
The Impact Of Oil Price Fluctuations On The Internal Balance Indicators In Algeria: An Analytical Study Of The Period 2000-2023

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Received: 02/2025, Published: 04/2025

Abstract.

The prices of hydrocarbons in the world markets have known continuous fluctuations during the period 2000-2023 for reasons related to supply and demand factors in addition to other factors, which led to a direct impact on the indicators of internal balance in Algeria. The fuel sector represents about 28.8% on average of the gross domestic product during the period 2000-2023, which makes it one of the most important determinants of economic growth in Algeria, and oil tax revenues represent about 60% of the total public revenues of the state, which makes the performance of the state budget vulnerable to constant fluctuations in fuel prices, and the study period witnessed a significant decrease in inflation rates from about 28.5% to 11.8% in 2023, in addition to the increase in inflation rates from about 0.3% a year 2000 to about 9.3% in 2023.

Keywords: Oil prices, GDP, state budget, inflation, unemployment.

1. Introduction:

Since the second half of the twentieth century and the beginning of the wave of liberalization in the world, there has been an international division of labor based on the specialization of industrially developed countries in the production of manufactured products versus the specialization of developing countries in primary economic activities based on the production of industrial and agricultural raw materials and raw materials.

Many developing countries have made tremendous development efforts to bring about structural transformations in their economies that enable them to make structural changes that contribute to expanding their production base and diversifying their economy, thereby reducing their dependence abroad.

Since independence, it has been clear for Algeria that its economy has relied heavily on primary production activity as a colonial legacy, whether in the field of agriculture or industry, which produces products intended for direct consumption or to secure the raw materials needed for the manufacturing industry in Europe.

Therefore, under the socialist system based on central planning, Algeria has made great efforts, like other developing countries, to promote its economy and reduce its dependence abroad through large development plans launched at the end of the Sixties and continued until the end of the eighties, the main goal was to build a large production base in industry, agriculture and the service sector.

The excessive focus within the framework of the model of manufacturing industries adopted by the development experience in Algeria on the petrochemical industry sector in light

of the growing demand for its products in World Markets has led to the occupation of this sector a very important place in the economic activity in Algeria.

With the beginning of the Eighties of the last century, the fuel sector became the mainstay on which the Algerian economy is based, especially in light of the large deficit experienced by the manufacturing sector, the agricultural sector and even the services sector, so the developments in the international oil markets have direct effects on the Algerian economy

as soon as the prices of fuel fell in the mid-eighties, the Algerian economy entered into a suffocating economic crisis that prompted Algeria to adopt strict economic reforms during the period 1989-1998, it turned into a market economy.

1.1 Study Problem:

The problem of the research centered on the following question:

What is the impact of fluctuations in fuel prices on the indicators of internal balance in Algeria ?

1.2 Hypothesis of the Study: Fluctuations in fuel prices on the world market affect the indicators of internal economic balance in Algeria.

1.3 The purpose of the Study: This paper aims to determine the impact of fuel prices on the GDP, the state budget, unemployment and inflation in Algeria.

1.4 Study methodology: To achieve the objectives of this research, a descriptive and analytical approach was used in order to identify the importance of the hydrocarbon sector in the GDP and the contribution of petroleum taxes to the general revenues of the state during the study period.

1.5 Temporal and spatial boundaries: The study is specific to Algeria during the time period (2000-2023).

1.6 Method of data collection: the study data were obtained from the database of the organization of petroleum producing and exporting Countries (OPEC) and the annual report of the Central Bank of Algeria.

1.7 Content of the study: This paper was divided into two main axes, where the first axis dealt with the development of oil prices in the world markets, and the second axis dealt with the impact of oil price fluctuations on both the GDP and the general budget of the state during the study period.

