

The Role of The Industrial Policy in Developing The Algerian Industrial Sector Le Rôle De la Politique Industrielle Dans le Développement Du Secteur Industriel Algérien

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Abstract:

The study aims to reveal and identify the position of industry in the Algerian economy for its great importance in developing the economic wheel. To fulfill this aim, therefore, data on economic indicators during 2007-2016 were analyzed to figure their contribution. The results came out that industry has a considerable contribution to the gross domestic product (GDP) and the added value whereas its modest participation in the labor force showed no more than 30%. However, these contributions cannot be considered real because the extractive industry dominates the industrial sector in Algeria and it is considered the mainstay of the Algerian economy, thus it makes it vulnerable to crises due to changes in oil prices.

Keywords: Industrial Policy, Industrial Sector, Extractive Industry, Petroleum.

(JEL) Classification : L 52.

Résumé :

L'objet de cette étude est de mettre en évidence le rôle de l'industrie dans l'économie algérienne et son importance dans le développement économique. Pour ce faire, nous avons analysé les données sur les indicateurs économiques au cours de la période (2007-2016) afin de déterminer leur contribution dans l'économie algérienne. Les résultats obtenus ont montré que l'industrie avait une contribution acceptable au PIB et à la valeur ajoutée, alors que le pourcentage de la main d'œuvre employée dans ce secteur ne dépasse pas 30 % de l'ensemble de la main d'œuvre dans les différents secteurs. En effet, ces contributions ne peuvent pas être considérées comme réelles car l'industrie extractive domine le secteur industriel en Algérie, et elle est considérée comme le pilier de l'économie algérienne ce qui la rend vulnérable aux crises en raison de son association avec les fluctuations des prix du pétrole.

Mots clés : Politique industrielle, secteur industriel industrie extractive, pétrole, Algérie.

(JEL) Classification : L 52.

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1. INTRODUCTION:

The industrial sector is one of the sectors that countries focus on because it has the ability to absorb unemployment and raise the value of output as the cornerstone of economic development, which needs to increase the volume of investments in this sector. On this basis, industrial policy is among the forms by which the country interferes in the economic activities, and it is one influential factor that enhances the competitiveness of economic sectors. Therefore, industry plays the major role in developing the country's macro-economy and influencing the macro-variables which determine the relative importance of each sector or sub-sector through raising the added value and improving the balance of payments structure. In order to achieve economic growth and increase the level of operation, countries around the world have to adopt different strategies in the process of developing their industrial sector. Algeria is one of those countries that did not constitute the exception; it made efforts to build an industrial economy as an alternative strategic sector and subordinate of other sectors as it affects them on one hand and is affected by changes in the other. It is also an important factor to stimulate and accelerate the wheel of economy and can contribute to the diversification of the economy.

1.1. Research Problematic:

Based on the above, the problem of research is crystallized in the following question: How does industrial policy contribute to the development of the Algerian industrial sector?

Under this problematique, the following questions arise:

- What is the concept of industry, industrial sector and industrial policy?
- What is the importance of the industrial sector in the economy?
- What are the reality features of the industrial sector and its contribution to the Algerian economy?
- What are the suggested solutions for the advancement of the Algerian industrial sector?

1.2. Research Aims:

The purpose of this research is to try to recognize or to know the following:

- The characteristics of the Algerian industrial sector.
- The extent to which Algerian economy is affected by oil revenues.
- The contribution of the industrial sector to economic growth compared to other sectors.
- The contribution of the industrial sector in raising the added value and employment level thus reducing unemployment compared to other sectors.

1.3. The importance of this study:

The importance of this study revolves that industrial sector is one of the most important pillars which promotes the economic development in any country because a set of reasons. It is related to many other sectors that affect and are affected by it. It is also considered a complement and a resource for the other sectors in addition to the importance of its contribution to the Algerian economy through increasing the added value added and working to know its size in the development the economy.

1.4. Methodology and Study Plan:

In this study, the analytical descriptive approach was adopted because the research was concerned with the exposition and study of the industrial sector reality in Algeria and its characteristics through analyzing the most important economic indicators during the period (2007-2016) according to statistics of the National Bureau of Statistics. To answer the previous question, this study was divided into:

- Generalities about industry, industrial sector, and industrial policy.
- The reality of the industrial sector and its contribution to the Algerian economy during the period (2007-2016).
- Suggested solutions for the advancement of the Algerian industrial sector.

2. Generalities about industry, industrial sector, and industrial policy :

After independence, Algeria gave great importance to the industrial sector as industrial policy is one of the most important long-term structural policies. The industrial sector is one of the most important strategies that contribute to the economic development of any country, as it provides jobs and improves the status of its trade balance through exporting. This section will shed light on the concepts of the industrial sector, the industry, the types and mechanisms of industrial policy, and the importance of the industrial sector in the economy.

