The economic sectors in Algeria according to structural transformation indicators

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Abstract:

This article aims to try to identify the extent to which Algeria has achieved degrees of transformation in the economic sectors by analyzing the indicators of structural transformation during the period 2000-2020, relying on the descriptive analysis approach to extract the results of the indicators indicating this, Such as the index of economic complexity and agricultural orientation, as we discussed in this study other indicators such as the productive capacity in each economic sector, relying on data and statistics from official national and international bodies to extract these indicators, such as the World Bank, the Food and Agriculture Organization, and the National Statistics Office.

Among the most important results of this article is the weakness of some indicators such as the economic complexity index, which recorded a decline during the period studied, and the agricultural orientation index. The rest of the indicators recorded weak growth and decline in some periods, indicating that the advanced economic performance of the productive capacity index was weak during the period studied. From this, we concluded that Algeria did not achieve the programs outlined for the planned structural transformation. Accordingly, the study recommended reconsidering the programs outlined for economic development in order to raise the rate of economic growth and full employment and raise the competitive advantage of the productive sectors.

Keywords: Structural transformation, economic sectors.

Jel Classification Codes:O1, O17, O18.

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1. Introduction:

The essence of economic transformation is to achieve structural rebalancing and structural modernization through structural adjustment and institutional change. It represents a shift in the economic structure from low-productivity, labor-intensive activities to advanced economic activities with high productivity and a highly skilled and technical workforce. It is both a development issue and a reform issue. Achieving high-quality productivity requires structural transformation. The economic structural transformation in Algeria has its own distinctive characteristics. On the one hand, the consumption structure of my country's population is undergoing significant changes, and on the other hand, changes in the global economic landscape have profoundly affected the external environment with regard to the transformation of my country's economic structure.

The goal and purpose behind the trend towards structural transformation is to raise productivity in the country's economic sector, especially the industry and services sector, develop human resources, and use mechanization and modern skill-intensive technologies.

Labor mobility is strongly influenced by the availability of high-paying jobs in productive sectors that require these skills, because even when these jobs are available, workers may move to a new sector only if they are trained in the skills required by the new sector. Therefore, the existing workforce requires the necessary training before moving to the new sector. Recent empirical evidence also suggests that structural transformation can occur even if there is no significant change in labor productivity at all. An example of this is the pattern of structural transformation that Algeria is seeking to achieve. In this study, we will examine changes in the economic structure that are largely driven by the shift towards the key productive sectors that the country has sought to change under its structural transformation programs.

1.1. Importance of the study:

The importance of this research study stems from the importance of the topic, which revolves around the structural transformation programs that countries adopt in order to achieve economic development, as it represents in diversifying the economy, improving productivity, absorbing unemployment, providing financial resources, improving individual income, and other challenges suffered by developing countries, especially Algeria, which seeks through development programs to diversify its economy after its oil revenues deteriorated due to the instability of oil markets and the international trend towards alternative renewable energies.

1.2. Objective of the study

Introducing the concept of structural transformation and its relationship to economic development issues in Algeria, and how to measure and evaluate structural transformation. How to measure sectoral diversity, and introduce methods and mechanisms for achieving structural transformation and sectoral.

To achieve the study objective, we will discuss the following elements:

- First axis: Overview of the performance of economic sectors in Algeria؛
- Second axis: Structural transformation strategies in Algeria؛
- Third axis: Analysis of Structural Transformation Indicators؛
- fourth axis: Structural Transformation Challenges

2. Overview of the performance of economic sectors in Algeria

The process of economic growth must undergo structural economic transformations, most notably the transition from an agricultural economy to an industrial economy, and from an industrial economy to an economy dominated by the service industry. During the industrialization phase, economic growth depends largely on capital accumulation; after the peak of industrialization, economic growth depends largely on human capital accumulation.

Human capital must be accumulated through the following four aspects: improved education, health care, social security, a more open market, a stronger incentive mechanism, and a more detailed and professional division of labor. From a point in time, Western Europe and Japan were the first to undergo transformation after World War II. In the late 1960s and early 1970s, per capita income in them was close to 10,000 US dollars, and the share of value added in the industrial sector was about 35% - 40%. Economic activities began to shift from the industrial sector to the service sector; in the mid-1970s, southern European countries such as Italy and Spain began to transform in the 1980s; and Algeria began transformation programs in the 1990s and early 2000s.