2. The development of oil prices in world markets (2000-2023)

Table No. (1): the evolution of oil prices in the OPEC basket of raw materials (Unit: USD / barrel)

Year	prices	Year	prices
2000	27.6	2012	109.5
2001	23.1	2013	105.9
2002	24.1	2014	96.2
2003	24.1	2015	55.1
2004	36	2016	40.7
2005	50.6	2017	52.5

2006	61.1	2018	69,8
2007	69.1	2019	64
2008	94.1	2020	41,4
2009	61	2021	69,7
2010	77.4	2022	99,9
2011	107.4	2023	83

Source: Organization of Arab Petroleum Exporting Countries-OPEC-annual statistical report.Different settings.

The oil prices in the world market have known a significant decline since the mid-Eighties of the last century until the beginning of the new millennium, and the data of Table No. 1 indicate that oil prices in the world markets have known continuous fluctuations during the period between the years 2000-2023, they fell from about 27.6 dollars per barrel in 2000 to about 24.1 dollars per barrel in 2003, this decline is due to the geopolitical fluctuations known by science as the September 11 attacks on the World Trade Building in addition to factors related to the decline in demand as a result of for low rates of World Economic Growth (Mourad alla, 2003, p.208).

Since 2004, the prices of hydrocarbons have risen significantly, moving from about 36 dollars per barrel to about 94.1 dollars per barrel in 2008, mainly due to factors related to the supply and demand for oil on the world market, in addition to the Iranian nuclear file and the looming closure of the Strait of Hormuz, which is considered a sea port for the vast majority of Gulf oil exports.

As for the year 2009, oil prices experienced a significant decline to stabilize at around 61 dollars per barrel, mainly due to the decline in global economic growth as a result of the global financial crisis, as well as a decrease in speculative activity in the oil market with a marked improvement in the supply side by the group of oil producing and exporting Countries OPEC.

As for the period from 2010-2013, oil prices experienced a noticeable increase, and this can be attributed to the noticeable increase in the demand side.

Starting from the last three of 2014, oil prices have tended to decline to reach about 41.4 dollars per barrel in 2020, due to a combination of factors, the most important of which is the increase in US shale oil production in parallel with the decline in US economic growth rates, with producers within the United States allowed for decades to export oil abroad, in addition to increased supply by OPEC countries, intense competition among their countries and their inability to reach an agreement to reduce production, in addition to reaching a western Iranian agreement to settle the nuclear file (Sofiane Amrani, 2016, p. 216), the slowdown in global economic growth also contributed to The covid-19 crisis led to a decrease in global demand for oil and accelerated the pace of falling prices, and the corona pandemic caused huge economic disruptions that disrupted trade, supply and global value chains (Taleb Delila, 2022, P.371).

Oil prices have tended to rise starting in 2021 and reached its highest level in 2022 by about 99.9 dollars per barrel, after which they recorded a slight decrease to settle within 83 dollars per barrel in 2023.this improvement in the oil market is mainly due to the beginnings of the recovery of the global economy and the positive results achieved in the face of covid-19, in addition, oil producers at the global level reached an agreement within the framework of the so-called OPEC plus group in order to determine market shares and control the supply side.

2.1 The impact of oil price fluctuations on economic activity in oil-exporting countries and the Dutch disease

Many researchers have touched upon the transmission channels of the impact of fluctuations in oil prices on economic activity in oil-producing and exporting countries, and Hotling has tried in his model to take into account the maximization of the benefit of depleted resources, taking

into account the rights of future generations while taking into account the environmental aspect.

Most oil-exporting countries suffer from symptoms of Dutch disease, which was first mentioned in the Economist magazine in 1977 to describe the impact of the discovery of oil in 1959 on the Dutch economy, and this term has since been used to express sectoral mutations that have negative effects on the overall balance of other sectors of the economy (Mayeh Shabib Al-Shammari, 2010, P.12).

