

Financing alternatives of budget deficit in Algeria 2014-2018: Analytical study

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Abstract:

This study aimed to clarify the most important financing alternatives that have been adopted by different governments in Algeria since the decline of oil prices in 2014. This period was accompanied by the start of the application of expansionary monetary policies which called “unconventional financing”.

The study concluded that the resource regularization fund is the most important source of financing for the public budget deficit, and that there is an increase in exceptional revenues represented by the distributions of Bank of Algeria. In addition to the unconventional financing, the bond loan and bank financing are financing solutions in the past two years.

Keywords: *public budget, resource regularization fund, budget deficit, bond loan, unconventional financing, bank financing, Bank of Algeria dividends.*

1. INTRODUCTION

In its beginnings, the capitalist system assumed that the state would not intervene in economic life, as a result, the role of public finance was limited and it has not a major role in economic policies. This assumption changed after the economic crisis of 1929, with the emergence of Keynesian ideas, in parallel, the great interest in public finance shows in the socialist system; where the state controls all economic aspects. Over

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time, interest in public finance and fiscal policies increased in the plans of governments and states.

In Algeria, the public budget is very dependent on oil resources, where petroleum fiscal constitutes an important part of the public revenues structure. Since 2014, with the drop in oil prices; successive governments have worked to find solutions to finance the budget deficit.

Through its strong relation with petroleum resources, major imbalances appear on the public budget in Algeria whenever the oil market knows a drop in prices, and accordingly the government is working to resolve financing problems, and searching for other alternatives to reduce the budget deficit. based on that, we start our study from the following question:

What are the financing alternatives that successive governments have adopted to finance the budget deficit in the period 2014-2018?

We aim to analyze the dynamics of budget deficit financing by focusing on different financing alternatives since the start of the oil price decline and the governmental procedures applied in this regard.

2. THEORETICAL FRAMEWORK:

The public budget expresses a detailed answer to the questions: Where does the state get the funds to cover its public spending? We will present here some concepts about the most important pillars public finance: public expenditures, public revenues and the budget balance.

Public expenditure is a tool used by states to meet the general needs of individuals and to achieve the general economic and social benefit. public expenditures are defined as: "An amount of money coming out of the state's financial liability for satisfying a public need" (Hegazy, 2000, p. 69). It is also defined as "The expenditure incurred by an entity to provide for goods and services collectively consumed by the society" (Mwakibete, 2014, p225).

The concept of public spending has undergone developments that accompanied the development of the concept of the state and its role in economic activity; Where the classic school viewed the state as the "guardian state" and public expenditures from the perspective of free economic doctrine As the expenditures required to meet public needs are

represented in the small number of state-run facilities, which was evident in the saying "spending is a necessary evil", as well as the school's respect for the principle of budgetary balance, Which made spending tax neutral. *Adam Smith* believed that public spending is unproductive, and it is a transfer of wealth from the private sector to the public sector, and *David Ricardo* agreed.

With the development of the state's role in the economic field, the public budget deviated from the logic of balance between expenditures and revenues. Rather, "financing by deficit" has become the most important feature of state's public budgets today. "A recent experiences have shown that creating an orderly deficit in the public budget contributes to achieving economic balance and avoids the harmful effects of economic cycles" (Al-Mahaini, 2013, p.16).

The first ideas for the theory of public spending came in *Paul A. Samuelson's* writings in 1954, where he called it in an article in the same year "the theory of public expenditure and organization", which *Musgrave and Peacock* developed in 1958 into the Pure Theory of Public Expenditure (Burkhead & Miner, 1971, p. 25). The contributions of *Adolph Wagner* were the most important in this field, as he presented the "law of increase in public expenditures", in which he explains his expectations for the next 50 or 100 years about the rise in public spending as a result of what he called " The pressure for the social development of societies" (Musgrave & Musgrave, 1989, p. 114).