2.1 the definition of industry, the industrial sector

2.1.1 the definition of industry:

Industry, with its broad concept, includes the different marketed services of enterprises. By its narrow concept, it is related to factory industries, i.e. to those producing activities that operate in converting raw material to final industrial products in these factories or enterprises. (قدي، 2006، ص24)

The concept “industry” indicates also the action of producing, in other words means the conversion of raw materials and intermediate goods to final services and goods to satisfy the public needs in production domains, investment and consumption. Therefore,

industry interacts consciously with the physical environment to make it more beneficial and satisfactory for the human. Moreover, industry is able to find access the customer whether raw, intermediate or final materials and thus it includes all economic producing activities. (بن هنية، 2008، ص05).

2.1.2 The definition of the industrial sector:

The industrial sector plays an important and determinant role in the economy through providing materials and equipment for the remain producing sectors and their different sectors. This enables these sectors to raise its quality of performance and competitiveness. The industrial sector also influences the payments balance through influencing the current account. (Lila DOUADI, 2015, p55).

The industrial sector is classified under the manufacturing industries, extractive industries and construction industries:

- ✓ Manufacturing industries: which manifest in different activities that transfer the raw material to industrial consumable products. These industries are responsible for converting materials of extractive industries and agricultural sector to make it useful and satisfying the consumption and production needs (حيدر، 2006، ص04). For this reason, this type of industry is considered as one of the main branches of the economic sector in a way influences all development process of the economy and contributes directly and indirectly to the growth of other sectors. Manufacturing industries include the industry of electronics, electricity, food, construction materials, textile, leather and shoes, wood, paper, chemicals and plastics.
- ✓ Extractive industries: these rely on natural resources and include the extraction of oil, natural gas, raw metals and nonmetals. (بودرامة، 2017، ص198)
- ✓ Construction industry: It includes construction, public works and petroleum works.

2.2 The concept of industrial policy:

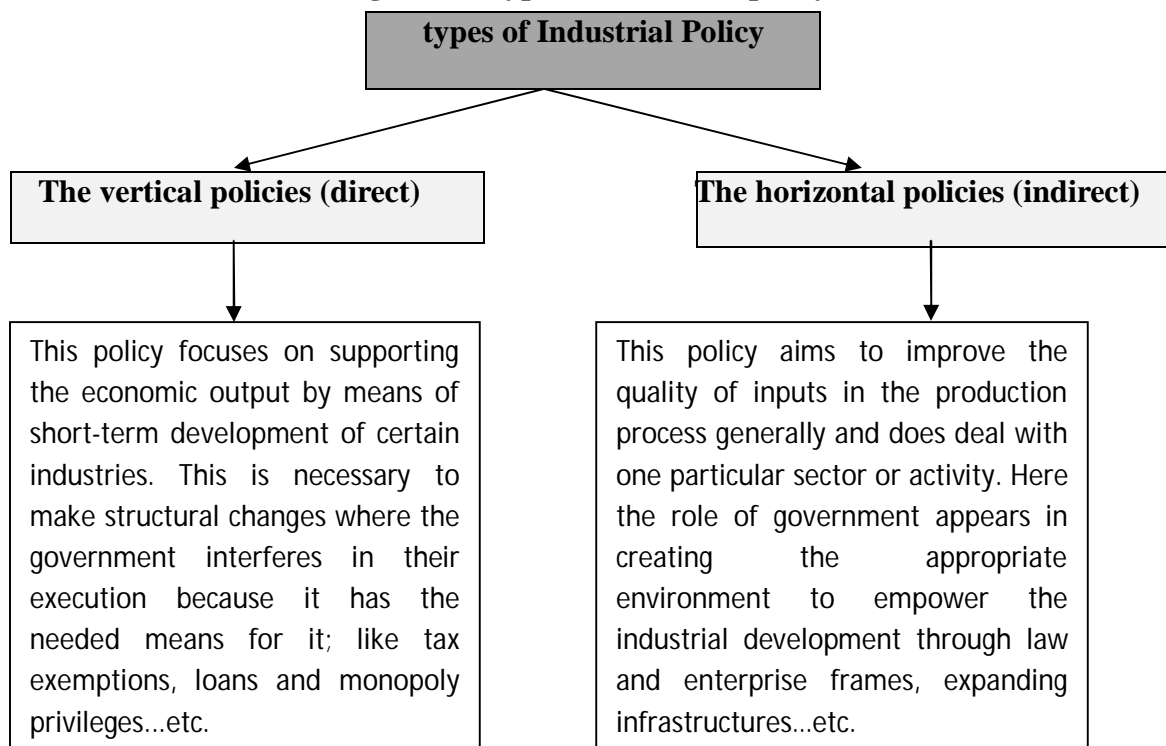
The industrial policy can be defined as the strategy that enhances the competitive ability in the market. It depends on the advanced skills and innovation in addition to the supporting enterprises and active social policies (Karl Aiginger, 2014, p1). Baylis and El-Agraa defined the industrial policy as the policy that involves all state's policies and activities related to industry, the same way Curzon said that it is generally "any governmental measure or a set of measurements to promote or prohibit the structural change" (Gilberto Sarfati, 1998). Whereas, Khalil Hussein defined it : "a set of procedures adopted by governments to execute a particular policy through many means ;such as tariffs, fees, exchange rates, bank credit, subsidies and interest rates, in order to influence decisions related to industries or industrial behaviors of a production side or investment or others..etc therefore supporting exports or replacing imports by local industries. (خليل، 2007، ص273)