The Dutch disease affects the economy through two main channels, the first is the movement of resources resulting from the rise in oil prices, which enhances the profitability of the oil sector, the latter increases the demand for labor and rising wages, which pushes workers in industry, agriculture and services to prefer moving to the petroleum sector and this consequently contributes to the decline in manufacturing (Haroun Rashid bukharbash, 2024, P. 102), but the effect of spending occurs when the rise in oil prices in world markets leads to an increase in demand for the service sector in addition to an increase in demand for imports, which this leads to a decrease in the outputs of the industrial and agricultural sectors, as well as higher prices in the sectors. The rise in prices in the services sector also contributes to the further transfer of labor from the industrial and agricultural sectors to the services sector at the expense of the industrial and agricultural sectors to the services sector, which causes a decline in manufacturing and economic growth.

3. The impact of oil price fluctuations on internal balance indicators

3.1 Gross domestic product:

GDP expresses all the goods, finished products and services that are produced within the national economy during a period of one year by the various sectors that make up the output, such as services, public administration services, agriculture, industry and the extractive industry.

The services sector tops the list of economic activities that make up the GDP in Algeria, the latter represents about 43.4% of the total output on average during the period (2000-2023), where public administration services alone account for about 16.7% of the total output on average during the same period, while other services account for about 26.6%.

The fuel sector occupies the second place, its relative importance was in the range of 28.8% of GDP during the period (2000-2023), and the data of the table indicate the trend of relative importance of the fuel sector to decline, as it moved from about 27% in 2014 to about 16% in 2023 in light of the continuous decline in fuel prices in the world market, which contributes to weakening the economic growth capabilities in Algeria.

The agriculture sector occupies the third place, with an average percentage of its contribution to the total output of about 9.7% during the period (2000-2023), and despite its increasing relative importance, as it moved from about 10.2% in 2014 to about 12.9% in 2023, its contribution to the formation of GDP remains weak given the importance of this vital sector, especially that the latter is unable to meet domestic demand for food products and ensure food security.

The industrial sector in Algeria occupies the bottom of the ranking among the sectors that make up the GDP, its relative importance does not exceed about 5.6% on average during the period (2000-2023). despite the trend of its relative importance to rise in light of the launch of Assembly projects, especially in the automotive sector, where it moved from about 4.8% in 2014 to about 7.7% in 2023, but it remains weak, similar to the agriculture sector, especially taking into account that the industrial sector figures include some primary industrial activities (extractive).

The data of Table No. (2) clearly show the weakness of the production base in Algeria, as commodity production sectors such as agriculture and industry combined represent on average only about 13.1% of GDP during the period (2000-2023).

Table No. (2): sectoral distribution of GDP(2000-2023)

The ratio %

Year	Fuels	Agricultur e	Industry	Constructi on and works Generality	Services	Public administra tion	Taxes and duties on imports
2000	39.1	8.3	8.3	8.1	20.4	10.3	6.4
2001	33.8	9.6	7.3	8.4	22.4	11	7.1
2002	32.5	9.1	7.1	9	22.7	10.9	8.3
2003	35.5	9.6	6.5	8.4	21.5	10.5	7.6
2004	37.9	9.1	6	8.2	20.9	10.3	7.1
2005	44.3	7.6	5.5	7.4	20	8.3	6.5
2006	45	7.5	5.2	7.9	22.2	7.9	5.7
2007	43.4	7.4	5	8.7	20.4	9.1	5.6
2008	45.2	6.4	4.6	8.6	19.3	10	5.4
2009	31.4	9.2	5.2	11	24.8	11.9	6
2010	34.8	8.4	5.1	10.4	21.5	13.2	3.7
2011	35.9	8.1	4.5	9.1	20.1	16.3	5.8
2012	34.1	8.7	4.4	9.1	20.3	16.3	6.6
2013	29	9.8	4.5	4.5	23.1	15.3	7.4
2014	27	10.2	4.8	10.4	24.3	15.7	7.1
2015	18.8	11.6	5.4	11.5	27.4	17.1	7.8
2016	17.3	12.2	5.6	11.8	27.7	17.3	7.6
2017	19	12.2	5.4	11.7	27.2	16.7	7.3
2018	21.5	12.3	5.5	11.9	26.2	14.9	7.3
2019	11.9	11.2	6.4	13.6	24.2	25.8	6.5
2020	7.3	12.5	6.2	14.6	24.4	28	6.6
2021	12.9	10.6	8.1	13.6	22.1	26.2	5.7
2022	19.6	10.3	10.2	12	19.2	23.4	5
2023	16	12.9	7.7	12.9	20.4	24	5.3