These countries have witnessed many successful cases of economic growth. In order to study the impact of structural transformation programs in Algeria, the contribution of the added value of the economic sectors and their contribution to the GDP must be studied from time to time according to the degree of development in each sector. Sometimes we may find an increase in the contribution of the agricultural sector to the GDP, and at other times we may find a decrease in its contribution.

On the other hand, the contribution of the services sector may decrease at other times, while the contribution of the industrial sector's share in the GDP may increase compared to the share of the agriculture and services sectors. These changes in the contributions of the economic sectors are largely due to the state's strategy in implementing structural transformation programs. It is worth noting here that we may notice a tangible increase in the growth of the industrial sector in recent years and an increase in its contribution to the GDP, in addition to an increase in the contribution and growth of the share of the services sector.

This is largely due to the state's policies in developing these sectors to keep pace with global economic developments. Despite this, the agricultural sector remains the supporting sector for most of the economic sectors that the state aspires to develop, as agricultural products represent the raw primary products of many manufacturing industries, which in turn represent an intermediate material for another final product, in addition to the fact that the primary products of the agricultural sector are at the same time final products that can be consumed directly.

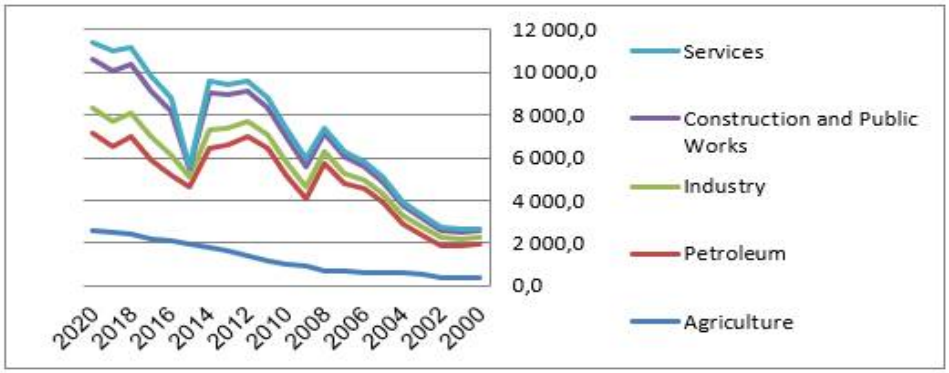
2.1. Development of the added value of productive sectors:

Most economic sectors in Algeria have witnessed significant growth in economic added value outside the oil sector at a weak rate during the period from 2000 to 2022, as the hydrocarbon sector dominated and represented about a third of the added value throughout the study period, as the share recorded about 47% during the period 2000-2009 (shetouh , 2017, p. 248), indicating a diminishing role of other economic sectors in economic growth. With the decline in oil prices, which began in 2014, services benefited from the decline in the hydrocarbon sector's share of GDP more than agriculture and manufacturing, which are the traditional drivers of structural transformation.

However, the two sectors benefited more than others from performance improvement programs and government subsidies over the past decade (C, AFRICA E, 2019, p. 9). The contribution of the agricultural sector to GDP has grown in the second decade of the twenty-first century, recording an average of 10.7% compared to 8.4% during the first decade of the same century. Hence, working to raise productivity in the agricultural sector will inevitably lead to raising productivity in the industrial sector, and thus contribute to raising economic productivity in general and raising economic growth rates and wage increases rates, which in turn will work to move production factors from low-productivity industrial activities to high-productivity industrial activities.

Growth has not exceeded 12% in any case during the period (2010-2020). This growth rate has fallen by almost half (4%) in the past three years. However, it should be noted that there has been a decrease in growth volatility, due in particular to the adoption of modern irrigation techniques and to more rational management of crop paths, as agriculture still depends on rainfall afnd climatic conditions. It is also worth noting that Algeria is the third largest importer of wheat and milk powder in the world, after Egypt and Indonesia for wheat, and China and Vietnam for milk powder (Ben Daoudia , 2022, p. 43).

`Fig N° 1: Development of added value of economic sectors in Algeria



Source: National Office of Statistics, Economic Accounts, Rqpports 2015-2020.