Generally, public spending play a major role in revitalizing the economy, and the relationship between public spending and tax collections has always been the site of controversy among thinkers, as we find in the empirical literature three opinions (Iqbal, 2010, p. 612):

a- The hypothesis of "tax \Rightarrow spending": meaning that there is a One-way causal relationship between taxation and public expenditures, which we find in the writings of *Manage and Marlow* as well as *Blackley* in 1986, and *Ram* 1988.

b- The hypothesis of "spending \Rightarrow tax": *Anderson, Wallace, and Warner* (1986), *Von Furstenberg, Green, and Jeong* (1986)) and *Jones Joulfaian* see that the previous relationship is in the opposite direction, meaning that the public spending affects the tax.

c- The hypothesis of "spending \Leftrightarrow tax": There are other views of *Miller and Russek* that this relationship is a two-way causal relationship. While,

taxes and spending are not affected by budget deficits, according to *Baghistani and McConnon* 1994.

As for public revenues, it expresses the answer to the second part of the general budget question: Where does the public treasury get the spending resources? Revenues are defined as: “The total income that the state obtains from various sources in order to cover its public expenditures and achieve economic and social balance” (Mahrezi, 2010, p. 115)

In the Middle Ages, public revenues were limited to incomes and revenues obtained from state property, or the so-called "domaine". Whereas the classics viewed revenues as a means of covering expenses, and thus there is no need for revenues that exceed that, as for modern schools, they saw that there is an inflation in the functions of the state, and therefore there is an urgent need to expand the use of public revenues beyond the goal of covering expenditures. This expansion was largely apparent with the increasing interest in nationalization policies after the Second World War.

The economic debate about monetary and financial policies showed that the combination between the two policies makes economic policies more successful and coherent. This debate divided the economic schools into two poles: the first pole is led by Milton Friedman, who represents the monetary current (**Monetarism**), and the second pole is led by John Maynard Keynes who represents the financial current (**Keynesianism**).

The public budget is seen as: “Tables containing estimation of revenues and expenditures for one fiscal year specified in the Finance Act” (Tobin, 2015, p.170). According to the French accounting law, it is defined as: “a forecast and approval document of the annual revenues and expenditures of the state or of the types of services” (Braconier.H, Holden. S, 1999, p.69).

2. METHODOLOGY:

The study aims to know how the public budget deficit was financed in the period from 2014 to 2019, by identifying a group of sources and trying to find the percentages of each of them in filling this deficit in the mentioned period.

Based on this, the following table clarifies the most important sources that we believe contributed to financing the budget deficit during

the study period, which are summarized according to our belief in the resources of the Revenue Regularization Fund, the bond loan, the unconventional financing and the Bank of Algeria dividends.

Table 1. Sources of financing the general budget deficit

Sources	100%
Resource regularization fund %
Bond loan %
Unconventional financing %
Bank of algeria dividends %
Bank financing %

Through this proposition, we will try to find out the contribution of each sources of public budget deficit financing in Algeria during the studied period, and we use a set of tools that we summarize in:

-Statistics related to the evolution of: revenue regularization fund, Petroleum Fiscal, public revenues and public expenditures;

-Statistics related to the Bond loan, this resource was used in 2016 as part of what was then called “the New Economic Model”, the Bond loan is represented in the issuance of treasury bonds for public subscription, with a value of approximately 600 billion DZD.

- Statistics of Bank Algeria dividends: These are the profits that the Central Bank achieves during the accounting period (a full year) and the board of directors decided to distribute them to shareholders. As the Bank of Algeria is a state-owned bank, this part will automatically go to the state account represented in the public treasury on the revenue side called “Exceptional revenues”.

-statistics of unconventional and bank financing: Usually the government resorts to financing the budget deficit through bank financing, However, at the end of 2017, the government resorted to the quantitative easing policy, so its statistics include 2017, 2018, and some months of 2019.

