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## *Analysis test of macroeconomic situation in Algeria over the period 2011 to 2017*

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### **Abstract .**

*The current oil prices market situation is shaking the Algerian economy which depend mainly (98%) on exporting energies resources. This instability highlighted the vulnerability of such economy facing constant and unexpected deterioration of macroeconomic balances. This research will be mainly interpretive; the majority of the research methods applied will be qualitative when presenting the causes with impacts. Nevertheless, some quantitative approaches will be utilized data from the Algerian context 2011-2018. Moreover, this work will incorporate an extensive empirical study by performing a deep investigation on the established Algerian economy position trying to identify the major Macroeconomic aggregates and calculating the financial indicators.*

**Key Words:** oil prices, economics crisis, macroeconomic policy, Macroeconomic aggregates.

**JEL COD:** E60, 011, H12

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### **Résumé.**

*Cet article aborde La fluctuation du prix du pétrole en Algérie, L'état de l'économie algérienne, à cet égard, est inquiétant vu sa haute dépendance vis-à-vis de secteur des hydrocarbures, qui dépend principalement (98%) de l'exportation de ressources énergétiques. Cette instabilité a mis en lumière la vulnérabilité de cette économie confrontée à une détérioration constante et inattendue des équilibres macroéconomiques. . Les résultats de ce travail révéleront clairement une détérioration continue du revenu et du ralentissement de la croissance du PIB, des recommandations et des réformes conduiront à une diversification économique à même d'atténuer les effets de la crise.*

**Mots clés:** Crise économique, prix de pétrole, l'inflation, dépenses budgétaires

**Code JEL:** E60, 011, H12.

## **1. Introduction:**

During the last two decades, the international economic level has been marked by a series of changes, situations of extreme crisis and environments that are unpredictable, uncertain and insecure. In addition, the correlation of different types of recent economic crises along with the insecurity spreading across the world especially in Africa and Arab states following the “revolution of the Arab Spring in 2012” resulted on the destruction of several economies which were relying mainly on the oil markets.

Therefore, the instability became in one way a rule in the global energy markets and developing countries especially those whose depend on the oil exports revenues are facing major economic crisis and growth slowdown. Those tensions along with energy market shocks have demonstrated the existence of critical weaknesses and limits of the current macroeconomic policies. Algeria and other energy exports countries in similar position are threatened by an eminent economic crisis caused mainly by a bad strategic management combined with the current volatility of oil prices which dropped suddenly by 60% since 2014 reaching a low price of \$ 45. Because of the Algerian economic system and model are highly based on hydrocarbon exports resources, the crisis brought down severe macroeconomic and financial imbalances that intensified since then to reach a critical level threatening the existing of the state itself. In this research we are concerned with this situation attempting to provide a deep and comprehensive analysis of the different aggregates, reasons and impact and thus proposing a complete framework to mitigate the impact of this crisis on the short term and avoid it in the future by treating the root reasons behind it.

### **1.1 Proposed data and research methodology:**

This work is divided into three main parts which will start first by investigating (analysing) the causes and consequences of the current crisis and its impact on the Algerian economic stability. Secondly, providing a deep macroeconomic diagnosis regarding the current

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Algerian macroeconomic situation, under various macroeconomic angles. Furthermore, establishing the interpretation and relation between these indicators basing on the official Algerian database throughout the period of 2011 to 2018. Lastly, the research will try to propose a set of recommendation to achieve an economic diversification in order to mitigate the crisis impact and produce a real awareness about political dimension that crisis can have on this country.