It is noted that the large proportion covering the GDP is hydrocarbons and their derivatives, which is the same for commercial exports, as hydrocarbon exports cover the largest proportion of them. The industrial sector and manufacturing industries continued to suffer from the Dutch disease syndrome throughout the entire period. It is noted from the figure above that the contribution of the value added of the manufacturing sector to the total value added amounted to 13% before 2000.

Between 2010 and 2020, this contribution witnessed an increase in the share of this sector, reaching approximately 14%, after it witnessed a decline and was at low levels in the period preceding it between 2000 and 2009, when the contribution of the industrial sector was about an average of 10% (C, AFRICA E, 2019, p. 10). In the same context, the private sector largely covered four of the seven industrial sectors of the economy. In all industries, the private sector's share amounts to 65% of the total share of the industrial sector (National Office of Statistics, 2015 to 2020).

This increase in the private sector and its growth in this way is the result of the state's strategy to privatize economic activity and support the private sector in raising the wheel of development in the country, through which individuals and companies are allowed to invest more and contribute to economic development.

Despite the government support programs and policies for the private sector and the strategies developed by the state to ensure its greater participation in the wheel of economic development, they were below the level outlined and required by these programs and strategies, as the growth rate of the manufacturing industry recently during the period (2010-2020) reached about 4%, and the construction and public works sector witnessed a decline in its growth to 6% as a result of the slowdown in public investment.

2.3. Development of employment in the productive sectors in Algeria

The operational workforce has witnessed significant growth across various economic sectors in the country, with the services sector witnessing growth as a result of the significant trend towards investment in this sector in recent years, unlike other sectors.

Services are considered one of the sectors with the highest returns and the lowest costs compared to other sectors such as agriculture and manufacturing industries, as the share of the services sector has grown significantly in the total workforce from about 35% in 2000 to nearly 50% in 2020.

However, it should be noted that this percentage includes employees of central and local administrations who represent between 65% and 75% of the total services. The trade sector, which mainly includes retail and wholesale, represents 15%, and tradable services represented 26% of total services in 2018, compared to 13% in 2010. This category of services is the closest to the concept of the economy shifting to the third sector. The share of the construction sector initially rose from 10% to 17% between 2001 and 2018. This growth is due to public investments in this sector (Ben Daoudia , 2022, p. 45). This increase is attributed in particular to housing projects that include the construction of five million (05 million) homes, public works and hydropower projects, including the construction of the East-West highway, a road with a length of more than 1,200 kilometers, and several dams and bridges (C, AFRICA E, 2019, p. 11).

The share of the industrial sector in total employment increased from 2000 to 2020, including hydrocarbons, which account for a relatively low share of employment (2%), and even decreased to 1% in 2018. Some of the jobs lost in manufacturing, especially government, were transferred to administration and agriculture as a result of the structural adjustment program (C, AFRICA E, 2019, p. 21). Between 2000 and 2016, apparent labor productivity growth increased to an average of 5% for agriculture, 3% for services, and decreased by -2% for industry. These average rates show mixed trends. Productivity in the industrial sector was higher during the period (2000-2013), reaching US$30,000, compared to US$10,000 in services and about US$6,300 in agriculture.

Industry includes the hydrocarbons sector, which is a very capital-intensive sector. The low productivity level in industry is largely due to the low productivity level in the Hydrocarbons, which saw their nominal production halved since 2014, and services benefit from higher income levels generated in the financial sector (mainly banking institutions) and in the less labor-intensive real estate sector.

However, agriculture caught up with services in 2013 by about $13,500) and services caught up with the level of industrial productivity in 2014 by about $18,500, and thus we note an increase in the productivity of the agricultural sector, which in fact reflects the impact of the efforts made in this sector over the past two decades (Ben Daoudia , 2022, p. 46). The evolution in labor productivity during the years (2000-2010) and the period (2011-2020) indicates that productivity within sectors remained much higher than the overall productivity of several sectors, which reflects a weak structural transformation in the Algerian economy (Halawi & Hadrouk , 2023, p. 41).