In collecting these statistics, we will rely on the Ministry of Finance data, the reports of the Bank of Algeria and the reports of the Accounting Board during the study period.

3. DATA ANALYSIS:

The budget balance expresses the difference between public expenditures and public revenues, away from the accounting concept that deals with the budget in a constant manner, in the sense of an inventory of resources and expenditures at a specific moment or date; The state's public finances view the public budget as a daily movement between the balances represented in expenditures and revenues, and thus the budget balance is not that which appears at the end of the year, but is that which shows the daily difference between expenditures and resources.

3.1. The Public spending:

The growth of public spending in and its decline Algeria are closely related to oil prices, the evolution of public spending can be explained through the following table:

Table 2. Algerian public spending evolution 2014-2018 Million DZD

Years	Public spending	Operating Expenses	Equipment expenses	Operating / Σ spending	Equipment / Σ spending
2014	6995769	4494327	2501442	64.24%	35.76%
2015	7656331	4617009	3039322	60.30%	39.7%
2016	7297494	4585564	2711930	62.83%	37.17%
2017	7282630	4677181	2605448	64.22%	35.78%
2018	7 726 291	4 648 286	3 078 005	60.98%	39.02%

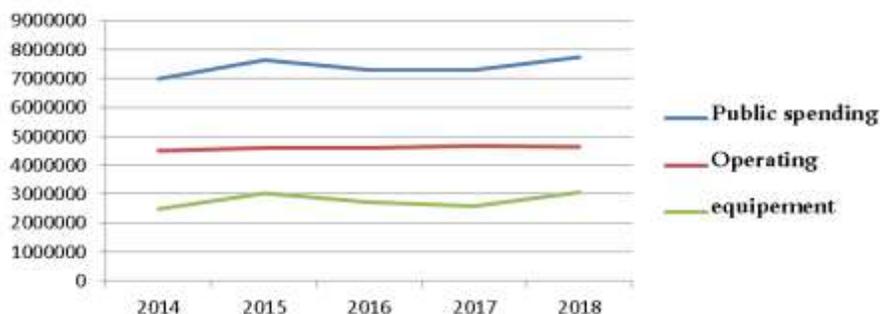
Source: Adopted from Ministry of Finance data

Despite the increase recorded between 2014 and 2015 estimated at 9.40%; We note that the public spending has decreased relatively since 2015, and the largest share of these decrease was on the Equipment side. The slight increase in spending in 2015 compared to 2014 is due to miscalculation of the oil crisis in the 2015 budget.

After the oil price shock, public expenditures has a decrease of 358,837 million dinars, equivalent to 4.68% in 2016, the year in which the bond loan program was launched to finance the public budget deficit, especially after a significant reduction in the resources of the R R F. This is due to the deflationary policies taken by the government and to reducing subsidies on some commodities, especially fuel. This decline continued in

2017, but with the start of unconventional finance; We recorded a significant increase in public spending in 2018.

Fig.1. Public spending



Source: Adopted from Ministry of Finance data

3.2. The Public revenues:

This period was characterized by a relatively significant rise in the tax recipes, that is, an increase in the rate of return on tax, this is due to the economic, social and political developments that Algeria witnessed during the period (2014-2018).

Table 3. Algerian public revenues evolution 2014-2018 Million DZD

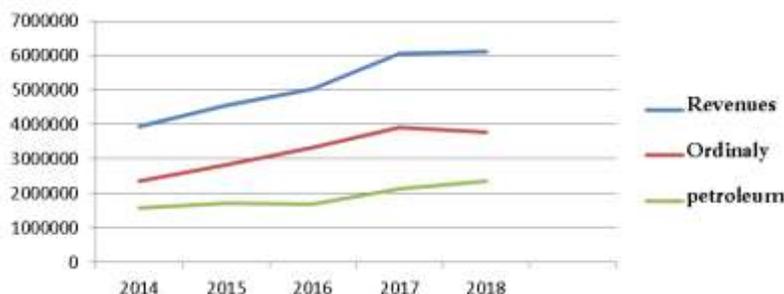
Years	Ordinary Recipes	Petroleum Fiscal	Σ Public Revenues	Ordinary $\int \Sigma$ revenues	Petroleum $\int \Sigma$ revenues
2014	2350018	1577730	3927748	%59.83	%40.17
2015	2829602	1722940	4552542	%62.15	%37.85
2016	3329031	1682550	5011581	%66.4	%33.6
2017	3920898	2126887	6047785	%64.83	%35.17
2018	3964 265	2349694	6 313 959	%61.63	%38.37