## **2. International context of economic crisis**

### **2.1 Brief literature review:**

Oil prices' volatility and its unexpected shocks would visibly have a significant impact on the depending countries' economy. This aspect should drive significance to the policy makers in these countries to establish policies for mitigating and reducing these impacts. The policies and strategies makers in oil exporting countries have to enhance their subvention strategy and public spend efficiency, to diminish the public budget spent and reserve consumption (Baffes, 2015 ). In fact, (Bouyacoub, 2005) was the first to warn and highlight this issue in his study about the Algeria economy exposure because of its heavily dependence on oil and gas exports to finance its economic mechanism and especially non-profitable projects, investments and subventions. As a logic consequence, oil price volatility have threatened the special effects on GDP and local financial markets which influence consequently the overall growth as significant macroeconomic factors.

Several joint governmental-funded research groups have since investigated this issue and attempted to anticipated the current (2014) crisis. In fact, in 2009 an economic report elaborated by the ministry of finance stated clearly that of the decline in economic activity around the world after 2008 crisis will lead to a fall in oil prices, would which will cause a significant reduction of incomes for several countries including Algeria which the economy depend mainly on exporting Oil and Gas that contribute to more than 95, 6% on the country GDP (General Direction of Accountancy , 2009).

On the other hand, a research work elaborated by Suleiman (2013) as part of the ongoing research at Surrey Energy Economics Centre (SEEC) in University of Surrey has investigated the impact of oil market volatility on the economic growth following an empirical analysis in several countries including Algeria. In addition, Chibi (2016) examined the interaction between oil-export revenue and long-run economic growth in Algeria during the period 1979-2013, the performed an empirical analysis highlighted the negative relationship between oil revenue volatility and economic growth in Algeria. The researchers emphasised on the importance of economic diversification and improvement on public spent management along with an efficient taxation model to help the state on crisis period. These reforms are still being debated at the higher level and gained the character of high national priorities for the next economic strategy (Bank of Algeria , 2015).

The bank of Algeria also produced several reports since 2014 in which the authors highlighted the eminent crisis that the country will face with the continued degradation of oil and gas exportation revenues and thus the GDP. Moreover, they announced an alarming data such as the trade balance deficit of \$ 8.3 billion in the first four months of 2016 and an economic significant growth slowdown (Bank of Algeria, 2016). On the other hand, major international strategic consultancy and forecasting institutions have also concluded that Algeria is going through a very difficult economic situation and that the country overall stability is also being threaten especially with the security issues in the region (neighbour country) and the increasing cost of maintaining security (Fakir et al, 2016). In addition, the state extensive rely on the fund named IRF (Income Regulation Fund) created a decade earlier to ensure lack of means cover and eventually amortize the shock and maintaining the social benefits (subvention) along with continuing strategic projects will finish by consumed that important fund by the end of 2017 (Achy, 2015).

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Under such circumstances, and given the opportunities and constraints of an external environment that is both globalized, turbulent, unpredictable, uncertain and insecure, Algeria and other developing countries in similar position are threatened by an eminent economic crisis caused mainly by a bad strategic management combined with the volatility in oil prices which dropped by 60% to turn around \$ 36/ B in beginning of 2016 against an average of \$ 109 / B in 2014 (Bank of Algeria , 2015).

## **2.2 The reasons behind the current economic situation:**

In this section we summarised the general causes and reason laying behind the sharp decline in oil and gas prices started mid-2014 and we provides an outlook of energy market. The following are the major factors:

- Evolution of supply and demand: The relative contributions of supply and demand factors, there is an overabundance of oil in the world oil market which has in turn caused the imbalance between supply and demand because not only the world oil's supply is superior to world oil's demand but also depending on the cost and level of production. Furthermore, it is showed a surplus global supply of shale gas from the US and Canada.
- Decrease on world's economic activity: Slowing global economy mainly caused after the occurrence of multiple global crises. The poor economic health in China and emerging countries; according to IMF statistics there is a decline in global production of emerging countries this may lead to reduce oil demand and therefore contradict the mechanism at work.
- Changes in OPEC objectives and policy:OPEC still accounts for 40 percent global oil supply (world bank group, march 2015) and continues to have the potential to be the swing producer and regulator in global oil market, the major OPEC members has decided in November 2014 not to change their production quotas, a decision confirmed on 5 June 2015,

followed in December 2015 and June 2016 by the abandonment of quotas. Saudi Arabia not only refused to play the role of supply regulator but also maintained its position as it actually found some benefits at a price that weakened both Shiite Iran, the new Islamic State, Russia and the North American oil and gas industry.