2.3 Types and mechanisms of industrial policy

2.3.1 Types of industrial policy:

The industrial policy can be divided into two types; horizontal and vertical industrial policies where it is more explained in the following figure:

Figure (1): types of industrial policy



Source: prepared by the two researchers depending on:

- Zaid B. and Debauriya B: "Investment, Employment and Value Added in Bangladesh Manufacturing Sector in the 1980's: Evidence and Estimate: The Bangladesh Development Studies, June 1991.

2.3.2 The industrial policy mechanisms:

These are the following: (عبد المجيد قادي، 2006، ص 245-246)

A. Offering financial aids: they take the form of public spending in the sector, or tax exemptions. This mechanism is to increase the projects' revenues that meant to support investments in the sector.

B. Public markets: the governmental purchases of the industrial sector have an important influence on developing the sector and save industrial firms regardless the prices of the buying process.

C. Adopting the policy of competition: the government adopts this policy to control alliances and monopolies, to fight the illegal forms of competition and anti-dumping.

D. Public initiatives: these initiatives go throughout the establishment of public industrial enterprises especially the large ones, so they enable public authorities to promote the industrial activities.

E. Legislation: these legislations include how to establish enterprises and make them work, business affairs and the different relations between enterprises and workers just to avoid the different forms of abuse.

2.4 The importance of industry in economy:

Industry is one of the significant sectors in the economy because it contributes to stimulating the economic cycle. On this regard, its importance is summarized in the following : (*See : 147ص، 2017، هيشير، and 40ص، 2005، ملدحت،*)

- The industry is characterized by its ability to create employment opportunities and to contribute to alleviation of unemployment because the majority of developing countries suffer either from compulsory unemployment shown or masked, or optional unemployment.
- The existence of a diversified and strong industrial sector narrows the negative effects of instability in the economies of developing countries and makes them more resilient to crisis.
- The continuous technical updates and labor division and specialism in it lead to increase productivity which itself contributes to the growth of the national income through the complementary relations between industry and the other sectors.
- Contributing to the provision of foreign exchange and treating trade balance deficit through producing goods that replace imports or goods for export. This leads to increase incomes and betters the level of well-being.
- The growth of the industrial sector leads to the growth of other sectors so the economic growth's rate increases as well. This is due to the interrelationship between them in terms of providing them with the production means like machines and equipment, and at the same time it is a market for exposing agricultural products that are produced in it.
- -Contributing to the diversification of production sources, income and exports in developing countries, which increases the contribution of industry to GDP, and thus less dependence on exporting raw materials to keep the country away from change in prices or external demand where corruption or circulation experienced occasionally by developed countries are reflected in their demand for these materials. The growth rate of

external demand for some raw materials tends to decline due to their industry's reliance on technical and technological modernization.

3. The industrial sector reality and its contribution to the Algerian economy during the period (2007-2016)

Industry is the cornerstone of the development process and the industrial sector is one of the most important criteria used in measuring the progress or backwardness extent of countries. Based on this, we will present in the following paragraphs the statistics that indicate the position of industry in the Algerian economy by analyzing its contribution to some economic indicators during the period (2007-2016).