Source: Central Bank of Algeria (various editions)Annual Report: economic and monetary development

The data of Table No. (2) indicate that the sectoral composition of Algeria's GDP is characterized by deformation and heterogeneity, which is evidenced by the high percentage of contribution of primary production sectors such as hydrocarbons compared to the weak contribution of other commodity production sectors such as industry and agriculture. The imbalance and deformation of the economic structure, in the sense of heterogeneity of the structural composition of GDP, the production base in Algeria is weak and unable to meet the growing domestic demand for goods and services.

This imbalance in the domestic product in Algeria is not only due to the imbalance in the relative weights of the activities that make up the domestic product, but is also evident in the

weak contribution of the private sector to GDP and thus to economic growth and development, not to mention the structural problems suffered by public sector institutions.

The development of GDP also shows insufficient growth. It doubled during the period 2000-2023, estimated at twenty-four years, only about eight times, compared to the growth recorded in many developing countries, such as China, whose GDP doubled about 32 times and South Korea, whose GDP doubled about 16 times.

In contrast, the population growth in Algeria and urban population growth recorded a significant increase, which is among the highest in the world, which indicates the unbalanced growth between basic needs in the fields of health, nutrition, education and housing (Khaled Menna, the 2016, p. 140).

3.2 The general budget of the state in Algeria:

The data of Table No. 3 indicate an increase in the value of public revenues of the state in Algeria from 1578.1 billion dinars in 2000 to about 10718.1 billion dollars in 2023, and public expenditures of the state have moved from about 1178.1 billion dinars in 2000 to about 11721.2 billion dinars in 2023, which means that both revenues and expenditures have doubled about 10 times during the period 2000-2023.

The outstanding feature of the state budget in Algeria is the high relative importance of oil revenues, which accounted for about 60% of the total state revenues during the period (2000-2023), which makes the performance of the state budget highly linked to fluctuations in fuel prices in the world markets.

The period between 2000 and 2009 witnessed a significant expansion in public spending, especially in the field of social, health and educational services, in addition to the state's orientation towards expanding the number of sectors and ministerial departments, as well as the expansion of investment spending to finance development projects within the framework of the recovery and growth support programs.

The period 2010-2014 also witnessed a significant increase in public spending with a significant expansion in management expenses at the expense of processing expenses, which accounted for about 63% of total public expenditures, and this is due to the increase in public employee wages resulting from the government's application of compensatory regulations that were included in the Basic Laws of Public Employment (Yahyaoui Abdel Hafid, Ben Ali Hassan, Kaki Abdel Karim, 2021, P.549).

Table No. (3): the general budget of the state in Algeria (2000-2023) unit: one billion Algerian dinars at current prices

Year	General revenue		General expenses	Balance
	Total revenue	Oil revenues		
2000	1578.1	1213.2	1178.1	400
2001	1505.5	1001.4	1321	184.5
2002	1603.2	1007.9	1550.6	52.6
2003	1966.6	1350	1766.2	200.4
2004	2229.7	1570.7	1891.8	337.9
2005	3082.6	2352.7	2052	1030.6
2006	3639.8	2799	2453	1186.8
2007	3687.8	2796.8	3108.5	579.3
2008	5111	4088.6	4175.7	935.3
2009	3676	2412.7	4246.3	151.2-