- Geo-economics issues and Geopolitical developments:
- ✓ Change the strategy of Saudi Arabia who would defend its market share and not the price. Saudi Arabia wants to weaken some producers of non-OPEC countries because it fears that if there is an agreement between OPEC countries is all non-OPEC countries will benefit. Furthermore its political strategy aims to weaken Syria, Iran, USA, and Russia...
- ✓ The Gulf countries' strategy of not putting its pre-eminence in danger the Asian oil market especially China.
- ✓ The strategy of the US to weaken Russia and OPEC members.
- ✓ The sanctions and counter-sanctions imposed after June 2014 as a result of the Russia Ukraine conflict had little impact on European oil and natural gas markets.
- Appreciation of the US dollar: The U.S. dollar appreciated by more than 10 percent against major currencies which in turn raises the local currency cost of oil in countries using currencies not linked to the U.S. dollar, the high estimates suggest that a 10 percent appreciation is associated with a decline of about 10 percent in the oil price(World bank group , 2015)
- Speculative Demand and Inventory Management: Large inventories are typically associated with surplus market conditions; sometimes they may be associated with speculative demand which also played a role during oil price shock episodes.

- Emergence of new energetic poles and powers: Iran's reintegration into the market which the resurgence is not good news for exporting countries. Thus the Iranian production in the energy sector doubled since the ends of the sanction following the nuclear agreements reached in mid 2016
- Other energy production alternatives: some developed countries start to use other energy and reduce their demand for conventional fuel in order to protect more the environment, such as the rise of electrification in china's transport fleet, solar energy to provide electricity in UK, Furthermore a researchers are keen to discover and explore more unconventional hydrocarbons likeschist's gas in America and in other countries who believes that the technical progress at long term will definitely find way to reduce schist'scost extraction.
- Price outlook: the speculation in the hydrocarbon market, noting the expectations of economic experts predict a slight increase in oil prices in the medium term by 2018, prices can adjust up to \$75 per barrel (IEA, 2018), a price that admit some countries as being a price of equilibrium. However, the future evolution of oil demand will probably be different to that of the past for changing state policies that encourage the development of renewable energy. When it comes to the global supply, the exports countries need to reduce their oil production in order to shrink the current excess supply.

### **2.3 Worldwide Impact of energy market shock:**

The vertiginous drop in oil prices is a boon to non-oil producers and is a nightmare for producers still in the process of developing. As a natural result, the importing countries made and continue to make important savings that will be beneficial and perceptible for the whole economic system starting from the simple citizen to the large producer companies and public sectors. However, exporting countries and especially the most fragile economies that

mainly rely on these incomes to feed their economies suffered heavily and were in some cases about to collapse where other lost the major part of their GDP such as the Algerian context were the country lost 70% of its their exports revenues.

**Table n° 1: Impact of oil price collapse on 2015 GDP gain or loss of some countries:**

Winner	% GDP gain	Loser	%loss in GDP of oil revenues	
Asian governments, Indonesia and Malaysia		OPEC countries, Iraq and Qatar	(not Provided)	
India	2.2%	Algeria	12%	
South Korea	2.8%	Kuwait,	22%	
	Japan	1.5%	Libya	25%
	China	1.1%	Saudi Arabia,	19%
	UK	0.3%	United Arab Emirates	11%
USA	0.7%	Venezuela	10%	
Eastern Europe	1.5% to 3%	Russia	6%	
Eurozone Eur	1%	Kazakhstan	10%	
		Ecuador	3.9%	
		Colombia	2.6%	
		Mexico	0.9%	
		Angola	23%	
		Norway	5%	

**Sources:** statistics from paper of Erik Norland, “The geopolitical and economic consequences of lower oil prices”, 2015.

