

Historical survey of the industrialization policies in Algeria - An Analytical Study for the Period (1970 – 2016)

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Summary

The issue of industrialization policies in **Algeria** in the context of rentier economy can be especially understood through the analysis of the course of industrialization strategies which was then adopted before and after **1990**, in the light of adoption of directed economy and in the light of the trend towards market economy. In many of development models adopted by many developing countries in order to get out of the trap of poverty and underdevelopment, where manufacturing sectors played a crucial role, having a national manufacturing base is in fact a challenge to economic and political independence. Depending on the above, in order to achieve economic independence for the Algerian economy away from foreign dependence, all and informal resources should be adapted and also give the crucial role for the public formal and private sectors, in order to achieve the ambitious goals (achieve the objectives of manufacturing policies drawn). We will analyze all the above through this research paper.

Industrialization, Industrialization policies, Reflective indicators of **words: Key** industrialization policies, Algerian Economy.

ملخص

إن مسألة التصنيع في الجزائر في سياق معين من اقتصاد ريعي يمكن تفسيره بشكل خاص من خلال تحليل مسار استراتيجيات تصنيعية متبناة قبل وبعد **1990**، أي في ظل تبني الاقتصاد الموجه وفي ظل التوجه نحو اقتصاد السوق. في العديد من نماذج التنمية التي تبنتها العديد من البلدان النامية بغية الخروج من فخ الفقر والتخلف، قد لعب قطاع الصناعات التحويلية فيها دورا حاسما، فامتلاك قاعدة صناعية وطنية هو في الواقع تحدي للاستقلال الاقتصادي والسياسي. تبعا لما سبق، بغية تحقيق استقلال اقتصادي للاقتصاد الجزائري بعيدا عن التبعية الأجنبية، ينبغي تكثيف كل الموارد الرسمية وغير الرسمية وكذا إعطاء الدور الحاسم للقطاعين العام والخاص في سبيل تحقيق ذلك الهدف الطموح (تحقيق أهداف سياسات التصنيع المرسومة). سنقوم بتحليل كل ما سبق من خلال هذه الورقة البحثية.

الكلمات المفتاحية: التصنيع، سياسات التصنيع، المؤشرات العاكسة لسياسات التصنيع، الاقتصاد الجزائري.

Introduction

The world is witnessing rapid and great developments and transformations has appeared on the various economic – social - political and cultural levels, but the degree of development and transformation has varied from country to country and from continent to continent. These transformations are caused by many factors and variables, the most important factor is « **Technology** », which hit most sectors. **The Industrial Revolution**, which was considered the starting point for this transformation and rapid development in various systems of the world, have contributed to the creation of a capitalist economic system based on freedom of labor and trade, the role of major productive institutions in the development of the economy has emerged, thus improving the living conditions of individuals. Accordingly, there has been a rapid movement of urbanization and increase industrial production significantly as a result of the development of equipment and machinery and adopt many new technologies, thus reducing the cost of production and of course new industries have emerged, thus the scope of investments has widened of investment in one sector to invest in many different and integrate sectors, thus expanding the size of domestic markets due to increased production which necessitated securing external markets as a result of increased production, here the imposition of foreign insurance markets to promote surplus production it led to the establishment of international trade based on trade base.

Algeria has adopted since independence as a manufacturing strategy (so – called : **Manufactured Industries**) with a view to achieving economic development away from dependency on the hydrocarbon sector, which depend on economic development theory for Peru and Barney. Algeria's adoption of such a manufacturing strategy led to the financing of large-scale projects in the industrial sector, nearly half of **GDP** in the **1970s** & spending nearly billions in the **1980s**, we repeat that these development projects have been financed by hydrocarbon revenues & also from internal loans. Logically, the industry has been severely constrained by the debt crisis **1994s**, then it was incumbent on the government to resort to abroad for the use of foreign loans to finance investment projects in order to complete the planned development programs at the time.

On the other hand, industry sector outside of hydrocarbons represented only a very small percentage of Algeria's total exports, where they were not characterized by never competitive standards of quality, profitability and excellence. What can be said, that this sector in Algeria was monopolized by the state (**1962 – 1985**) where competitiveness was not one of its strategic objectives, the **1986** crisis showed that industry was not a rule based on development programs but the incomes of hydrocarbons were financing those development projects. Therefore, financing development projects through the proceeds of hydrocarbons his goal was not creating additional value added but had a social dimension which job creation.

What we are trying to present in this paper, is to provide an analysis of the historical evolution of manufacturing policies that began in **1970** to **2016**, we will provide it at key as follows :

1. The historical context of the development of industrialization policies in Algeria before 1990

Since independent, **Algeria** lauched major economic projects in order to establish a dense industrial base, as much of the hydrocarbon revenues have been invested in economic development projects. However, despite these important achievements especially in infrastructure (roads _ factories _ highways _ universities _...etc.), many of which have been estalished by hydrocarbon and gas revenues, the Algerian economy has been experienced many disturbances, which it has not been able to get out of, as well as he could not draw lessons from past failures⁽¹⁾. Many experts have confirmed that it was a result of the lack of strategic vision of economic policy. In fact, to avoid the political _ cultural and social instability, the government tried to adopt an economic approach less dependent on oil and gas⁽²⁾. During this time period (under **the socialist orientation**), we will try to summarize them in two different stages, as shown below :

2.1. Phase I (Planned Economy) (1962 _ 1978)

This period of Algerian economy has been characterized mainly by the nationalization of key sectors and the establishment of public companies, as well as the establishment of an industrial structure and the completion of public companies⁽³⁾. In **1966**, the mines have been nationalized and foreign insurance companies and also signing of the cooperation agreement with France, while the year **1971** has been marked by the nationalized hydrocarbons, when the Algerian government seized **51%** of the assets of French oil companies which existed on the national territory, and in November in the same year the government lauched the « **Agricultural Revolution Project** » and « **the Socialist Administration of Institutions Project** »⁽⁴⁾.

