fund is collected in three foreign exchanges with a ratio of 45- 45- 10 (dollars, euros, and pounds). It is noteworthy, of course, that the fund is also obtained through selling gas; however, the primary goal of creating such a fund was for the optimal use of the income from positive oil shocks.

In 2008, in an effort to optimize the stabilization fund, Russia decided to divide the fund into two separate parts :the Reserve Fund (RF) (Резервный фонд) and the Russian National Wealth Fund (RNWF) (Фонд национа́льного благосостоя́ния Росси́и [ФНБ]), each fund having a separate account at the central bank of the Russian Federation. The Reserve Fund maintains a short-term perspective and is more in the service of the government's immediate expenses (according to the Law 245- ф ratified on September 30, 2010, the government's revenues from the four oil and gas sectors mentioned above, equalling 10% of the GDP, is deposited into this Fund on a yearly basis. In addition, managing the funds is another source of income for the Fund¹). On the other hand, though, the National Wealth Fund maintains a long-term perspective and is used for national programs, such as the pension fund, national investments, giving loans to banks, etc. (Chevrier, 2009). Figures 6 and 7 represent the volume of the two funds from 2008 to 2015.

1. According to the Law, the income from the Reserve Fund management is sent to the federal budget from the beginning of January 2010 to that of February 2016, for financial support.

Oil Price Shocks and Russia's Economic Growth:
The Impacts and Policies for Overcoming Them

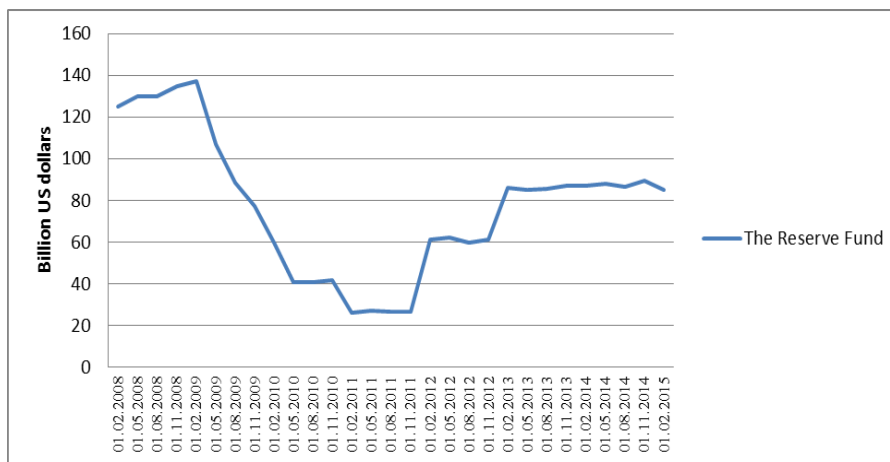


Fig. 6. The income of the Reserve Fund of the Russian Federation (billion US dollars) (February 1st, 2008 to February 1st, 2015)

Reference: Ministry of Finance of the Russian Federation (2014b)

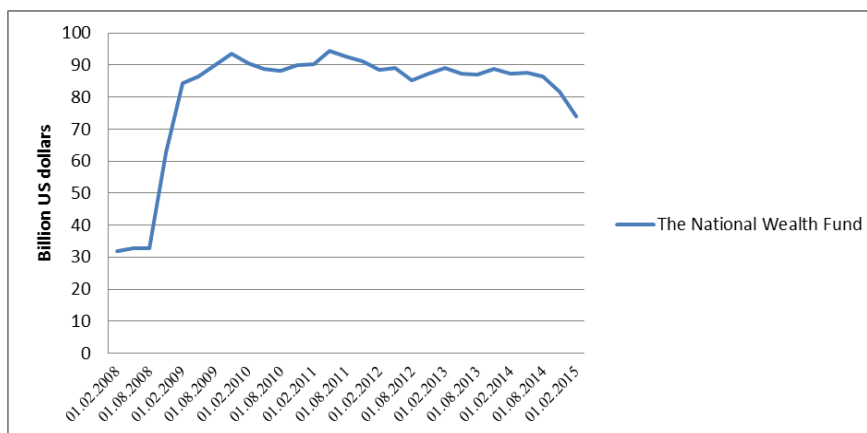


Fig. 7. The income of the National Wealth Fund of the Russian Federation (billion US dollars) (February 1st, 2008 to February 1st, 2015)