#### **2.4 Consequences of the crisis on Algerian economy:**

Fossil energies exporting represent the main income for Algeria which relies on to continue the development plans started two decades ago. As with all energy exporting countries, the prices’ slump had a massive impact on the country economic balances. The following are the main points which will be expanded later in this paper. Overall, Algerian incomes were hit by the severe reduction in oil prices that fell by more than 50% becoming \$ 54 / B in 2015,\$ 30 / B in 2016 respectively, and has become \$ 45 / B in 2017; against \$



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109 / B in 2014. These contributed to a drastic degradation of the country revenues and GDP causing a huge deficit of the trade balance of \$ 17.84 billion in 2016 and a Chronic Budget deficit, 5% in 2017. Furthermore, as the country development rely mainly on the energy export resources; a 2.6% slowdown in growth in 2017 was registered compared to 3.5% in 2016. The successive governments had to rely on the strategic saving and special funds leading to the exhaustion of the sovereign Revenue Regulation Fund which was totally exhausted in February 2017 compared with 4680 billion DZD in 2009, in addition to the Decline in foreign exchange reserves: it fall to \$ 102 billion in 2017. All these led to a huge fiscal imbalance, lagging state budget relative to the economy. Thus, the beginning of a recession in the Algerian economy froze and cancelled most of the structuring projects that were part of the national economic growth plan. Moreover, the crisis had led to a significant depreciation of national money's value (Algerian DZD) and increased the rate of inflation and unemployment pushing the state toward the risk of social explosion.

As a result, the beginning of a recession in the Algerian economy froze and cancelled most of the structuring projects that were part of the national economic growth plan.

### **3.The proposed Eco-Development framework: set of recommendation, guidelines, measures, re-for restructuring the economy and mitigating the crisis impact**

The vulnerability of the Algerian economy to external shocks is still relevant and persistent despite the changes and restriction introduced by the successive governments.. The drop in oil prices once again proved that fragility of the Algerian economic system, hence the urgency of initiating structural reforms with the aim of reducing this vulnerability. These reforms concern the improvement of the Algerian position, the diversification of the economy, performance of the financial and banking system, the development of quality institutions to improve the competitiveness of the Algerian

economy in order to maintain its geopolitical position and its market share.

### **3.1 Economic Vision: toward a real Diversification**

This optic is the most difficult and challenging solution giving the current situation. In fact addressing properly this point will definitely lead to accelerate the effect and enhance the outcome of the whole framework. Nonetheless, this will requires some radical and hard to implement and even to design giving the sensitivity of such measure and dependences on the overall politics climate, it requires the following:

- A radical change in the macroeconomic mindset and stress the obligation to break with rent to escape solution basing on a total dependence on hydrocarbons of the international productive effort.
- Developing and implementing a new growth model which can sustainably meet the goals set during crises and the shifting demands of the global economy.
- Introducing several major Economic and structural reforms such as Integrating the informal economy, which is large, more broadly within the regular economic activity, particularly in order to diversify fiscal revenues of the State.
- Improving the overall investment and trade climate by encouraging investor and lightening the rules which can help to attract and setting large international cooperation and diversify the commercial partners.
- Sustainable strengthening of food security by increasing the internal production and supply along with setting-up new industries and consolidate the existing industrial fabric.
- Establishment of the strategic objectives of a new industrial policy based on a structuring of the industry which consists in reviving the various industrial productions. This will requires not only to direct investments towards the

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production apparatus for several economic sectors (agriculture, industry ...) but also to perform the financial and banking system that must really be used to finance these productive investments.