3.1 Characteristics of the Algerian industrial sector:

After independence, Algeria gave priority to a diversified public industrial base, because production was directed at the internal market in order to liberalize the national economy, but thanks to the economic reforms that Algeria underwent in the early 1990s, this sector was strongly driven by the national economy. For the industrial sector, we can deduce the advantages of the industrial sector in the following: (*see: بزارية، 2015، ص 138 and Doeringer, P.B et Terkla, 1995*)

- The production capacity is enormous but not used due to several factors: weak production factors, inefficient management techniques and business management what lead to poor performance and low industrial productivity.
- Largely weak growth rates because of the weak competitiveness of the sector as a result of the semi-absolute protection policy adopted previously and its narrowed purpose of just meeting domestic demand.
- Imported and non-modern technology contributed to the high cost of production in this sector, which contributed subsequently to the poor quality of its products.
- Obsolete production equipment in many Algerian factories.
- Lack of attention to the quality of products and quality of performance.
- Low level of efficiency and experience dealing with consumers needs and market requirements.
- Lacking diversification of exports because of the large dependency on the hydrocarbons sector.
- The dominance of light industries and the near absence of heavy industries that are the basis for building a strong economic structure.
- Weak use of advanced technologies in modern industries has led to a decline in the quality of industrial products.
- Low revenue and growth rates resulting in poor productivity due to the incompatibility between industrial establishments and the competitiveness rules in the market.

- Mass production capacity is not fully exploited, due to the weak production factors and inefficient management techniques and business management.

3.2 The contribution of the industrial sector in the gross domestic product during the period (2007-2016)

GDP is one indicator that enables the judgment of any of the world's economies. But it does not reflect the real level of economic development, as we may find countries with high rates in their GDP, but they lack diversity and economic development, such as the Algerian economy.

Table (1): The contribution of the economic sectors in the gross domestic product in Algeria during the period (2007-2016)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Agriculture (Billion AD)	885.1	902.1	1157.2	1269.8	1478.5	1775.1	2031.6	2131.9	2398.1	2625.5
percentage of agriculture contribution in GDB	7.86	7.02	9.60	9.17	9.24	10.21	11.02	11.29	12.37	12.84
Industry (Billion AD)	7866	9181.9	7820.2	9332.3	10730.9	11366.1	11329.9	11695.8	11028	11442
Percentage of industry contribution in GDB	69.9	71.54	65.95	67.4	67.13	65.41	61.51	60.26	56.9	55.97
Services (Billion AD)	2506.5	2752.9	3066.1	3244.8	3778	4238.7	5062.6	5522.9	5954.9	6376
Percentage of services contribution in GDB	22.24	21.44	24.45	24.43	23.63	24.38	27.47	28.45	30.73	31.19
Total	11258	12836.9	12043.5	13846.9	15987	17397.9	18424	19350	19381	20423

Source: Based on:

- ONS, «les comptes économiques de 2000 à 2014», publication n° 709, Alger, Juillet 2015, pp10-17.

- ONS, « les comptes économiques de 2011 à 2016 », publication n° 786, Alger , aout 2017, pp 07-08.

Figure (2): Development of the Gross Domestic Product by Sector during the Period (2007-2016)

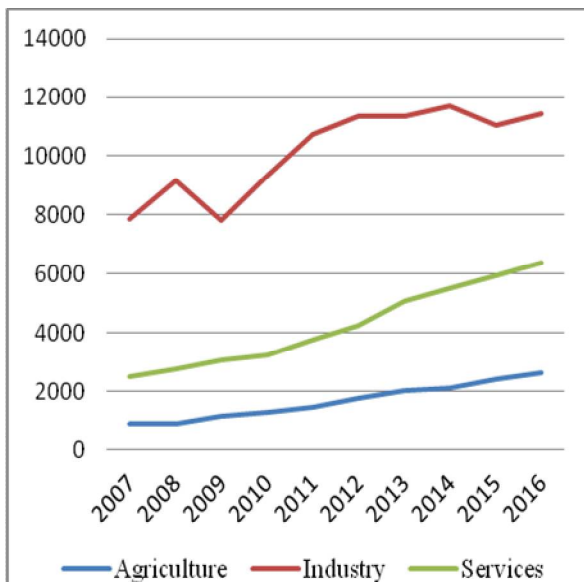
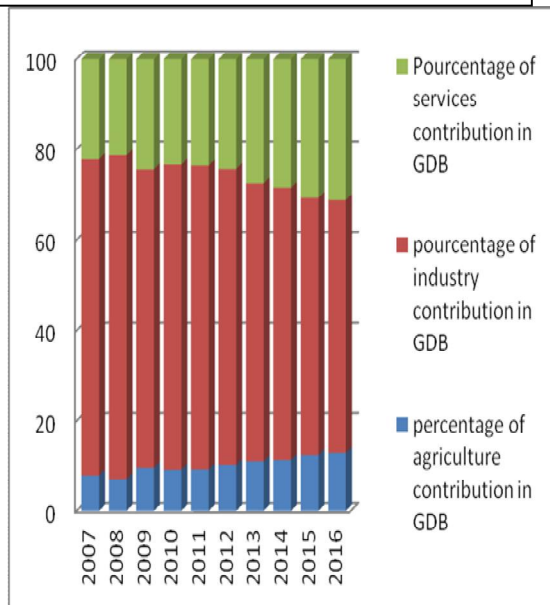


Figure (3): The contribution rate of each economic sector to the gross domestic product during the period (2007-2016)



Source: conducted by the two researchers and based on the data of the table (1)

Figure (2) shows that the participation of the industrial sector in the gross domestic product during the period (2007-2016) was wobbling when witnessed a significant decrease between 2008 and 2009. This is due to the global financial crisis which led to the collapse of oil prices in the global markets and the decline in production. While it recorded a positive successive development with some declines to fall again between 2014 and 2015 due to oil prices decline. The agricultural and services sectors have experienced steady growth in the gross domestic product over the period (2007-2016).