Reference: Ministry of Finance of the Russian Federation (2014a)

As the above figures indicate, considering the income of the National Wealth Fund as well as the decrease in the income of

the Reserve Fund, Russia's policies, in recent years, have been tending toward long-term investments. Also, Russia has made investments through the two Funds in the Commonwealth as well as in other countries, which is itself a solution for the increasing income coming from positive oil price shocks. Furthermore, during the past year, part of the funds of the National Wealth Fund was used to compensate for the expenses caused by the sanctions against Russian petroleum companies, such as Rosneft (Роснефть), Gazprom (Газпром), and Lukoil (Лукойл). It must be added that the investments in the petroleum and gas sector are also provided for through the same Fund. As an example, according to TASS news agency (Тасс), the investment in Yamal pipeline (газопровод "Ямал") in 2014, which amounted to over 100 billion Rubles (3.8 billion US dollars), was funded in the same manner.

Conclusions

Considering the importance of the severe fluctuations of oil prices to petroleum producing and exporting countries, the current research attempted to present a historical analysis of the impacts of oil price shocks on the variable of Russia's economic growth. According to this study, since the first oil price shock in 1973 until the last one in 2014, Russia (the Soviet Union up to 1991) has made the most benefits in 1973, as well as during the sixth shock in 2003, considering Russia's political circumstances and its potential. Contrary to Iran, Russia has never been the main cause of the occurrence of oil price shocks; however, it has not been able to make the most of the positive and negative oil price shocks, due to reasons such as the war with Afghanistan toward the end of the 70s, the dissolution of the Soviet Union in 1991, the financial crisis in 1998, the war with Georgia in 2008, the financial crisis of the United States, Europe's financial debt in 2007- 2009, as well as the tension with Ukraine. Furthermore, the study of the two variables of

economic growth and inflation in Russia (the Soviet Union before 1991) indicated that this country has not experienced a significant change in its inflation during the oil price shocks, except in 1998 (during Russia's financial crisis). Moreover, Russia's economic growth has been positive during the oil price shocks, except when in crisis such as in 1991 or 1998. It must be acknowledged that Russia managed to join the emerging markets with the average growth of 7%, through its sudden earnings from the oil revenues since the beginning of 2000, through adopting the appropriate policy of creating a stabilization fund for the sake of controlling and managing crude oil export revenues, and through adopting the policy of investing in other countries, specifically the Commonwealth, through the unexpected crude oil revenues, and thus preventing the direct injection of a great amount of foreign currency revenues to the body of the Russian economy. However, the volume of foreign exchange reserves in both the Reserve and the National Wealth Funds is tending to decrease, due to the conjunction of undesirable factors, such as the financial crisis in the United States and Europe, the sanctions imposed by the West, and the severe decrease in the oil prices. Although the two Funds were initially created for short-term and long-term developments and investments in Russia, as well as for eradicating the problems caused by severe fluctuations of crude oil prices, they are now compensating for the damages caused by the sanctions, stabilizing Ruble value in the market, and helping banks and companies pay their foreign debts.

References

- Abubakar, H.I. (2004). Financial management in local government control and accountability. *Ministry of State and Government Affairs*, Abuja, Nigeria: Ministry of State and Government Affairs.
- Auty, R. (2004). *Political man: the social basis of politics*. Maryland: John Hopkins University Press.