### **3.2 Geopolitical Vision: Energy Option**

- The total or individual production of OPEC countries should fall as the ultimate solution. It will no longer be profitable to continue producing if prices are lower than the cost of production. With the effect of falling quotas.
- The orientation towards renewable and solar energies whose necessity is to pass to the stage of realization and investment and not to stagnate at the stage of choice and study of the projects.
- The Algerian oil extraction must be lowered (slow down) so as not to draw on the deposits that have become less and less productive and to preserve more oil for future generations.
- Defend Algeria's market especially in south Europe by imposing faire prices, share and quotas in the international oil market by conducting accurate and continuous market and economic studies, including oil prices forecast for the 3 scenarios

### **3.3 Monetary Vision: Finance, Banking and Monetary Policy**

The bank of Algeria as the regulating authority has to play its usual crucial role much more strictly mat such a critical situation; it must be not only autonomous, vigilant but also to control and collect the relevant information in order to identify the current needs.

- Algeria's central bank must adjust to new financial situations by deploying its various monetary instruments.
- Strengthening control and oversight over the entire banking, financial and monetary system to eliminate any risk of default or insolvency and reinforcing the current regulations especially the money and credit law.
- Strengthen banking regulations by introducing the new Basel 3 agreement and taking into account the liquidity risk that

can arise at any time during the current economy along with enlarging existing and innovating new financial resources.

- Fortification of the internal money, adjustment of the Algerian's Dinars value along with eliminating the current exchange rate parity due to the foreign exchange black market which led to the use of two monetary policies.

**Conventional financing: by the following instruments:**

- Enhancing and tightening the issuance of money market securities mechanisms
- Government borrowing through bond issues and the creation of Sukuk, halal securities or bonds to encourage more buyers, create and promote an Islamic financial banking in order to encourage and attract more people which only want to do banking in an Islamic way.
- Adjustment by the central bank's policy for the interest rates, this adjustment will positively stimulate economic activity, growth and inflation.
- Moving the transaction from the black market (cash transaction) to the official controlled and regulated market by limiting the use of cash in the business transaction; recovery of the money supply by encouraging the holders of money to deposit their savings or their money in a bank account and this by the proposal of very attractive rates and taxes. The daily payment of goods and services by credit cards is that by the creation of payment and transfer mechanisms fast and efficient.
- Abrogating the currently dual rate used for foreign currencies by the Creation of money's exchange desk and the inclusion (integration) of the informal to control the money supply and the currency value.

**Unconventional Financing:** This is a creation of the currency through the innovation of techniques not usually used for structural

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financing. By implementing monetary policies characterized as “unconventional” away from the framework policies to fight against inflation and the creation of the currency.

This type of financing has been appealed by several major countries and world economic powers like USA in 2008, the EU in 2012 and this as the ultimate solution envisaged during crises (European central bank report, 2012).

We notice that there are several tools and instruments for this financing policy and the problem is that of finding and choosing the most appropriate type for the current economic situation. So first of all it is necessary to identify the information, to base oneself on good statistics, to have a great capacity of decision and governance of the axes of the choices by measuring the pros and the cons.

The Algerian government has chosen in October 2017 the printing press which is issuing (printing) national currency banknotes without taking into account a valuable counterpart for a fixed period to cover the budget deficit.

It should be noted that unconventional policy is a high risk option if it will not be well studied because it has as consequences and limitations such as continued increase in inflation, sharp depreciation of the value of the national currency, loss of confidence in money, continued increase in currency and foreign currency demand.

The more these unconventional policies last and reinforce each other, the more difficult it is to emerge from them, revealing the upcoming financial crisis.

### **3.4 Budget Vision: Budget Policy Option.**

State fiscal policy involves various fiscal measures affecting revenues and expenditures and depends on the choice of instruments to be used according to the current policy and conjectural policy taken by the government.

#### **Tax measures:**

- Increase in the share of ordinary tax revenues in budgetary resources, the adjustment of the tax base: Try to collect tax resources in record time by deploying incentive options to

more attract people in order to hurry for paying their taxes for example: extend the delay payment schedules, reduce the short-term tax rate.