Table N°1: Distribution of the labor force according to economic sectors in Algeria

Sector	Services	Construction and Public Works	Industry	Agriculture
2000	3.864	617	826	2.427
2005	4.393	617	1 059	1 381
2010	5.377	1.212	1 337	1 136
2011	5.603	1.886	1 367	1 034
2012	6.260	1.595	1 335	912
2013	6.449	1.91	1 407	1 141
2014	6.224	1 826	1 290	1 007
2015	6.524	1 776	1 377	917
2016	6 620	1 895	1 465	865
2017	6 417	1 847	1 493	1 102
2018	6.513	1.901	1.89	1.146
2019	6.726	1.774	1.434	1.067
2020	6.857	1.890	1.450	1.083

Source: Prepared by the researcher based on data from the National Office of Statistics, statistical data, employment, various numbers.

2. Structural transformation strategies in Algeria:

Studies indicate the importance of strategic planning through developing strategies, plans and programs that help implement and support the structural transformation process in any country, with the aim of achieving the ultimate goal of enhancing the added value of productive sectors. Algeria has begun to adopt many strategic programs and plans that establish economic programs that seek to achieve several economic goals, perhaps the most important of which is stimulating sectoral economic growth, enhancing self-reliance, creating more job opportunities in sectors with high added value, and supporting economic diversification (Habib & Zegrir, 2018, p. 115).

The strategic programs and plans of the various governments of the state in their development goals address the difference in the sectoral structure in each of them, and thus their view in developing strategic plans differs, but in general they are keen to diversify their economic structures and increase the contribution of other sectors to the gross domestic product due to the fluctuations witnessed by the global oil markets, and indeed these sectors have achieved remarkable growth in some economic sectors, and these programs also work to enhance the digitization of the services sector due to the strategic importance of this sector, and a number of strategies that have contributed to supporting structural transformation efforts in Algeria are referred to as follows (Talha, 2020, p. 30):

- ✓ Adopting an economic policy with a positive impact on all sectors (sustainable development).
- ✓ Adapting reform programs to suit the needs of the labor market by providing job opportunities and increasing the purchasing power of the individual.

- ✓ Rationalizing the regional spread of industrial and mining development.
- ✓ Adopting modern rules for the governance of the general budget.
- ✓ Energy transition towards a more rational and environmental model.
- ✓ Transition to a knowledge economy and rapid digital transformation.
- ✓ Substantial improvement of the business climate.

The strategic economic plan contains interim goals that are set in stages that are either annual or five-year, depending on the specificities of each sector. The most important features of the economic reform programs included in the strategic economic vision are reforming the tax system, reforming the financial and banking system, adopting new rules for budget governance, reforming the statistical information system, economic and social, and the foresight and statistics function.

3. Analysis of Structural Transformation Indicators

3.1. Structural Transformation Models

Structural transformation is the process by which resources are transferred on a large scale from some sectors to other sectors in a single system, usually coinciding with fundamental changes in the policies and objectives of that system. The term can refer to the model or mechanism by which economic activities are redistributed across the various broad and multiple sectors of the system, including agriculture, manufacturing, service provision, and many others (Al-Daraji, 2022, p. 105).

The main objective of the structural transformation mechanism is to create and find an effective balance between the various sectors in a single system, and to enrich and enhance the growth of a single sector and integrate it with other diverse and multiple sectors. Among the most prominent and famous structural change models are Arthur Lewis's "surplus labor of two sectors" model and Hollis Chenery's model in "Structural Change and Development Patterns."

3.1.1. Arthur Lewis's two sector model

In the mid-fifties of the last century, Arthur Lewis concluded his model of economic development, as this economist assumed that the developing economies and the economies of underdeveloped countries in the world are largely dominated by two sectors that are considered the main ones in building these economies: a backward and traditional agricultural sector that lives at the level of self-sufficiency in production, as it suffers from a lack of mechanization and backwardness in the use of modern technologies in agriculture, which results in weak returns and productivity, and the second is a developing industrial sector within the framework of the trend towards development and urbanization, and that the marginal productivity of surplus labor in the traditional sector is very low or zero, and in contrast, the modern sector is characterized by high and high productivity due to the great technological development that the world is witnessing in this field, and he also

assumed that the level of wages is fixed in the modern industrial sector, and is determined at a level higher than the subsistence wage in the traditional agricultural sector, and he assumed that workers' wages are high in cities and at least 30% higher than the average wage in rural areas, in order to encourage workers to migrate from rural areas to urban cities to work in the industrial sector, and accordingly this assumption (stability of wages in (Industrial sector) leads to the rural labour supply curve in the industrial sector being perfectly elastic (Hosni, 2008, p. 120).