2.2.Phase II (Crisis and restructuring) (1979_1987)

During this period, the Algerian economy has been restructured as a result of the worsening economic crisis in **1986**, due of the fall in crude oil prices in mind – **1985** which has accelerated sharply in **1986**. This period in many economic thinkers has been marked by the following : prices are at their lowest _ structural imbalances of the economy _ economic stagnation and failure in development plans _ balance of payments deficit _ high rate of inflation _ high Unemployment _ low oil prices by **40%** and this has eliminated the ability of the Algerian industrial sectors in support of other sectors, this is what revealed the extent of

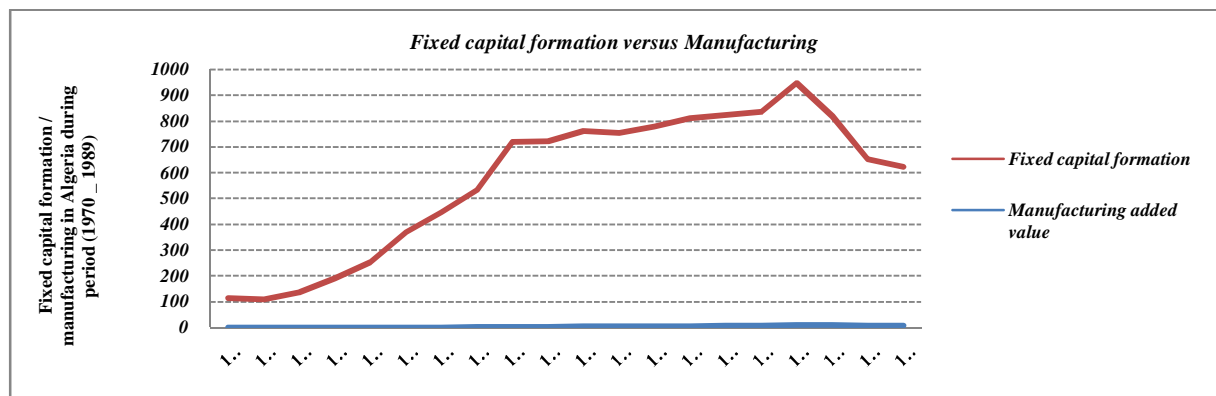
dependence and the fragility of the system that is originally built solely from oil and gas revenues and this has result resulted in increased dependence on the outside to get the goods and services necessary, which means increasing dependence on the outside world, as a result of this previous circumstances Algeria has taken several measures to achieve macroeconomic stability and structural reforms⁽⁵⁾.

2.3.The most important indicators of industrialization policies in Algeria for the period (1970 _ 1989) : the most prominent of these indicators are summarized in the following graphs :

2.3.1. Fixed Capital Formation (FCF) in exchange for industrialization (the added value of manufacturing (MVA))

In **Algeria** and depending the graph below, the added value of fixed capital formation (at current prices to the US dollars) during the period (1970 _ 1989) has been characterized by absolute heterogeneity. Actually, what can be observed is that despite the huge spending of capital that is directed towards investment which may exist in the form of means of production include : buildings and installations _ machines and devices _ motor energy _ equipment and raw materials that are transferred to the goods produced in varying degrees through manufacturing cycles and / or multiple productivity in the form of parts⁽⁶⁾, not offsed by a rise in the value – added of manufacturing represented in production of goods and services, such as : cars _ books and clothes _ furniture and paper _ ...etc., in **Algeria** during the planning period⁽⁷⁾. In this time period, the amount invested in the form of gross fixed capital formation between (1970 to 1989), as estimated at (13,6 billion US dollars) against (5,6 billion US dollars) which is the added value of manufacturing industries for the same period, the gap between them was estimated at (8,31 billion US dollars) which can be considered a loss of capital invested.

Figure 1 : Fixed capital formation versus manufacturing in Algeria (1970 _ 1989)



Source : Prepared by researchers based on the following statistical sources : The World Development Indicators. (2018). **Fixed capital formation at (current prices US dollars), Algeria 1970 to 2016.** <https://knoema.com/atlas/topics/Economy/National-Accounts-GDP-by-Expenditure-at-current-prices-US-Dollars/Gross-fixed-capital-formation>

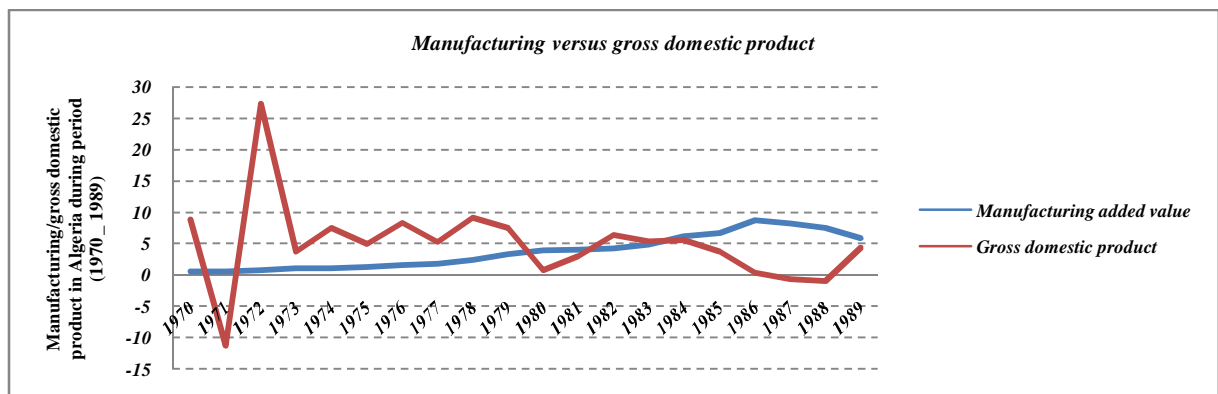
The World Development Indicators. (2018). Manufacturing (value added), Algeria 1970 to 2016. <https://knoema.com/atlas/topics/Economy/National-Accounts-Value-Added-by-Economic-Activity-at-current-prices-US-Dollars/Value-added-in-manufacturing>

Here, we must clarify that this period has been marked by : a period in which production apparatus was established and rentier economy (1970 _ 1980), beginning from (1980 _ 1990) the change in economic policy was the result of lower Oil prices in 1986s which has generated an economic crisis continued until 1990s⁽⁸⁾. According to the above, most researchers consider that the amounts spent in that period especially between (1970 to 1979) its purpose was to create a social basis.

2.3.2. Manufacturing index (MVA) in exchange for gross domestic product (GDP)

Depending on the graph below, the value added of industrialization (current prices of the US dollars in 2010) in return for (GDP) during period (1970 to 1989) has also marked by absolute heterogeneity. The growth of gross domestic product for this period is interesting, but it has declined significantly from the beginning of the year 1988 until 1990 (Oil crisis), the chart below shows a decline in the share of manufacturing industries of (GDP). In such a case, even if the Algerian economy is closed and with no competition from foreign companies it is obvious that with a low manufacturing rate during this period must be offset by a similar decline share of (GDP), at the same pace so that we can interpreted as a lack of effective of industrialization policies applied during this period. Here, the only explanation of the high (GDP) which express « the market value of all goods and services final recognized locally », it is contribution of revenues from hydrocarbon exports in the gross domestic product which reached its coverage ratio of 98% of the total exports during the same period⁽⁹⁾.