2010	4372.9	2905	4466.9	718.8-
2011	5790.1	3979.7	5853.6	63.5-
2012	6339.3	4184.3	7058.1	74-
2013	5940.9	3678.1	6092.1	570.3-
2014	5738.4	3388.4	6995.7	1257.3-
2015	5103.1	2373.5	7656.3	2553.2-
2016	5110.1	1781.1	7297.5	2187.4-
2017	6047.9	2177	7282.7	1234.8-
2018	6826.9	2887.1	7899.1	905.2-
2019	6601.9	2668.5	7725.3	1123.9-
2020	5440.9	1921.6	6902.7	1261.9-
2021	6586.6	2609.1	7428.7	842-
2022	9524.1	5507.7	9935.7	411.5-
2023	10718.1	5577	11721.2	1003.5-

Source: Central Bank of Algeria (various editions)Annual Report: economic and monetary development

The decline in fuel prices in the last three quarters of 2014 from 96.2 dollars to 41.4 dollars per barrel in 2020 led to the entry of the general state budget in Algeria into a state of austerity, during which the government tried to put as much pressure as possible on public expenditures and mining expenses in particular.

The value of the deficit in the general budget of the state reached about 2553.2 billion dinars in 2015, which is 15.9% of GDP, but the budget deficit tended to decrease in subsequent years to settle within 100.3 billion Algerian dinars.

The improvement of fuel prices in 2022-2023 led to a significant increase in the value of public expenditures in parallel with the government's implementation of a social policy that led to the expansion of unemployment benefits, which contributed to an increase in public expenditures by about 33.7% in 2022 and 17.9% in 2023, respectively.

3.3 Inflation and unemployment:

The data of Table No. 4 indicate that the inflation rates in Algeria have witnessed continuous fluctuation and were characterized by instability and regularity throughout the period 2000-2023. after being within 0.3% in 2000, they increased to about 5.7% in 2009, mainly due to the increase in the level of the monetary bloc, which coincided with the government's implementation of economic recovery programs, for which the government allocated 525 billion Algerian dinars and the program to support economic growth with financial allocations of 4200 billion Algerian dinars in the framework of financial incomes associated with the rise in fuel prices in the world markets (snousawi Fatima , boushama Moustafa, 2022, P. 194).

Inflation rates reached their highest level during the second decade of the twentieth century in 2012 at a rate of 8.9% in 2012, but they tended to decline continuously throughout the period 2013-2020 to settle at the level of 2.4 in 2020, which reflects the ability of the monetary authorities to control inflation rates within the framework of the austerity policy launched as a result of the decline in oil prices in global markets.

However, the inflation rates tended to rise again during the period (2021-2023) to reach about 9.3% in 2023, mainly due to the rise in prices of food products imported from abroad (snousawi fatima,boushama Moustafa, 2022, P.195).

Table No. (4): the development of inflation and unemployment rates (2000-2023)

Year	Inflation %	unemployment %	Year	Inflation %	unemployment %
2000	0.3	29.8	2012	8.9	10.9
2001	4.2	27.3	2013	3.3	9.8
2002	1.4	25.9	2014	2.9	10.2
2003	4.3	23.7	2015	4.8	11.2
2004	4	17.6	2016	6.4	10.2
2005	1.4	15.3	2017	5.6	12
2006	2.3	12.3	2018	4.3	12.1
2007	3.7	13.8	2019	2	12.2
2008	4.9	11.3	2020	2.4	14
2009	5.7	10.2	2021	7.2	13.6
2010	3.9	10	2022	9.3	12.4
2011	4.5	10	2023	9.3	11.8

Source: <https://data.albankadawli.org>

The nineties of the last century witnessed a significant increase in unemployment rates in Algeria, reaching about 32%, due to the political and security crisis experienced by Algeria, in addition to the economic reform programs imposed by the Bretton Woods institutions aimed at reducing the volume of employment in the public sector, closing public economic institutions and laying off workers (Maouchi Emad, 2023, P.202).