Source: Adopted from Ministry of Finance data

It is noted that the shares of ordinary resources in the total revenues took the largest part in all years of study, and it should be noted that ordinary resources consist of tax revenues represented in taxes, fees and customs rights, and non-tax revenues represented in the revenues of national property in addition to other revenues such as loans and printing

money. And as it is clear from the table that the revenues continue to rise during the study period.

Fig.2. Public Revenues



Source: Adopted from Ministry of Finance data

Public revenues showed a relative increase during the study period. By analyzing the numbers, we find that this increase was recorded in both ordinary and petroleum revenues. We recorded a significant decrease in petroleum fiscal in 2016, as oil prices fell below \$ 45, however, it has stabilized in other years, the reason for this is the stability of oil prices at levels of \$ 60 on the one hand, and the decrease in the dinar exchange rates by about 49% between 2014 and 2018, which is also one of the reasons that have increased the ordinary revenues, in addition to some increases in taxes, fees and fuel prices.

3.3. The Public budget balance:

The budget deficit results from a defect in the public budget composition, whether it is due to the deflationary policies of state or the insufficient sources of public revenues, and this is what Algeria has been suffering from during the last five years.

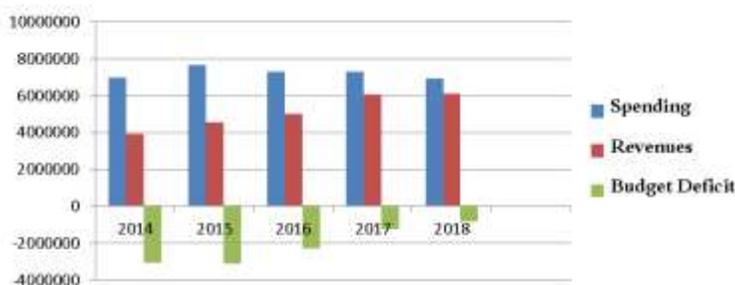
Table 4. Algerian public budget deficit evolution 2014-2018 Million DZD

Years	2014	2015	2016	2017	2018
Spending	6995769	7656331	7297494	7282630	7 726 291
Revenues	3927748	4552542	5011581	6047785	6 313 959
Deficit	-3185994	-3 172 340	-2 343 735	-1 590 283	-1 952 532

Source: Adopted from Ministry of Finance data

The expansion of spending before the oil crisis had a severe impact on the public budget deficit, despite the measures taken since 2015: to raise some taxes and fees, to work with a quota system in import, the internal borrowing and rationalize spending; The budget deficit continued to worsen, which prompted successive governments to take measures and search for sources to finance the budget, which began with internal borrowing and ended with unconventional financing.