- Addition of other taxes such as the one on the wealth, on the non respect of the car code for the pedestrians , real estate violation of laws and regularisation of past situation penalties in addition to the new revenue set in the 2016, 2017 and 2018 budgets which had already included raising fuel prices, value-added tax on electricity and vehicle registration fees.
- Modernize the public administration, through the generalization of the use of digital solution to move fully to an electronic administration (e-administration) which in one hand will help to make huge saving in term of expenditures and also contribute to the de-bureaucratism of the management and therefore improve efficiency and transparency which the country crucially requires.

**Budgetary Measures:** Current fiscal policy has shown the need for a fiscal adjustment that must include in its objectives the need for the challenge of financing the economy, growth and increasing budgetary resources, which reveal two issues, including the origin of financial resources and the destination or use of these resources, which revealed the need to undertake different axes:

- Rationalization of equipment and operating expenses. (Reducing of equipments expenditures)
- Lower import expenditure (-9.85% in 2016) in all sectors to reduce foreign exchange expenditures.
- 2.6% slowdown in growth to minimize public investment spending.
- Strengthening Public Economic Management Capacities.
- Studies of the evolution of the national economy now and even for future years must be based on an unfavourable scenario of the oil price and the international market

situation. Defining a new reference price for the oil barrel to be used in planning and elaborating the yearly governmental budget.

#### **4. Conclusion.**

In this research, we intended to closely examine and investigate Algerian major Macroeconomic variables attempting to diagnosis the current crisis reasons and find the best possible countermeasures to mitigate the impact of the crisis on the short term along with proposing some major and radical solution for the medium and long term. The research combined both statistical and analytical approach s to identify the existing relationship between the oil market (prices) and the major economic factors and their consequences on the public economy and country growth.

Overall, all the macroeconomic aggregates presented and analysed in this research confirm the well known alarming economic situation which Algeria is facing. A slowdown of the economy activity, chronic deficits of budget, treasury and trade balances. The main conclusion of this research is that the Algerian current economic and financial system are not strong enough to face this oil slump prices crisis and maintain the economic growth for long terms. The country remains vulnerable to oil-price volatility because the hydrocarbons still account for 95% of its exports and 75% of state revenues.

Still bad crisis management and poor economic performances are observed, despite the efforts and initiatives introduced recently by the Algerian government which mainly consist on cut public spending, reduce and restrict imports, forcing the local currency depreciation; increase and introduce new taxes, non-conventional financing (increase internal money mass by printing out money). Further crucial and urgent measures at short and medium terms are still required to avoid the chronic deficits and imbalances which can lead to the country insolvency. Meeting this goal would imply achieving several strategic re-structuration s which some are currently being debated as its is crucial that the new growth model

achieve better performance and diversify economy, bring new sources of state income and raising non-oil tax revenues by at least 11% a year until 2019 (Algeria Economy News, 2017). Most importantly, the current government should introduce new planning measures for reforming the Algerian economy on the long term as such action will certainly lead to a better consolidation of public finances and reducing future crisis' effect along with maintaining an acceptable economic growth level, 2018 is a turning point as major forecasts predict that Algeria will need an oil price of \$87.6 US per barrel to reach a balanced budget according to IMF which is realistically achievable giving the current oil market which allow an easier and less radical implementation of the proposed measures.

Although this research focused on the Algerian context, the outcome is universal and would be applicable to most energy exporting countries (with some exception) as the general interest is to minimize and prevent the collapse of weak economies by creating some positive elements in terms of rebalancing the macroeconomic aggregates. It is also important that the current efforts which aims to pulling upward the energy market by achieving an agreement between OPEC and non-OPEC to find the right equilibrium price is stamped by market forces that suit both parties, the ultimate solution is the decrease of OPEC production because it wouldn't be profitable to no-one to continue production when prices are lower than the cost of production at the closing of the annual oil balance.

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