It should be noted that the industrial sector in Algeria takes the lion's share in terms of its participation in the gross domestic product for not few reasons. The great contribution of the extractive industries is one reason which contrasts the orientation of developed industrial countries.

Whereas figure (3) shows that its contribution to GDP reached 71.54% in 2008 and despite the decline recorded for the period from 2007 to 2016, it still represents more than 55% of the

GDP (2016) compared to the agricultural sector which represents more than 12% and services sector with more than 31% of GDP (2016).

3.3 The contribution of the industrial sector to the added value during the period (2007-2016)

The added value is the contribution of production elements (labor, land and capital) to an increase in the value of a particular product. This shows the role of added value in the various economic sectors in Algeria.

Table 2: the Contribution of economic sectors to the added value in Algeria during the period (2007-2016)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Agriculture (Billion AD)	708.1	727.4	931.3	1015.3	1183.2	1421.7	1627.8	1771.5	1935.1	2140.3
percentage of agriculture contribution in added value	8.82	7.80	11.56	10.51	10.48	11.48	12.70	13.36	15.56	16.40
Industry (Billion AD)	5394.1	6473.9	4774.6	6055.2	7239.5	7756.2	7353.7	8225.8	5956.1	6070.56
percentage of industry contribution in added value	67.26	69.51	59.28	62.71	64.16	62.64	57.42	62.09	47.89	46.52
Services (Billion AD)	1919.6	2113.7	2349.1	2586.3	2862.6	3205.6	3827.4	3254	4546.5	4837.84
percentage of services contribution in added value	23.92	22.69	29.16	26.78	25.36	25.88	29.88	24.55	36.55	37.07
Total	8021.8	9315	8055	9656.8	11258.3	12383.5	12808.9	13251.3	12437.7	13048.7

Source: Based on:

- ONS, « les comptes économiques de 2000 à 2014 », publication n° 709, Alger, Juillet 2015, pp10-17.

- ONS, « les comptes économiques de 2011 à 2016 », publication n° 786, Alger aout 2017, pp07-08.

Figure (4): the added value Added Development by Sector during the Period (2007-2016)

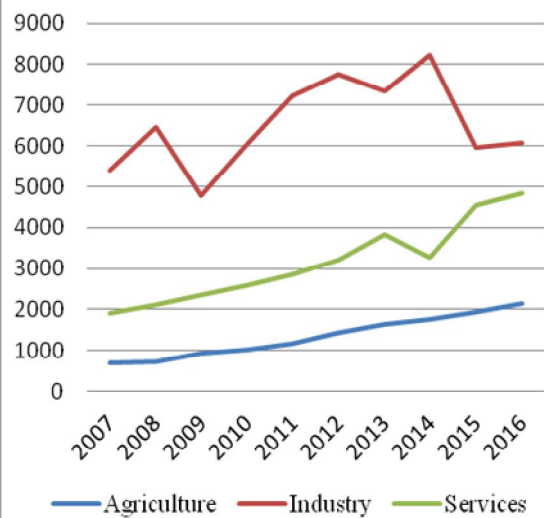
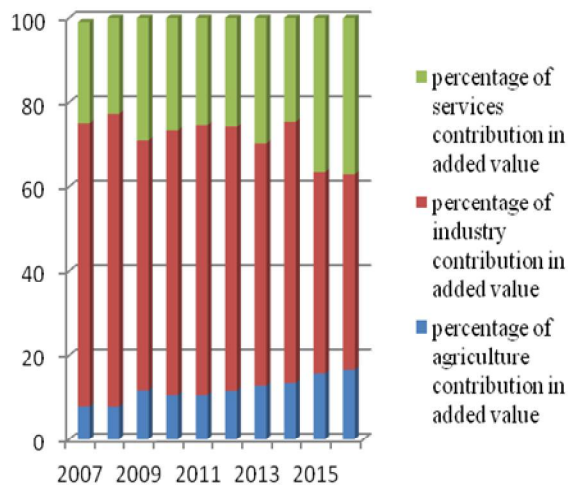


Figure (5): Percentage of contribution of each economic sector to the added value during the period (2007-2016)