Figure2 : Manufacturing versus the gross domestic product in Algeria (1970 _ 1989)



Source : Prepared by researchers based on the following statistical sources : The World Development Indicators. (2018). Manufacturing (value added), Algeria 1970 to 2016. <https://knoema.com/atlas/topics/Economy/National-Accounts-Value-Added-by-Economic-Activity-at-current-prices-US-Dollars/Value-added-in-manufacturing>

The World Bank. (2018). Gross Domestic Product, Algeria 1970 to 2016. <https://knoema.com/atlas/topics/Economy/National-Accounts-Gross-Domestic-Product/GDP-per-capita-growth>

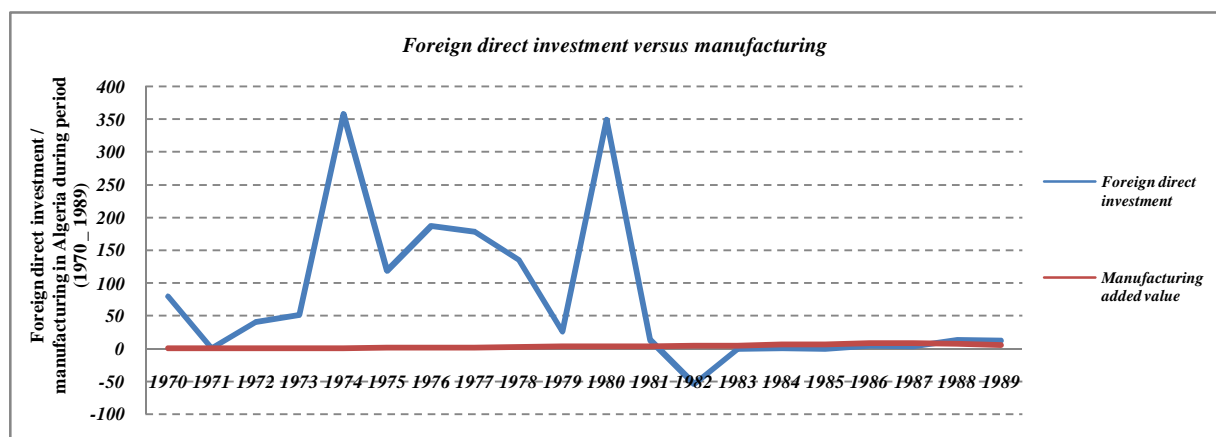
Due to the decline in the share of manufacturing in (GDP), we need to clarify the following points : **first**, the reason for the growth (GDP) during period (1970 to 1987) was the rise of hydrocarbon exports. **Second**, the failure of the manufacturing policy adopted by government

(*Manufactured Industries Strategy*) in activating the manufacturing sector which is caused by : lack of investment in policies that support manufacturing technologies which are key to the success of the manufacturing industries strategy and the failure of policies to support companies capacity which are unable to compete, in addition to the growing dependence on the hydrocarbons sector to operate the rest of the economic sectors especially industrialization sector.

2.3.3. Foreign direct investment index (*FDI*) in exchange manufacturing index (*MVA*)

The next graph, illustrates the nature of the relationship between industrialization sector and foreign direct investment (billion US dollars at current prices) during period (1970 to 1990), has reflected the importance of the contribution of foreign direct investment in the hydrocarbons sector after the decision 1971 relating to the need to open up this sector to foreign direct investment⁽¹⁰⁾. During this period, (*FDI*) has been directed towards the refining sector _ exploration & production_ transport the oil & natural gas, also between (1970 to 1980) the inflow of (*FDI*) increased somewhat to the hydrocarbons sector, this is due to increased interest in investment in oil and gas infrastructure as a result of high oil prices and the danger imposed on the major oil companies to own oilfield, and this has allowed the shortage to be addressed the shortage of financial resources for maintenance and modernization of the hydrocarbons sector. However, in this stage also **Algeria** did not allow foreign companies to produce directly for its own benefit, but its benefited from production sharing contrats and other service contrats with *Sonatrach company*⁽¹¹⁾. As shown in the figure below, the 1980 period was marked by the absence of (*FDI*) this is because different governments in this in this period because they were hesitant about any foreign intervention, and they have questioned the oil and gas recovery plan (*VALYD*) which included a very ambitions investment program. These doubts have led to quasi- stop investments, that because the new investments in (*FDI*) in the oil and gas sector it's not explicitly prohibited, and its have not been sufficiently encouraged. Accordingly, this explains the fact that most foreign direct investments incoming in **Algeria** in this period was directed in the hydrocarbons sector, this is confirms the fact that the absolute heterogeneity between (*FDI*) and (*MVA*).

Figure3 : Foreign direct investment versus manufacturing in Algeria (1970 _ 1989)



Source : Prepared by researchers based on the following statistical sources : The World Development Indicators. (2018). **Foreign direct investment at (current prices US dollars), Algeria 1970 to 2016.** <https://knoema.com/atlas/topics/Economy/Balance-of-Payments-Capital-and-financial-account/Net-FDI-inflows>

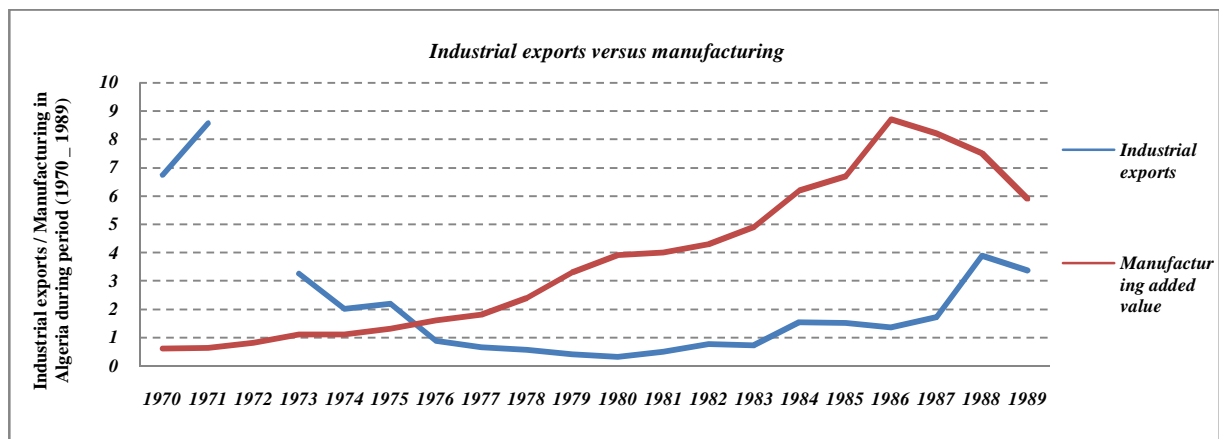
The World Development Indicators. (2018). **Manufacturing (value added), Algeria 1970 to 2016.** <https://knoema.com/atlas/topics/Economy/National-Accounts-Value-Added-by-Economic-Activity-at-current-prices-US-Dollars/Value-added-in-manufacturing>