Fig.3. Public budget deficit



Source:Adopted from Ministry of Finance data

3.4.The R R F:

The resources of the Revenue regularization Fund are greatly affected by oil prices. Any change that occurs in the levels of oil prices leads to fluctuation in the flows of the Fund’s resources,

Table 5. Algerian R. R. Fund evolution 2014-2018

Million DZD

Years	2014	2015	2016	2017	2018
Withdrawn	2965672	2886506	1387938	784458	131912
Available	5563511	4408159	2073846	784458	305500
Withdrawn / Available %	53%	65%	66%	%100	43%

Source:Adopted from Ministry of Finance data

The table shows that the resources of the RRF are continuously declining throughout the study period, the decline began in 2015 by 52%. However, the rate of depletion of this Fund knew a significant acceleration starting in 2016, when the available balance decreased by less than half compared to 2015, So that the Fund's resources will be fully exhausted in 2017, because the average oil price in that year did not exceed the

reference price in budget, this contradicts with the 2006 amendment of the law relating to the RRF, which stipulates that it finance the budget deficit without its balance being less than 740 billion DZD, a value that is nearly sufficient to finance 3 months of public spending. While, the fund knew a positive balance due to slight increase in oil prices in 2018.

3.5.The Bond Loan:

After the collapse of oil prices in 2014, and the unsatisfactory results of the measures taken to reduce the budget deficit, the government decided in 2016 to launch what was called a bond loan as a source of financing the public treasury. The bonds were offered for public subscription with a value of approximately 600 billion DZD.. We explain the statistics of this Instrument in the following table:

Table 6. Algerian Bond loan evolution 2016-2017 Million DZD

Years	2016	2017	Total
Amounts	557828	25124	582952

Source:Adopted from Ministry of Finance data

The interest rate on this loan was estimated at 5%, while the inflation rate was close to 4.5%; The value of mobilized funds in 2016 was estimated at 557,828 million dinars, while in the next year it decreased by 95.49% to reach 25,124 million dinars, due to abandoning this option and resorting to unconventional financing represented in creating money.

3.6.The Unconventional Financing:

There are several unconventional aspects of monetary policies, their applications began mainly to address some imbalances that traditional policies could not solve, the most important of these dilemmas is the “liquidity trap”, USA and Japan adopted the most important of these policies, which called “quantitative easing”.

In Algeria, the most prominent justification for resorting to such policies was their adoption by other countries, but it was completely different from what happened in those countries, where a quantity of money was printed by the Bank of Algeria in order to finance the treasury

deficit as Directly and without going through the interbank market. The quantities printed were as follows:

Table 7. Algerian unconventional financing evolution 2014-2018 Billions DZD

	Treasury deficit	Enterprises dept	Pension fund	Investment fund	Total
Planned	2470	1813	500	1773,2	6556,2
Real	1116,5	*473		1524,9	3114,4
The rest	656,7	**1840		945,1	3441,8

Source: Adopted from the memorandum of the Bank of Algeria on the state of unconventional financing, dated April 1, 2019

-*The Bank of Algeria did not detail the real amount of financing of Enterprises debt and the pension fund.

-** This amount includes 1,830 sums which are kept by the Bank of Algeria for monetary sterilization using various means.

The division of these sums shows that a large part was directed to finance the budget deficit, while other sums were directed to pay the debts of public enterprises such as Sonatrach and Sonelgaz, in addition to financing the pension and investment funds, but the Bank of Algeria did not pump the printed amount entirely into these expenses,

In conclusion, we find that the program amounted to 6,556.2 billion DZD, while 3,144.4 billion were actually spent. The remaining 3441.8 billion, of which 1840 billion were used in the monetary sterilization policy.

3.7. The Bank of Algeria dividends:

These are the profits that the board of directors decided to distribute them to shareholders. As the Bank of Algeria is a state-owned bank, this part will automatically go to the state account in the public treasury on revenue side called "Exceptional revenues".

Table 7. Bank of Algeria dividends evolution 2014-2018 Million DZD

Years	2014	2015	2016	2017	2018
Dividends	122655	88707	610519	919 844	1000000

Source: Adopted from Bank of Algeria and Algerian Accounting Board reports

It appears that the dividends knew a big jump starting from 2016, when it went from 88 billion DZD in 2015 to more than 600 billion DA, then exceeded a trillion DZD in 2017 and 2018. This period coincided with the start of the expansionary policies of printing money.