Source: conducted by the two researchers and based on the data of the table (2)

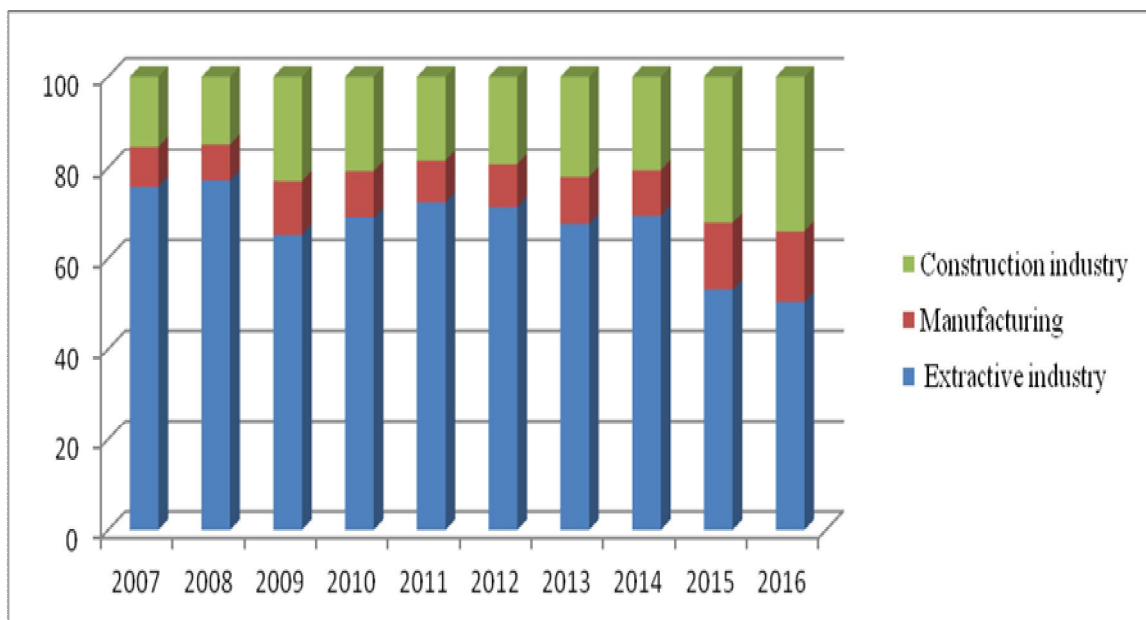
Based on figure (4), we notice that the added value of the agriculture sector continued to increase during the period 2006 and 2007. This value increased from 708.1 billion DA in 2007 to 2140.3 billion DA in 2016, what equals 16.40% in 2016, while it was just 8.82% in 2007.

As for the services sector, it was a development; from 1919.6 billion DA in 2007 to 4837.84 billion DA in 2016, an increase of over 152% during 10 years. This increase led to an increase in added value as it leaped from 23% in 2007 to 37% in 2010. This is in accordance with the policies applied by the state for developing investment, such as micro-credit and service-oriented projects thus they contributed to increase of the added value of this sector.

The industry sector witnessed a fluctuation in the added value. It experienced a significant decline between 2008 -2009, and 2014- 2015 due to national and international crises. This is confirmed by the fourth figure, where the industry share of contribution in to the added value declined from 67.26% in 2007 to 46.52% in 2016.

The following figure shows the distribution of the added value of the industrial sector according to the nature of industry during the period 2007-2016.

Figure 6: the distribution of the added value of the Industrial Sector by Industry (2007-2016)



Source: Based on:

- ONS, « les comptes économiques de 2000 à 2014 », publication n° 709, Alger, Juillet 2015, pp10-17.

- ONS, « les comptes économiques de 2011 à 2016 », publication n° 786, Alger aout 2017, pp07-08.

The Algerian industrial sector relies on three main industries: the extractive industry which includes oil, natural gas, ores and non-metallic materials. Manufacturing that includes electrical and electronic industries, food, construction materials, textile, leather and footwear, wood and paper, chemicals and plastics. And construction industry that involves construction, public works and petroleum works.

Figure(6) shows that the extractive industry dominates the industrial sector in Algeria, accounting for 75% of the total industry in 2007, falling to 50% in 2016. Nevertheless, extractive industries are the mainstay of the Algerian economy, which makes it vulnerable to crises due to changes in oil prices.

The construction industry witnessed a positive development during the period (2006-2017). This progress went with the policies adopted by the Algerian government to

promote growth and development through housing projects, thus enhancing the construction sector during this period.

However, the manufacturing sector is characterized by varying percentages. Its contribution is still limited as it is relatively weak compared to the extractive industries. This weakness reflects the inability of industrial products to compete in the local market, in addition to the privatization process witnessed by the sector. The retreat of importance of manufacturing industries just indicates the decline in the process of manufacturing in general.