3.1.2. Hollis Chenery's Model of "Structural Change and Development Patterns"

In analyzing "Development Patterns", Chenery relied on the standard analysis of cross-sectional data between countries, and time series data for countries, and at different levels of average per capita income. Chenery also relied on historical data for about 100 countries (developed and developing) and used standard analysis to measure the relationship between average real per capita income - as an indicator of growth - at different levels, and a set of economic variables. His applied studies led to the identification of many distinctive features of the development process, and Chenery divided these features that accompany the development process into three main groups:

- **First**: Accumulation processes: They result from a rise in the average real income per capita, which results in higher rates of savings and investment, which results in growth in the formation of physical capital, and capital flows from abroad decrease.
- **Second**: Resource allocation processes: These processes include the following:
  - A shift in the production structure.
  - A shift in the structure of domestic consumer demand.
  - A shift in the structure of foreign trade.
- **Third**: Demographic and distributional processes: The standard research study conducted by "Chenery" indicates the expectation of changes in the demographic and distributional aspects of society, if there is an increase in the average real wage per person, and the most important of these changes are:
  - A change in the structure of employment, as if income increases, the distribution of income will change as employment shifts from traditional production activities that depend on agriculture and crafts to activities that depend mainly on industrial and service production, which is the modern trend in the world of work, and employment rates in cities rise in parallel with it.
  - Also, improving income will improve the health environment and develop the health sector in general in the country, which works to reduce the death rate and raise the birth rate with the progress of the stage of economic and social development.

- A change in income distribution, as improving income at the beginning of the change stage will work to reduce the relative share of poor families, and with the increase in income and its continuation, families will experience a significant improvement in living standards and the development of life.
- Development of cities and growth of urban industries: The change in wages and the rise in income in the countryside will lead to the migration of rural population to urban cities.
- The trend of family size and population growth rate towards declining, and the increasing interest of heads of households in quality rather than quantity (Hosni, 2008, p. 130).

3.2. Indicators for measuring structural transformation in Algeria

Measuring structural transformation is important, as it enables decision-makers to make their decisions more accurately, in addition to the possibility of periodically following up on the state's efforts to implement a structural transformation in its productive sectors.

When we want to obtain the status of a certain economy, infrastructure and development of a country, we must first obtain the structure of the economy of this country and a partial analysis of the economic sectors that constitute this economy and the contribution of these sectors and their added value, and study and analyze the distribution of the gross domestic product and local income in the country. To reach these results, we resort to analyzing the statistical data of these economic activities and calculating the index of the contribution of the labor element and the added value of each sector of the economy in the country.

3.2.1. Agricultural Orientation Index of Government Expenditures AOI

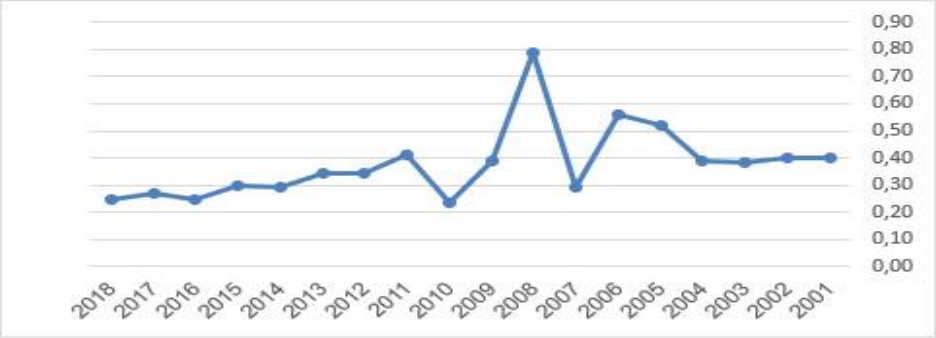
The Agricultural Orientation Index (AOI) of government expenditures is one of the indicators used to measure the process of structural change. We use this indicator to calculate and measure progress towards achieving Goal 2 of the Sustainable Development Goals. In order to measure this progress, we must know that it expresses the contribution of the agricultural activity share of government expenditures divided by the share of agriculture in the gross domestic product, and we mean the agricultural sector here, agricultural activities, forestry and fishing.