3.8.The Bank Financing:

The bank financing of the budget deficit expresses those short-term loans that the public treasury borrows directly from banks to fill the deficit.

Table 8. bank financing evolution 2014-2018 Million DZD

Years	2014	2015	2016	2017	2018
bank financing	18676	152546	232630	872871	1304086

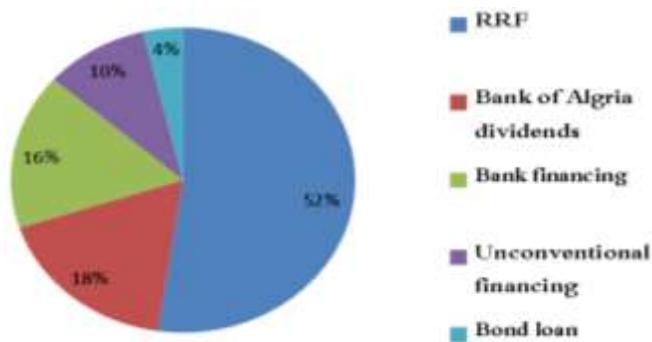
Source:Adopted from Ministry of Finance data

The table shows a significant increase in the bank financing of the public treasury, especially after 2016, with the worsening budget deficit on the one hand, and the failure of public expenditures to respond to the measures taken to rationalize them.

3.8.The budget deficit financing structure:

Through the previous tables, it was found that there are a number of alternatives to finance the general budget deficit in Algeria in the period that accompanied the crisis of low oil prices, and we can analyze the extent of each alternative’s contribution to financing the deficit through the following figure:

Fig.4. The budget deficit financing structure



Source: Adopted from the previous tables

The figure shows that the RR Fund was the most important source of budget deficit financing during the study period, despite the fact that the resources of this fund were completely exhausted at the end of 2017, as the figure shows that 52% of the total deficit recorded during the period 2014-2018, which amounted to 12244 billion DZD Financed by this fund, with a total value of more than 8156 billion DZD.

The second most important source of financing the budget deficit, as shown in the figure, is the dividends of the Bank of Algeria, This is 18% of the total deficit in five years, with a value of more than 2741 billion DZD.

Bank financing ranked third in total deficit financing over 5 years, at 16%, or about 1071 billion DZD. This is due to the large imbalances in financing due to the lack of frequent revenues.

Despite the enormity of unconventional financing program; It only contributed to 10% of the total deficit. This is due to the fact that not all the funds are included in the economy, especially with its cancellation in the first half of 2019

In the end, the bond loan was approved in 2016 and was suspended in 2017, with a contribution to financing the deficit at a rate of 4%, and part of the unconventional financing came to pay off this debt towards the public treasury.

Conclusion:

The significant decline in oil prices in the period 2014-2018, which approached to the production costs in some months led to a decrease in oil resources, which greatly affected the general tax revenue in Algeria during this period. As a result, a number of measures were taken to reduce pressure on the public budget.

The beginning was with the procedures for rationalizing public expenditures, then relying on the so-called bond loan, which is considered as a routine procedure adopted by many public treasuries in many countries; but It was used in Algeria in 2016 as a new economic model, finally it was soon suspended and resorted in 2017 to an expansionary monetary policy that is ostensibly unconventional, but its application in

Algeria was through printing money without coverage, a procedure similar to the overdraft process.

The government also relied on bank financing, as the public treasury resorted to direct borrowing to obtain long-term loans. During the same period, the contribution of the Bank of Algeria dividends increased in the resources structure.

We concluded that, despite the great pressures on the R R Fund; Although its resources were almost completely exhausted in the end of 2017, it remained the first alternative in budget deficit financing. We also concluded that the Bank of Algeria dividends and bank financing have witnessed a remarkable upward trend in recent years, as they contribute more than 34% of the total deficit recorded in 5 years, while the sources of unconventional financing and the bond loan did not constitute a major source of financing during the period 2014-2018.

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