3.4 The contribution of the industry to labor employment in Algeria during 2007-2016

Labor is one of the most important factors of production, and it is the basis of industry as the industry contributes to reduce unemployment by providing permanent or temporary jobs. The following table illustrates the contribution of the economic sectors to labor force in Algeria during the period 2007-2016.

Table (3): The contribution of the economic sectors to labor force in Algeria during the period (2007-2016)

(Unit: one thousand workers)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Agriculture	1171	1252	1242	1136	1034	912	1141	899	917	865
Industry	2551	2716	2912	3223	2962	2498	3198	3116	3153	3360
Services	4872	5178	5318	5377	5603	6260	6449	6224	6524	6620
Total	8594	9146	9472	9736	9599	9670	10788	10239	10594	10845

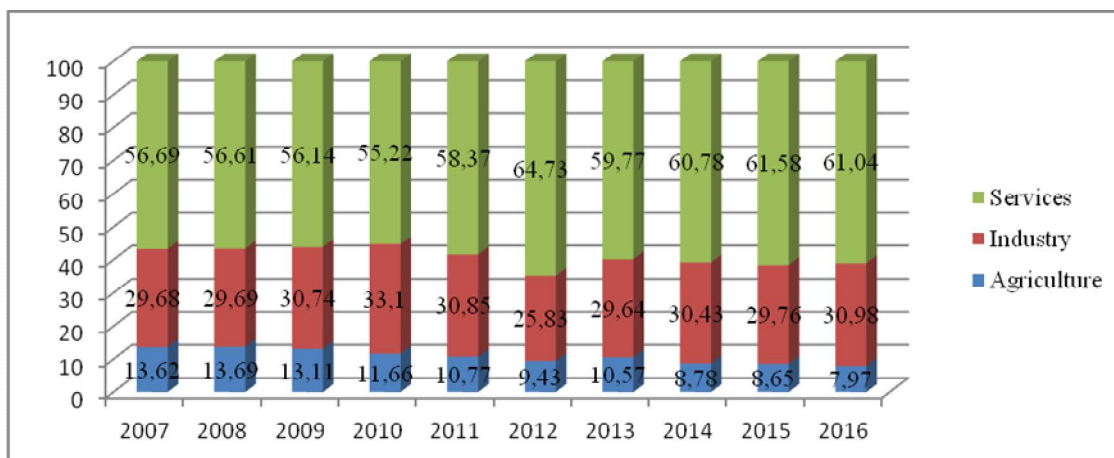
Source: Based on:

- ONS, "Emploi et chômage" , 2007-2010. <http://www.ons.dz>

- ONS, "activité, emploi et chômage" , publication n° 592,651,653,683,726,763 des années 2011, 2012, 2013, 2014, 2015, 2016, p05.

Table(3) shows that labor size in Algeria varies from one sector to another as the services sector has the largest share, moving from 4872 thousand workers in 2007 to 6,620 thousand in 2016. While the agricultural sector is known as the weakest contribution to the labor force as it did not exceed 865 thousand workers in 2016. The industrial sector recorded an estimated growth of 809 thousand workers between 2007 and 2016. The figure shows the contribution of each sector in the total Algerian labor during the period (2007-2016).

Figure (7): Evolution of the contribution of economic sectors to the labor force in Algeria during the period (2007-2016).



Source: conducted by the two researchers and based on the data of the table (3)

Figure (7) shows that the services sector occupies the first place in terms of labor force, followed by the industrial sector where is the average rate of 30% of the total labor force during the period (2007-2016) . Therefore, we come out that this sector contributes with modest percentage to unemployment elimination. In spite of this, the Algerian government should provide incentives to invest in the industrial sector in order to attract more workers. The agriculture sector is ranked the last with only 10.82% during the study period.

3.5 Development of the trade balance in Algeria during the period (2007-2016)

The openness to the world through foreign trade allows countries to get materials they need and export their surplus production. The following table represents the development of the trade balance of Algeria during the period (2007-2016).