The points that should be clarified during this period in relation to the existing relationship between (*FDI*) and (*MVA*) in **Algeria** is firstly, industrialization strategy applicable (*Manufactured Industries*) was not aimed at increasing flows to strengthen the industrial sector, but to strengthen the hydrocarbon sector which was considered the only funding source for the strategy. Secondly, foreign direct investment during this period could not bridge the gap between savings and investments to increase the manufacturing capacity of the country which will help diversify the economy⁽¹²⁾.

2.3.4. Industrial Exports index (*IE*) in exchange manufacturing index (*MVA*)

Manufacturing can be created through the flow of goods _ equity capital _ working force, and in contrast manufacturing must create export – oriented goods. But, (**Jacques, 1981**) said that developing countries including **Algeria** on the whole their exports constitute only a small proportion of the total exports of countries especially among the major industrialized countries , and its industrial exports in this time study was very low and was intensive by capital and labor, while high – tech production with low – cost is monopolized by the major industrialized countries⁽¹³⁾. The following chart, illustrates the nature of the relationship between industrial exports and industrialization in **Algeria** during period (1970 to 1989) (unit : billion Us dollars at current prices).

Figure4 : Industrial exports versus manufacturing in Algeria (1970 _ 1989)



Source : Prepared by researchers based on the following statistical sources : The World Development Indicators. (2018). **Industrial exports at (current prices US dollars), Algeria 1970 to 2016.** <https://knoema.com/atlas/topics/Foreign-Trade/Export/Manufactures-exports>

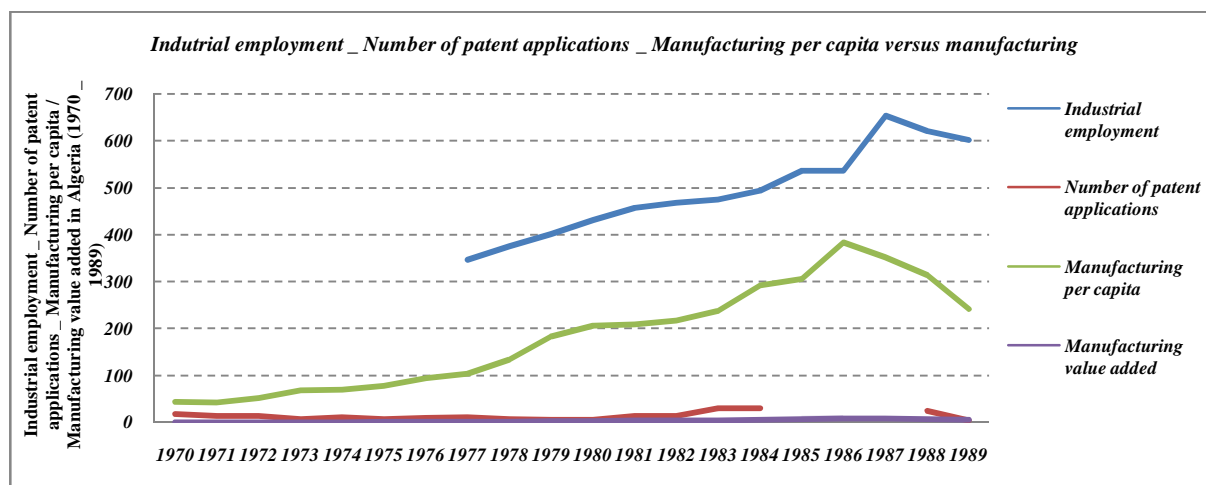
The World Development Indicators. (2018). **Manufacturing (value added), Algeria 1970 to 2016.** <https://knoema.com/atlas/topics/Economy/National-Accounts-Value-Added-by-Economic-Activity-at-current-prices-US-Dollars/Value-added-in-manufacturing>

During this period (1970 _ 1989), average industrial exports outside hydrocarbons sector in Algeria estimated as (-3.3713 billion US dollars) compared to the average manufacturing (5.29 billion US dollars), reflecting the decline in the share of industrial exports un value – added manufacturing during this period. (Lemya Mekarssi, 2016) showed that export coverage ratio during the 1970s was less than imports and also did not pay from exports, this is mainly due to the continuous increase in the rate of investments _ requirements of processing goods _ raw materials _ imported consumer goods⁽¹⁴⁾. As for years 1974 and 1979, the average value of exports outside the hydrocarbons sector was recorded decrease by (-1.603 billion US dollars) in return for the increase in manufacturing added value by (2.2 billion US dollars), the reason is the improvement in the export coverage of imports from (1.6 billion US dollars) until (1.7 billion US dollars) this was the result of an increase in export earnings due to the first and second settlement of oil prices (value added for manufacturing during this period was function of the proceeds of hydrocarbon exports). Beginning in 1980, indicator coverage decreased compared to the previous period and this was the result of lower export revenues from hydrocarbons. During 1983 and 1984, the proportion of export coverage of imports increased again from (1.07) to (1.15) due to the increase in exports so that the coverage of industrial exports outside the hydrocarbons sector from (0.734) to (1.547) in return for the increase in the value added of manufacturing from (4.9) to (6.2). While in 1986, the coverage index recorded a sharp decline from (1.03) in 1985 to (0.85) in 1986, mainly due to the drop in fuel prices where it fell by half, resulting in a significant decline in the total value of exports immediatly after the crisis. The coverage index rose to (1.17) in 1987 to be offset by the high value of exports outside the hydrocarbons sector to (1.726) billion US dollars and to (3.398) billion US dollars in 1988, and in 1989 the value of coverage decreased due to higher imports, especially foodstuffs⁽¹⁵⁾.