- Berument, M.H., Ceylan, N.B. and Doqan, N. (2010). The impact of oil price shocks on the economic growth of selected MENA1 Countries. *The Quarterly Journal of the IAEE's Energy Economics Education Foundation*, 31(1): 149-175.
- Bochkarev, D. (2006). Russian energy policy during President Putin's Tenure: Trends and strategies. GMB Publishing Ltd. London: United Kingdom.
- Brown, Stephen, P.S. (2006). Making sense of high oil prices: a conversation with Stephen P.A. Brown. FRB Dallas. *Southern Economy*, 4, July/August: 8-9.
- Bruno, M. and Sachs, J. (1982). Energy and resource allocation: a dynamic model of the "Dutch Disease". *The Review of Economic Studies*, 49(5): 845-859.
- The budget system of the Russian Federation, www.budgetrf.ru, Retrieved at 09.08.2014.
- Central Intelligence Agency, www.cia.gov/library/publications/the-world-factbook/fields/2050.html#rs , Retrieved at 09.08.2014
- Chevrier, C. (2009). Sovereign wealth funds in Russia. *Revue d'économie financière (Journal of Financial Economics)*, 9: 73-81
- Corden, W.M. (2012). Dutch disease in Australia: Policy options for a three-speed economy. *Australian Economic Review*, 45 (3): 290-304.
- Corden, W.M. (1984). Booming sector and Dutch disease economics: survey and consolidation. *Oxford Economic Papers*, 36 (3): 359-380.
- Corden, W.M. and Neary, J.P. (1982). Booming sector and de-industrialization in a small open economy. *The Economic Journal*, 92 (368): 825-848.
- Du, L., Yanan, H. and Wei, C. (2010). The relationship between oil price shocks and China's macro economy: an empirical analysis. *Energy Policy*, 38(8): 4142-4151.
- Eqbāli, A., Halāfi, H., and Gaskari, R. (1383 [2004 A.D]). Sāderāt-e naft va rošd-e eqtesādi. *Tahqiqāt-e eqtesādi (vižeh-nāmeḥ)*, Special Issue: 109-129. [in Persian]
- Fernald, J. and Trehan, B. (2005). *Why hasn't the jump in oil prices led to a recession?*. FRBSF Economic Letter 2005-31, Retrieved on 18 Nov. 2015 from: <http://www.frbsf.org/economicresearch/publications/economicletter/2005/november/why-the-jump-in-oil-prices-has-not-led-to-a-recession/>

- Gelb, A. (1988). *Oil windfalls: blessing or curse?* World Bank: Oxford University Press.
- Gounder, R. and Bartleet, M. (2007). Oil price shocks and economic growth: evidence for New Zealand. *New Zealand Association of Economists Annual Conference*, Christchurch, 27th to 29 June.
- Heleniak, T. and Motivans, A. (1991). A note of glasnost and the Soviet Statistical System. *Soviet Studies*, 43(3): 473-490.
- International Energy Agency (2014). *Russia 2014: Energy policies beyond IEA Countries*. Retrieved on 5 Feb. 2016 from: https://www.iea.org/publications/freepublications/publication/Russia_2014.pdf.
- International Monetary Fund, www.imf.org , Retrieved at 09.08.2014
- Ito, K. (2012). The impact of oil price volatility on the macroeconomy in Russia. *The Annals of Regional Science*, 48(3): 695-702.
- Jacob Imo, O. (2012). Dutch disease and Nigeria oil economy. *African Research Review*, 6(1): 82-90.
- Jahādi, M. and 'Elmi, Z. (1390 [2011 A.D]). Tekāneh-hā-ye qeymat-e naft va rošd-e eqtesādi. *Pažuheš-hā-ye rošd va tuse'eh-ye eqtesādi*, 1(2):11-38. [in Persian]
- Jawad, M. (2013). Oil price volatility and its impact on economic growth in Pakistan. *Journal of Finance and Economics*, 1(4): 62-68.
- Klare, M. (2012). *The race for what's left: the global scramble for the world's last resources*. New York: Metropolitan Books, Henry Holt and Company, LLC.
- Krugman, P. (2008). *Fuels on the Hill*. New York Times, 27 June 2008, Retrieved on 9 June 2015 from: <http://www.nytimes.com/2008/06/27/opinion/27krugman.html>.
- Lama, R. and Madina, J.P. (2010) *Is exchange rate stabilization an appropriate cure for the Dutch disease?*, IMF working paper, WP/10/182. Retrieved on 12 Aug. 2013 from: <https://www.imf.org/external/pubs/ft/wp/2010/wp10182.pdf>.
- Lartey, E.K.K. (2008). Capital In. ows, Dutch disease effects and monetary policy in a small open economy. *Review of International Economics*, 16(5): 671-689.
- Ministry of Economic Development of Russia, www.economy.gov.ru, Retrieved at 01.10.2014