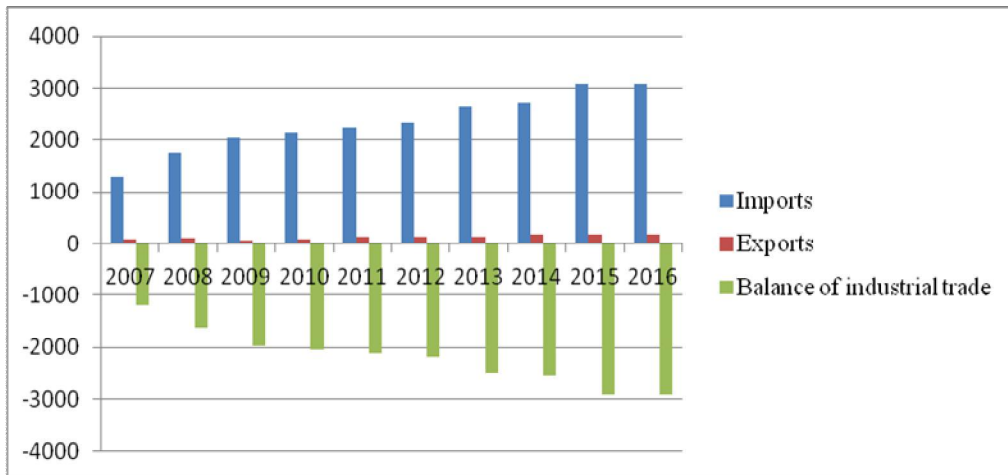
Table (4): The Evolution of Industrial Trade Balance outside the Oil Sector in Algeria during the Period (2007-2016)

	Unit (billion DA)									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Imports	1279.5	1731.2	2036.3	2138.4	2231.5	2325.4	2625.3	2715.4	3080.8	3080.8
Exports	83.8	115.1	65.6	87.7	123.2	133.6	126.2	180.9	172.9	172.9
Balance of industrial trade	-1195.7	-1616.1	-1970.7	-2050.7	-2108.3	-2191.8	-2499.1	-2534.5	-2907.9	-2907.9

Source: Based on:

- ONS, "l'activité industrielle 2005-2015", collection statistique N° 202/2012, Alger, Novembre 2016, p42.

Figure (8): The Evolution of Industrial Trade Balance outside the Oil Sector in Algeria during the Period (2007-2016)



Source: conducted by the two researchers and based on the data of the table (4)

We notice from figure (8) that there is a large deficit in the balance of industrial trade during the period (2007-2016). This is due to the terrible increase of importing industrial goods outside the hydrocarbons sector with low exports of industrial goods. This means the inability of industrial sector outside oil industry to produce and supply the local market with the needed industrial goods, so it is marked with weak contributing share to the GDP during 2007-2016.

4. Proposed solutions for the advancement of the Algerian industrial sector.

There is no doubt that the structure of the Algerian economy, based mainly on the extractive industries, makes it open to domestic and international crises due to its correlation with oil price fluctuations. In order to support the industrial sector and local production, the Algerian government must have to take a set of measures to find solutions to promote this sector, including: (2009, روزي)

- The government must adopt an integrated industrial policy that allows the modernization of production units and meet the local consumer desires and raise the efficiency of productivity by supporting this sector by all necessary means.

- The interest of Algerian private and public industrial institutions to invest in human capital so that the human elements of these institutions can perform their role effectively and in line with the external environment conditions.
- Raising the interest of Algerian companies in research and development and study export markets more accurately and scientifically in order to improve their performance.
- Providing financial facilities to the private sector, and forms of finance that suit the culture of society.
- The State has to make use of all means by improving business environment, encouraging businessmen to invest in the sector to attract foreign direct investment, and clearly determining its framework, objectives and transfers.
- Giving the private sector the freedom to find organizational methods within the framework of comprehensive national development.
- Develop an effective and rational tax policy that takes into account the priorities of economic and social policy while developing the tax, customs and social security administrations.
- Rehabilitation of industrial zones in the name of modernizing the infrastructure and developing management style of industrial establishments.
- Modernization of the production methods and mechanisms, as the aging of production equipment leads to poor products which are unable to compete with imported goods.
- The necessity of diversification in industrial production in order to get out of dependence on oil.
- Providing material and moral incentives in order to motivate employees to make efforts and improve the performance of institutions.
- Paying attention to the good training of manpower and the development of professional competencies in order to create a new generation of labor capable of combining traditional production methods and modern technologies to enhance the competitiveness of the national product.

5. Conclusion:

Through this study, we find that the industrial sector is among the important sector which allows the State to contribute to the internal output and added value. While the contribution of industry in using labor force was modest as it did not exceed 30% of the total labor force during the period (2007-2016). The industrial trade balance, on the other hand, witnessed deficit during the study period of course, and this backs to the terrible increase of imports of industrial goods outside of fuels to Algeria with shortage in exporting industrial goods. It should be noted that these contributions cannot be

considered true for the fact that the extractive industry dominates the industrial sector and it is the base of the Algerian economy what makes it vulnerable to crises resulting of changes in oil prices. In order to get out of this dependency, the Algerian government is required to make reforms and adopt effective economic policies that enable increasing exports beyond oil industry, and to work on developing and habilitating the industrial sector in a way it is possible to produce goods able to compete in the global market.

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