2.3.5. Industrial employment index (IE) _ Number of patent applications (PA) _ Manufacturing value added per capita (MVAC) in exchange manufacturing index (MVA)

(UNIDO, 2013) confirmed that the structural change in manufacturing (MVA) based mainly on growing technological content in addition to capital and labor, ultimately leading to increased value added for the manufacturing sector, vice versa. In Algeria during period (1970 to 1990), although the added value per capita in manufacturing (US dollars at current prices) still grow at high per capita income from (42 US dollars) in 1971 to (241 US dollars) in 1989, here were all of the added value of manufacturing and number of patent applications quite different appear devolve to decline from (0.61 billion US dollars) in 1971 to (5.9 billion US dollars) in 1988, and from (14 request for a patent appilications) in 1971 to (04 billion US dollars) this reflects the extent of adoption of the manufacturing sector in Algeria in this period on labor intensity from (375000 workers) in 1978 to (602000 workers) in 1989⁽¹⁶⁾. All of this is shown in the following figure :

Figure5 : Industrial employment _ Number of patent applications _ Manufacturing per capita versus manufacturing in Algeria (1970 _ 1989)



Source : Prepared by researchers based on the following statistical sources : Le répertoire des lois de finance en Algérie . (2016). **Industrial employment (in thousands), Algeria 1970 to 2016.**

The World Development Indicators. (2018). **Number of patent applications, Algeria 1970 to 2016.** <https://knoema.com/atlas/topics/Economy/National-Accounts-Value-Added-by-Economic-Activity-at-current-prices-US-Dollars/Value-added-in-manufacturing>

The World Development Indicators. (2018). **Manufacturing per capita (value added), Algeria 1970 to 2016.** <https://ar.knoema.com/atlas/topics/>

The World Development Indicators. (2018). **Manufacturing (value added), Algeria 1970 to 2016.** <https://knoema.com/atlas/topics/Economy/National-Accounts-Value-Added-by-Economic-Activity-at-current-prices-US-Dollars/Value-added-in-manufacturing>

3. The historical context of the development of industrialization policies in Algeria after 1990

Beginning in 1990, Algeria has implemented a series of structural reforms to embody the transition to a market economy (*the market economy*)⁽¹⁷⁾. With that from 1990 to the present time, the **Algerian economy** is still heavily dependent on hydrocarbon revenues which continues to be the main supplier of national income without succeeding in developing a manufacturing policy, during this period (in light of the direction of the market economy and containment of the crisis)⁽¹⁸⁾. Beginning in 2015, the **Algerian economy** faced a severe external shock and it is likely to be long – term which calls for the need to deter them to adopt a solid manufacturing policy indicating fiscal and structural adjustment⁽¹⁹⁾. We will try to summarize all of the above in two different stages we show it in the following way :

3.1. Phase I (Crisis and Privatisation) (1988 _ 1993)

There are many reasons for introducing privatization in **Algeria**, where those reasons include the following points : improving the financial position of the government and reducing the burden on the public treasury_ strengthening market forces, competition and improving the performance of national institutions and encourage the expansion of commercial property. We

can say, that the process of privatization in **Algeria** began in the **1986** coinciding with a significant drop in oil revenues and the austerity plan resulting from that bitter fact⁽²⁰⁾. The first major reform came in state-owned companies (SOEs) in **1988** (law No. **88 _ 01**), where the main objective of this reform was to redefine the existing relationship between the State and those companies (SOEs) and the role each party must play⁽²⁰⁾. Here, the goal was clear to allow those companies to be more independent in their activities and in the formulation of its decisions, while the State remained the sole owner of those companies, but all measures during this period can be said to have been strict and its have centered around : devaluation of the national currency_ adjusting government spending _ absorption of excess liquidity⁽²¹⁾.

3.2.Phase II (The transition to the market economy) (1994_2016)

The democratic transition that followed **1988** has coincided with the difficulty of controlling the external economic balances especially when it is necessary to deal with the economy caused a drop in oil prices (**1985 _ 1986**), accordingly the (UNDP) was a form process and it was taken step by step beginning from **1986** to become in **1988** as a very difficult and clear option to play the market the largest role in the allocation of resources, here the (UNDP) lives up **Algeria** to the transitional economy. The events **1988 _1991** election result _ a very difficult period due to the insecurity that followed _ access to financial assistance from (IMF) and the resulting measures in turn has reinforced the urgent needs to undertake reform⁽²²⁾. The arrival of international organizations in *Washingtons* to **Algeria** may reverse the direction of liberalization and privatization, in parallel with experts from (IMF). An international consultation has been organized with regard to industrial restructuring by (UNDP) and the *Ministry of Industrial Restructuring* and the participation of (MRIP) in **Algeria**, all participating experts have realized the need for major reforms in the Algerian economy⁽²³⁾. Beginning in **1994**, the transition from a planned economy to market economy was strengthened by the value of Algerian dinar _ liberalization of foreign trade_ edit prices_ rescheduling external debt⁽²⁴⁾. Beginning in **2002**, the **Algerian economy** faced a positive shock in the terms of trade this allowed it to reappear as an economic actor after the great contradiction of it economy (oil crisis and its consequences) so as to show two plans was : economic recovery plan (**2002_ 2004**), and economic growth support plan (**2005_ 2009**) with a total budget of (**100 billion US dollars**).

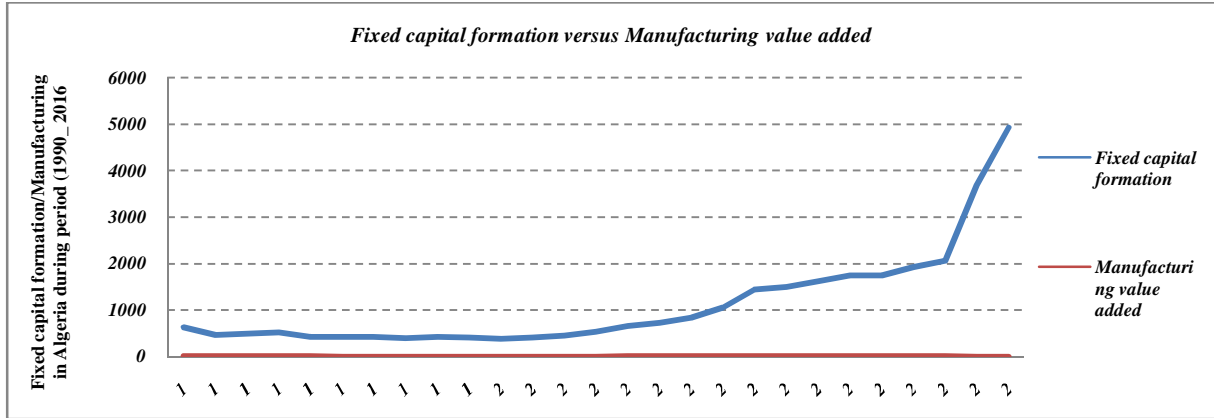
3.3.The most important indicators of industrialization policies in Algeria for the period (1990_ 2016) : the most prominent of these indicators are summarized in the following graphs :

3.3.1. Fixed Capital Formation (FCF) in exchange for industrialization (the added value of manufacturing (MVA))

According to the following graph, between (**1990_ 2000**) the fixed capital formation index (FCF) in **Algeria** has been characterized by a slight decrease, the decrease was estimated by (**0.4 billion US dollars**) in exchange for manufacturing value in same period by (**3.8 billion US dollars**). The slight decline ratio in (FCF) reflect a decline in the value of capital direct

towards investments in various economic activities, on other hand the decline of (MVA) reflects a decrease in manufacturing activities which ultimately translates into manufacturing products.