As for the implications of this indicator, it is a number that when it is greater than one (1), reflects a greater orientation towards agricultural activity, which receives a higher contribution from the percentage of government spending compared to its contribution to the total economic value added. If this indicator records a percentage less than (1), this means that there is a lower orientation towards agricultural activity, and if it is equal to (1), this means that the government lacks an orientation towards agricultural activity.

Agricultural Orientation Index =

(Agriculture share of government expenditures) / (Agriculture share of GDP)

Figure No. (2): Agricultural Orientation Index (AOI) in Algeria



Source: Prepared by the researcher based on data from the Food and Agriculture Organization of the United Nations

From Figure (2), we note that the Agricultural Orientation Index (AOI) in Algeria during the period (2001-2018) recorded a rate less than the correct one (01), between (0.20) and (0.80), and this shows the state's lack of orientation towards the agricultural sector.

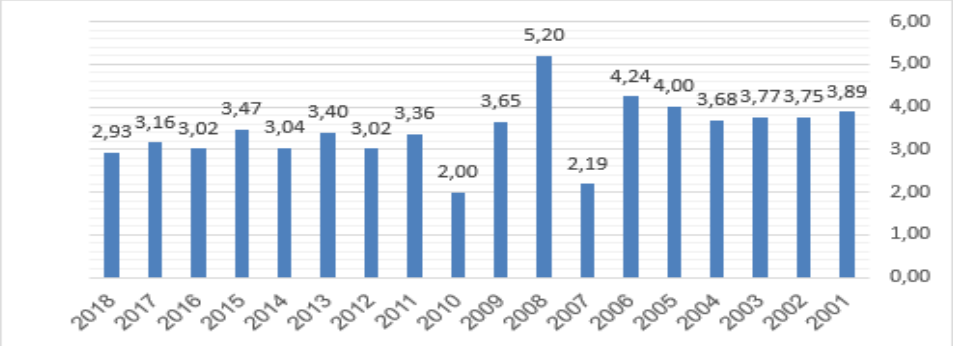
Therefore, we find its weak contribution to the gross domestic product shown in Figure (3), where it reached its highest rate in 2018 at 12% during the period (2000-2018).

Agriculture share of government expenditure = (central government expenditure on agriculture) / (total central government costs).

There is no doubt, based on the data, that this indicator expresses the share of agriculture in government expenditures, and consequently it expresses the state's interest in this sector and its reliance on it as a resource to raise the value of the gross domestic product and diversify the economy, where government financial support programs and the policies it implements to advance this sector also enter here. However, during the period (2001-2018).

as shown in Figure (03), it becomes clear to us that the share of the agricultural sector is very low and does not reflect the agricultural reform programs and agricultural policies adopted by the state during this period, as the share of agriculture reached 05.2% in 2008 and during the previous period as the highest percentage allocated to the agricultural sector from the total government expenditures allocated by the state.

Figure No. (3): The percentage of the agricultural sector in government spending in Algeria

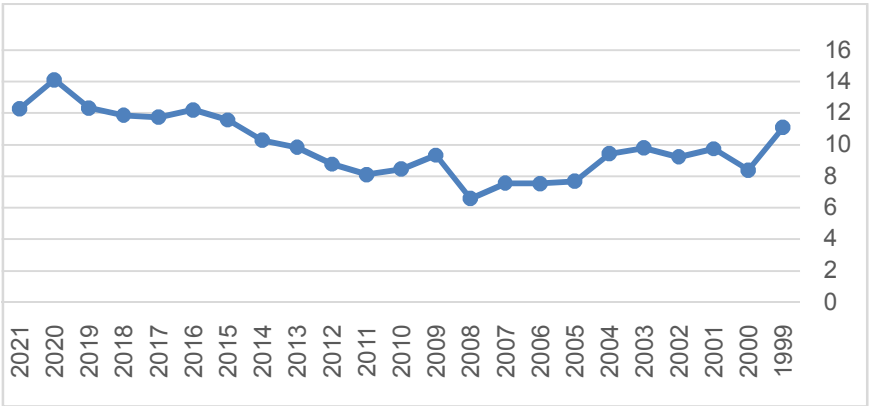


Source: Prepared by the researcher based on data from the Food and Agriculture Organization of the United Nations.

This confirms the weak added value of this sector in the gross domestic product, as it reached 14% in 2020 as the largest contribution and 12% in 2018, as shown in Figure No. (4).