- Ministry of Finance of the Russian Federation, www.minfin.ru/ru/nationalwealthfund/statistics/volume/index.php?id_4=6412 Retrieved at 23.09.2014
- Ministry of Finance of the Russian Federation, www.minfin.ru/ru/reservefund/statistics/volume/index.php?id_4=5796 , Retrieved at 23.09.2014.
- Ministry of Finance of the Russian Federation, http://info.minfin.ru/export_import.php, Retrieved at 23.09.2014
- Morādi, M. (1389 [2010 A.D]). Ta'sir-e naft bar namāgar-hā-ye eqtesād-e kalān-e Irān bā ta'kid bar mekānizm-hā-ye enteḡāl va āsār. *Pažuheš-hā-ye eqtesādi*, 10(2):115-140. [in Persian]
- Neary, J.P. and van Wijnbergen, S. (1984). Can an oil discovery lead to a recession? A comment on eastwood and venables. *The Economic Journal*, 94(374): 390-395.
- Peersman, G. and Robays, I.V. (2012). Cross country differences in the effects of oil shocks. *Journal of Energy Economics*, 34: 1532-1547.
- Perron, P. (1988). The great crash, the oil price shock and the unit root hypothesis. econometric research. USA: Princeton University Press.
- Rasoulinezhad, E. (2014). How can global oil price shocks influence economic growth of oil exporting countries- case of Russia? *7th Conference of Iranian Students in Russian Federation 12 April 2014*, Gubkin Russian State University of Oil and Gas, Moscow, Russia.
- Rasoulinezhad, E. (2016). Investigation of sanctions and oil price effects on the Iran-Russia trade by using the gravity model. *Vestnik St Petersburg University*, 5(2): 68-84.
- Roubini, N. and Setser, B. (2004). *The Effects of the Recent Oil Price Shock on the U.S. and Global Economy*. Discussion Paper, NY University and University College, Mimeo, USA.
- Russian News Agency Vedomosti, www.vedomosti.ru/finance/news/23426311/rosstat-pryamyje-inostrannye-investicii-v-rossiyu-v-2013-g, Retrieved at 09.08.2014.
- Russian News Agency TASS, <http://en.itar-tass.com/economy/750480>, Retrieved at 23.09.2014.
- Schneidar, M. (2009). The impact of oil price changes on growth and inflation. *Journal of Monetary Policy and the Economy*, 2(4): 27-37.
- Sill, K. (2007). The macroeconomics of oil shocks. *FRB Philadelphia Business Review*, 2007:Q1: 21-31

- Shibanova-Roenko, E.A. and Guznova, A. (2012). The effect of energy crisis of 1973 on Russian economy. *The 4th International Scientific Conference*, 15 February, Russia.
- Sosunov, K. and Zamulin O. (2007). Monetary policy, in an economy sick with Dutch disease. *Working Papers w0101*. Center for Economic and Financial Research (CEFIR).
- Spatafora, N. and Warner, A. (1995). Macroeconomic effects of terms-of-trade shocks: the case of oil-exporting countries. *Policy Research Working Paper Series*, 1410, The World Bank.
- Statistics of Economic Growth of Russia, <http://databank.worldbank.org/data/views/reports/tableview.aspx>, Retrieved at 05.07.2014.
- Taghizadeh Hesary, T., Yoshino, N. and Rasoulinezhad, E. (2017). Impact of Fukushima nuclear disaster on the oil-consuming sectors of Japan. *Journal of Comparative Asian Development*, 16(1):1-22.
- Taghizadeh Hesary, T., Rasoulinezhad, E. and Kobayashi, Y. (2015). *Oil price fluctuations and oil consuming sectors: An empirical analysis of Japan*. Asian Development Bank Institute ADBI Working Paper Series, N.539, Retrieved on 25 May 2015 from: <https://www.adb.org/sites/default/files/publication/166896/adbi-wp539.pdf>.
- Tertzakian, P. (2010). *The end of energy obesity*. USA: Wiley Publications.
- Torvik, R. (2001). Learning by doing and the Dutch disease. *European Economic Review*, 45 (2): 285-306.
- World bank, www.databank.worldbank.org, Retrieved at 09.08.2014.
- Worldwide Inflation Data, www.inflation.eu, Retrieved at 09.08.2014
- Zuhair, U. (2010). *The impact of oil shocks on the G-7 Countries GDP growth*. MPRA (Munich Personal RePEc Archive): 1-7. Retrieved on 25 April 2015 from: https://mpra.ub.uni-muenchen.de/26846/1/MPRA_paper_26846.pdf.