Figure6 : Fixed capital formation versus manufacturing in Algeria (1990_2016)



Source : Prepared by researchers based on the following statistical sources : The World Development Indicators. (2018). **Fixed capital formation at (current prices US dollars), Algeria 1970 to 2016.** <https://knoema.com/atlas/topics/Economy/National-Accounts-GDP-by-Expenditure-at-current-prices-US-Dollars/Gross-fixed-capital-formation>

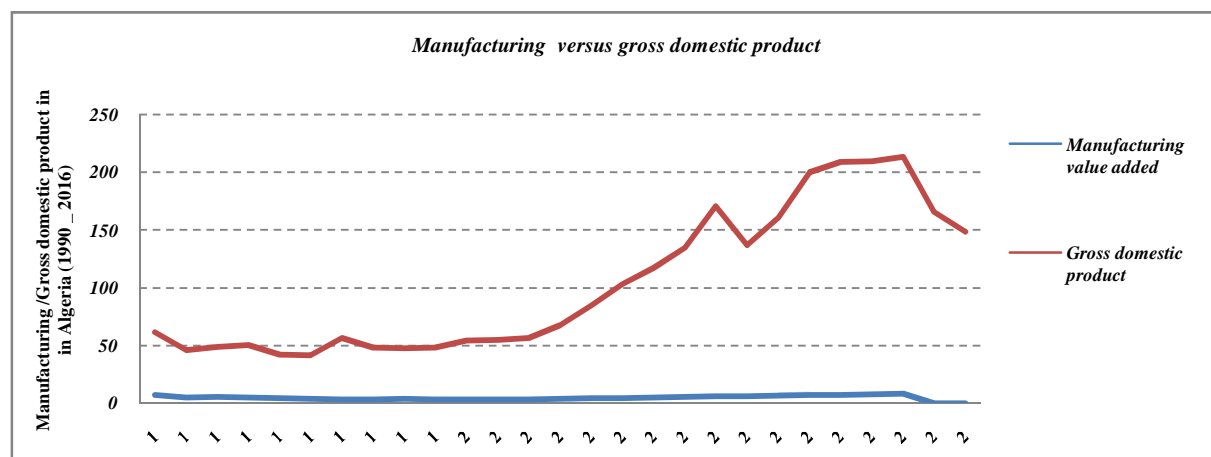
The World Development Indicators. (2018). **Manufacturing (value added), Algeria 1970 to 2016.** <https://knoema.com/atlas/topics/Economy/National-Accounts-Value-Added-by-Economic-Activity-at-current-prices-US-Dollars/Value-added-in-manufacturing>

Beginning from 2001 to 2016, the increase in (FCF) by (65.5 billion US dollars) mainly due to higher fuel prices in international market in exchange for a very slight increase in the value of manufacturing (MVA) estimated by (4.4 billion US dollars).

3.3.2. Manufacturing index (MVA) in exchange for gross domestic product (GDP)

According to the graph below, the manufacturing index in **Algeria** saw a very sharp decline from 1990 to 2004 where the decline was estimated at (-2.2 billion US dollars) offset by domestic gross product which is taken a completely different path in the same time period where it witnessed a clear decline beginning in 1991, and soon came back to rise in 2002 there has been considerable growth since then. Gross domestic product (GDP) includes more than one economy activity including industrialization, in fact (GDP) does not necessarily have to move according to manufacturing, thus the (GDP) series beginning from 1990 to 2016 behave quite differently from the manufacturing series (*transformative industries*) in **Algeria**.

Figure7 : Manufacturing versus the gross domestic product in Algeria (1990 _ 2016)



Source : Prepared by researchers based on the following statistical sources : The World Development Indicators. (2018). **Manufacturing (value added), Algeria 1970 to 2016.** <https://knoema.com/atlas/topics/Economy/National-Accounts-Value-Added-by-Economic-Activity-at-current-prices-US-Dollars/Value-added-in-manufacturing>

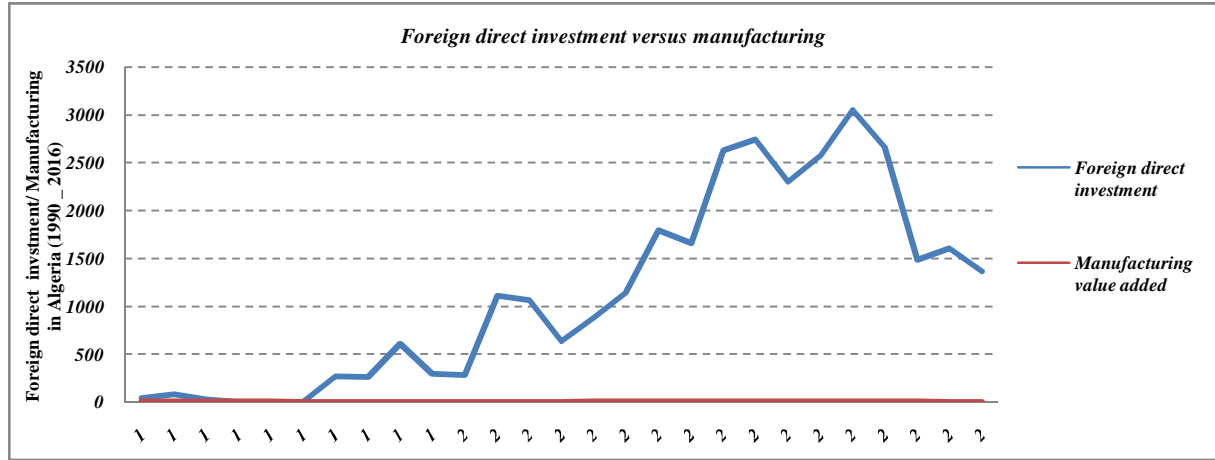
The World Bank. (2018). **Gross Domestic Product, Algeria 1970 to 2016.** <https://knoema.com/atlas/topics/Economy/National-Accounts-Gross-Domestic-Product/GDP-per-capita-growth>

Depending on the above, manufacturing (MVA) is a powerful measure of the value added of factories, thus the decline in its value in **Algeria** during period from **1990** to **2016** reflects the fragility of the productive sector represented by productive institutions in addition to the almost complete absence of the productive companies and factories extracted fossil energy. In the same study period, the (GDP) has been falling and rising it was between (1990 until 2003) it reflects the decline share of oil in (GDP) (from **32.9** US dollars per barrel), and the increase in height from (2004 to 2014) reflects also the increasing share of oil in (GDP) (from **43.1** US dollars to **179.9** US dollars par barrel). After **2014** until the end **2016**, oil prices have seen a significant decline what resulted in a decline in gross domestic product (from **165.9** billion US dollars to **149.04** billion US dollars)⁽²⁵⁾.