Agriculture share of GDP = (Agriculture value added) / (GDP)

Figure No. (4): The added value of the agricultural sector as a percentage of the gross domestic product



Source: Prepared by the researcher based on data from the Food and Agriculture Organization of the United Nations.

3.2.2. Productive Capacities Index:

It includes eight broad categories that were determined on the basis of several indicators that represent the main channels through which a country's productive capabilities develop, and they are illustrated in the following figure:

Figure No. (5): The main channels of the productive capabilities index

Source: UNCTAD, World Productive Capacity Report, United Nations Conference on Trade and Development, 2020, Geneva, Switzerland.

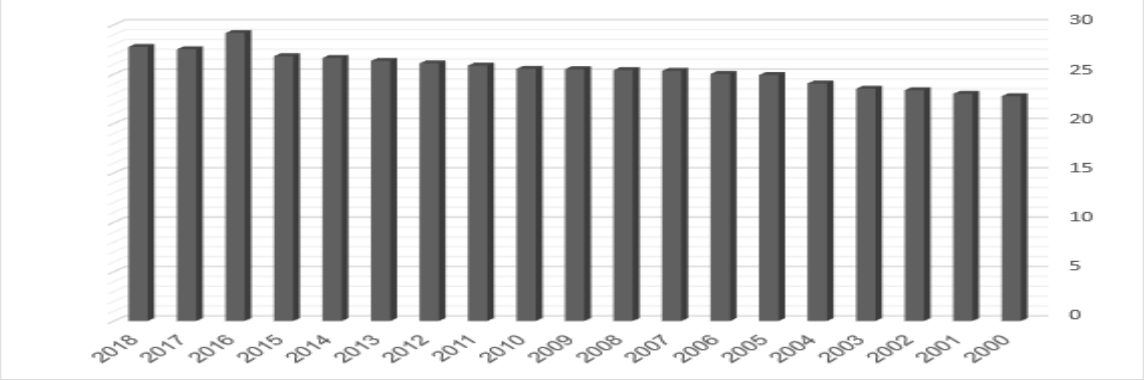
The productivity index indicates the extent of productivity development for a given year compared to a previous base year, with values ranging from 0 to 100, with 100 representing the best result. If productivity is low, the reasons for the decline must be investigated, as they may be due to certain decisions or laws, a change in production technology, the introduction of a new product, the quality of raw materials, or a change in the incentives provided in production.

The overall productivity index represents the average of sub-activities. Over the period (2011-2018), the scores of this index in the least developed countries ranged from 9 to 36. with the average score being 17. The average productive capacity increased from 14.9 to 17.2 during that period, while the productive capacity in other developing countries increased from 27.3 to 28.

Countries with relatively high productive capacity indexes have succeeded in promoting structural transformation and have used their productive capacities to diversify their economies and exports. Figure (6) shows that the productive capacity index in Algeria ranges from 20.7 to 29.16, which means that Algeria is in the process of promoting structural transformation. To achieve this, priority sectors for economic development should be selected: Energy; science, technology and innovation; and private sector development.

All of these elements fall within this indicator, which indicates that the assessment of the utilization of productive capacities indicates that increasing energy infrastructure by 0.1% leads to an increase of only 0.12% in per capita income. If a set of factors are realized in the country's economy, such as the weak contribution of the agricultural sector and its high employment rate, the decline in the competitiveness of the economy and the decline in the productivity of key sectors, especially the services sector, the observed growth of the informal economy within the country, and the weak integration into global value chains, all of these factors and others are likely to affect and limit the structural change in the per capita share of real GDP. (UNCTAD , 2022).

Figure No. (6): Algeria's productive capacity index



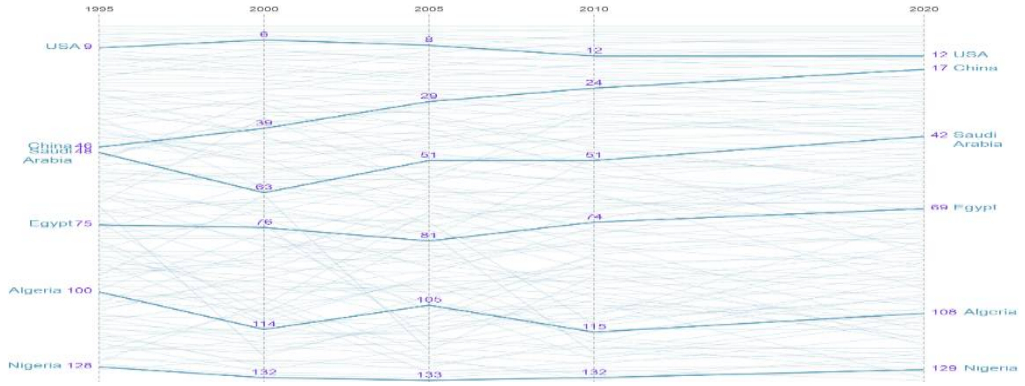
Source: Prepared by the researcher based on UNCTAD data.