The data of Table No. 4 also indicate the trend of unemployment rates to decrease continuously during the period 2000-2013, as it moved from about 29.8% in 2000 to about 9.8 in 2013, mainly due to security stability and the release of the economic crisis, in addition to the implementation of ambitious economic programs by the government in light of the rise in oil prices in world markets to trend starting from 2014 to rise to reach about 14% in 2020 and then fall to reach 11.8% a year 2023.

4. Conclusion:

- The prices of hydrocarbons in the world markets have known continuous fluctuations during the study period, they have tended to rise continuously from 27.6 dollars per barrel in 2000 to about 105.9 dollars per barrel in 2013, but they have tended to decline again to reach about 41.4 dollars per barrel in 2020, then they have tended to rise starting in 2021 to reach about 83 dollars per barrel.

- It turned out that the output in the fuel sector represents about 28.8% of GDP during the period 2000-2023, which makes the performance of GDP and economic growth in Algeria hostage to the performance of the fuel sector and the volatility of its prices in world markets.

- The outstanding feature of the state general budget in Algeria is the high relative importance of oil revenues, which accounted for about 60% of the total state general revenues during the period (2000-2023), which makes the performance of the state general budget highly linked to fluctuations in fuel prices in the world markets.

- Unemployment rates have tended to decrease, moving from about 29.8% in 2000 to about 11.8% in 2023, while inflation rates have increased from about 0.3% in 2000 to about 9.3% in 2023.

References:

1. Haroun Rachid boukharbash, (2024), the impact of fluctuations in fuel prices on economic growth in Algeria:a standard analytical study for the period 1970-2020, unpublished PhD thesis, Faculty of Economic Sciences, Batna 1 University, Algeria.
2. Khaled Menna, (2016), the collapse of oil prices and attempts at reform in the rentier state Algeria, for example, studies, issue, 18, Volume 8.Khaled from2016 P. 140
3. Maouchi Emad, (2023), measuring the impact of unemployment on inflation in Algeria in the period 1991-2023, Journal of Economics and Finance, Vol.11, No. 1, Algeria.
4. Mayeh Shabib Al-Shammari, (2010)diagnosis of the Dutch disease and the components of the reform of the rentier system in Iraq, Al-Ghari for economic and Administrative Sciences, Faculty of management and Economics, University of Kufa, No. 3, volume 15, Iraq.
5. Mourad alla, (2015), developments of oil prices in World Markets an analytical study for the period (2000-2014), Journal of economic and Financial Studies, University of the Valley, Vol.3, No. 9, Algeria.
6. Snousawi Fatima and Bouchama Moustafa, (2022), determinants of inflation in Algeria standard analytical study during the period 1990-2022, Journal of Economic Research, Vol.19, No. 1, Algeria.
7. Sofiane Amrani, (2016), the impact of oil price fluctuations on some macroeconomic variables in Algeria during the period between 2000-2015, scientific journal of business and Environmental Studies, Faculty of Commerce, Suez Canal University, Volume VII, second issue.
8. Taleb Delila, (2022), the impact of oil price fluctuations on Algerian economic growth –a standard study, Journal of economic heralds, Vol.8, No. 1, Algeria.
9. The Central Bank of Algeria (different preparation) Annual Report: economic and monetary development.
10. The organization of Arab Petroleum Exporting Countries-OPEC -, (different numbers), the annual statistical report. [http:// data.albankadawli.org](http://data.albankadawli.org) (accessed on 20/02/2025)
11. Yahyaoui Abdelhafid, Ben Ali Hassan and Kaki Abdelkarim, (2021), public budget policies and mechanisms for the embodiment of development programs in Algeria: A Case Study, Journal of Business Administration and Economic Studies, Vol.7, No. 1, Algeria.