3.3.3. Foreign direct investment index (FDI) in exchange manufacturing index (MVA)

Study period between (1990 _ 2016) has been characterized by three basic stages. **The first stage**, between (1990 and 1995), this period has been characterized by a near total absence of foreign direct investment received in **Algeria**, caused by the deterioration of the economy due to lower fuel prices. **The second stage**, between (1996 _ 2012), witnessed the flow of (FDI) into **Algeria** a very big leap from (270 billion US dollars in 1996 to 3052 billion US dollars in 2012), in this study time period particularly the (FDI) has been encouraged to some extent by the most attractive new tax legislation and institutional framework (investment law 1993 amended by decree 2001). The graph below show that :

Figure8: Foreign direct investment versus manufacturing in Algeria (1990 _ 2016)



Source : Prepared by researchers based on the following statistical sources : The World Development Indicators. (2018). Foreign direct investment at (current prices US dollars), Algeria 1970 to 2016. <https://knoema.com/atlas/topics/Economy/Balance-of-Payments-Capital-and-financial-account/Net-FDI-inflows>

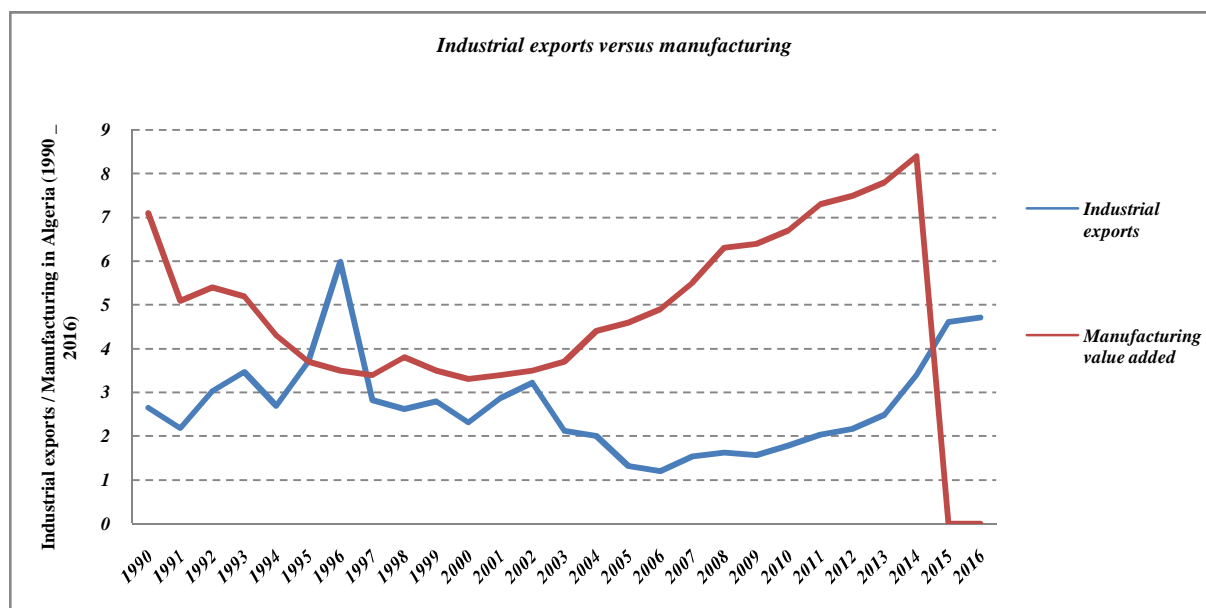
The World Development Indicators. (2018). Manufacturing (value added), Algeria 1970 to 2016. <https://knoema.com/atlas/topics/Economy/National-Accounts-Value-Added-by-Economic-Activity-at-current-prices-US-Dollars/Value-added-in-manufacturing>

The third stage, between (2012 to 2016) marked by a sudden drop in inflows of (FDI) in Algeria from (2661 billion US dollars in 2013 to 1365 billion US dollars in 2016), many analysts believe it was due to the fragility of the Algerian economy in the face of economic crises and to the political uncertainty of investors at a high level of geopolitical risk⁽²⁶⁾.

3.3.4. Industrial Exports index (IE) in exchange manufacturing index (MVA)

The following figure shows the nature of industrial exports versus manufacturing in **Algeria** during period from (1990 to 2016), the coverage index dropped (exports / imports) from (1.58 in 1991) to (0.89 in 1993) resulting from the decline in the value of oil exports, the proportion of non-oil exports has seen a significant rise from (2.181 in 1991) to (3.468 in 1993) and the reason is the liberalization of foreign trade, the rise continued until 1996.

Figure8 : Industrial exports versus manufacturing in Algeria (1990 _ 2016)



Source : Prepared by researchers based on the following statistical sources : The World Development Indicators. (2018). **Industrial exports at (current prices US dollars), Algeria 1970 to 2016.** <https://knoema.com/atlas/topics/Foreign-Trade/Export/Manufactures-exports>

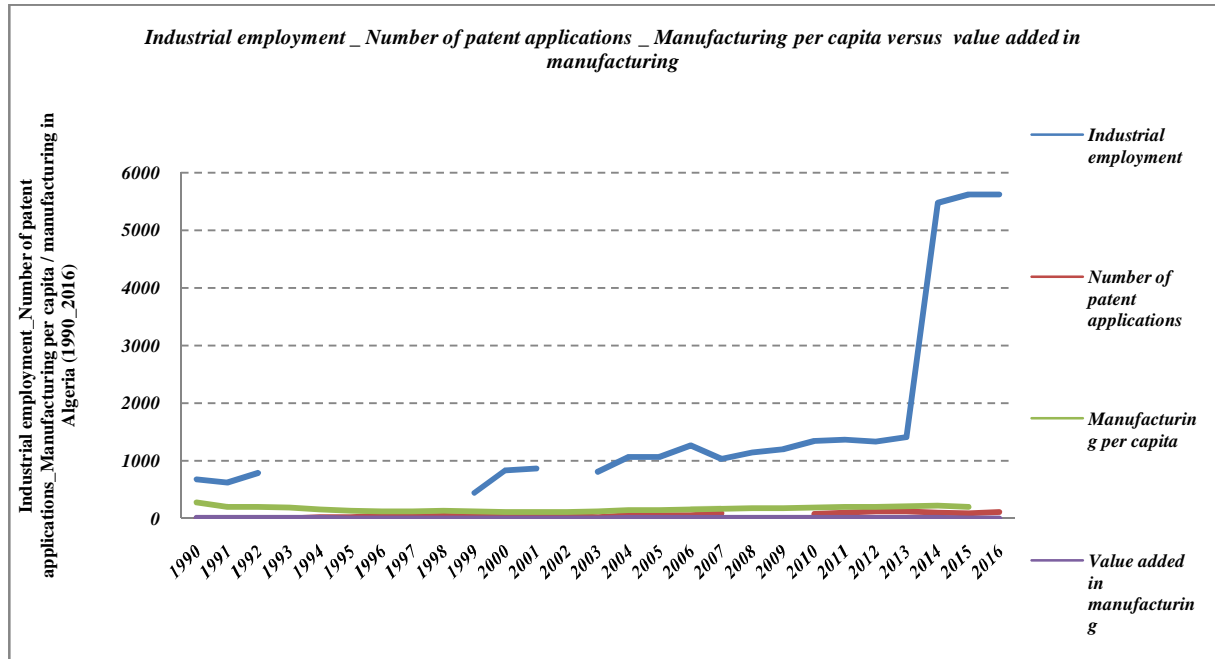
The World Development Indicators. (2018). **Manufacturing (value added), Algeria 1970 to 2016.** <https://knoema.com/atlas/topics/Economy/National-Accounts-Value-Added-by-Economic-Activity-at-current-prices-US-Dollars/Value-added-in-manufacturing>

Beginning from (1996 until 2016), it has been recorded in the value of exports outside hydrocarbons by (-2.582), this is due to an increase in imports of industrial goods in exchange for exports⁽²⁷⁾.

3.3.5. Industrial employment index (IE) _ Number of patent applications (PA) _ Manufacturing value added per capita (MVAC) in exchange manufacturing index (MVA)

From 1990 to 2016, the value added per capita has been in the industrial sector a significant decrease from (282 US dollars in 1990) to (207 US dollar in 2015), in contrast the number of workers in the industrial sector increased from (670000 workers in 1990) to (5621000 workers in 2016) and here, we have to distinguish that from (1990 to 1999) and also from the **figure9** below that **Algeria** has seen a significant reduction in the number of workers in the industrial sector from (626000 workers in 1990) to (441000 workers in 1999) with an estimated decline of (185000 workers), this is due to the application of privatization programs which resulted in large layoffs in most sectors of the economy. Contrary to the above, through the following graph, we note a slight increase in the number of patents applications (from 06 patents applications in 1990 to 106 patents applications in 2016), this rise due to the liberalization of foreign trade depending on the implementation of the terms (IMF) and as a result of the trend towards a market economy.

Figure9 : Industrial employment _ Number of patent applications _ Manufacturing per capita versus manufacturing in Algeria (1990 _ 2016)



Source : Prepared by researchers based on the following statistical sources : Le répertoire des lois de finance en Algérie . (2016). **Industrial employment (in thousands), Algeria 1970 to 2016.**

The World Development Indicators. (2018). **Number of patent applications, Algeria 1970 to 2016.**
<https://knoema.com/atlas/topics/Economy/National-Accounts-Value-Added-by-Economic-Activity-at-current-prices-US-Dollars/Value-added-in-manufacturing>

The World Development Indicators. (2018). **Manufacturing per capita (value added), Algeria 1970 to 2016.**
<https://ar.knoema.com/atlas/topics/>

The World Development Indicators. (2018). **Manufacturing (value added), Algeria 1970 to 2016.**
<https://knoema.com/atlas/topics/Economy/National-Accounts-Value-Added-by-Economic-Activity-at-current-prices-US-Dollars/Value-added-in-manufacturing>

During this period, the added value of manufacturing has experienced a continuous decline from (7.1 billion US dollars in 1990) to (3.9 billion US dollars in 2016), but it has grown slightly compared to the decline in employment in the industrial sector resulting in sustainable productivity gains at all levels of work.

4. The most important results of manufacturing strategies in the framework of industrialization policies adopted in Algeria before and after 1990

Based on previous curves, which illustrates the reflective variables manufacturing policies in **Algeria** before and after **1990**, we concluded the following points :

- **Algeria** has allocated fixed capital formation (FCF) in order to support the industrialization sector as a basis for the rest of the economic sectors, but these investments did not contribute in strengthening the manufacturing base, where those

- investments that have been spent was aimed at building a social base (increase in (FCF) in **Algeria** not offset by a similar increase in (MVA)) ;
- Reduction on value added in manufacturing (MVA) before **1990** especially since the beginning of **1988** in **Algeria** not offset by a similar in (GDP), as the rise of the latter was due to the coverage of exports of hydrocarbons by (98%) percent of total exports. After **1990**, value added in manufacturing (MVA) was recorded a decline which lasted until **2016** and offset by a rise in (GDP) which may be interpreted as a rebound due to higher fuel prices, this reflects the fragility of the manufacturing sector and the industrialization policy adopted by the Algerian government and its ineffectiveness in strengthening the Algerian economic structure ;
 - Foreign direct investment (FDI) inflows in **Algeria** focusing on the hydrocarbons sector which is the only financing sector supporting the economics sectors in our country. Here, the manufacturing sector had no chance of attracting such investments, which is due to a lack of a favorable manufacturing environment ;
 - Industrial exports index (IE) outside the hydrocarbons sector in **Algeria** has recorded a decline in its share of value added for manufacturing (MVA), where the decline in industrial exports explains the non-escalation of national industrial goods outside the hydrocarbons sector to compete the foreign industrial exports, on the other hand most of the manufacturing sector output is directed solely at the domestic market ;
 - The adoption of the industrial sector in **Algeria** to intensity both capital and labor (IE) without relying on technological development approaches (PA) or (R&D) in manufacturing field, which in turn will reduce the size of the huge costs accompanying use (PA) or (R&D), during the manufacturing cycle in both study periods (before and after **1990**).
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