3.2.3. Economic Complexity Index:

Economic complexity is one of the important indicators that measures the interpretation of an economic system as a whole. It is a comprehensive measure of the characteristics of economic systems' production. We use this indicator when we want to interpret knowledge by evaluating the diversity and growth of different industrial products in the country. The importance of the indicator appears in its relationship to the country's gross domestic product. The higher the country's economic complexity indicator, the higher its gross domestic product. (Al-Ani, 2022).

Despite the clear progress in some Arab countries, economic complexity is still not at the level of other developing countries. Between 1995 and 2020, as shown in Figure (7), the economic complexity index remained relatively low, with significant variation between countries. During 2020, estimates indicated that Algeria's economic complexity index recorded a late rank (108), while Egypt and Saudi Arabia recorded ranks (69 and 42), respectively.

Figure (7): Economic Complexity Index for some countries during the period 1995-2020.



Source: MIT's Observatory of Economic Complexity.

As we have observed through the analysis of economic data in Algeria, the stability of economic growth and the achievement of high-quality development depend not only on the adjustment and optimization of the consumption structure, industrial structure, urban-rural structure, energy structure, etc., but also on the degree of integration of structural transformation with the international market.

Building a new development pattern is a medium- and long-term development strategy consistent with the direction of structural transformation, and requires mutual promotion of high-level opening-up, high-quality development, and mutual integration of the international market and the domestic market. To achieve this goal, it is necessary to combine high-level opening-up with structural transformation, promote high-level opening-up, and build a strong domestic market in a coordinated manner.

For example, we can use open innovation to solve the "sticky neck" problem and make important breakthroughs in new manufacturing, and we can appropriately expand the import of high-quality goods and services to meet domestic consumer demand and promote the upgrading of the consumption structure; etc. It is necessary to open up at a high level to expand the space for factor allocation and improve total factor productivity. The upgrading from factor flow-based opening to institutional openness will play a greater role in improving the efficiency of resource allocation.

The first is to build a new high-level open economic system focusing on service trade, accelerate the breaking of market monopoly and administrative monopoly in the service industry, and promote the structural optimization and adjustment of state-owned capital planning in the service industry. The second is to strengthen the institutional arrangements for free and convenient service trade.

Accelerate the formulation and implementation of the national negative list for cross-border service trade, reduce "on-border" barriers, and strive to establish free zones at ports and border areas to create new markets for opening up service trade. The third is to promote institutional changes through institutional opening up. Focus on the construction of rules, regulations, management, standards and other systems, and promote

comprehensive and complete integration. Deepen reforms in the integration with international economic and trade rules.

4. Structural Transformation Challenges

Structural challenges vary from country to country, taking into account geographical and demographic factors. For example, countries overlooking sea coasts are characterized by the ease of communication with the outside world via maritime transport to enhance the competitiveness of their exports, and this feature is not available in many countries in the world that do not overlook the sea coast. Demographic characteristics also play a very important role in the structural transformation process.

Countries face some challenges that prevent progress in the structural transformation process, and they are often related to the economic, social and political conditions that prevent the achievement of what is hoped for in the structural transformation process. Once such challenges are avoided, the implementation and follow-up process remains dependent on the extent of the commitment of decision-makers to formulating sound economic decisions that serve the overall goal of the structural transformation process, which is to achieve sustainable economic growth and comprehensive economic development. Structural transformation challenges revolve around the following:

- **Demographic pressures:** Developing and developed countries are witnessing demographic changes globally, with expectations of an increase in the proportion of the population aged over 65 by 2021. This allows developing countries to obtain what is known as the demographic dividend, which is generated by the increase in the number of people of working age who are able to work and are looking for work, but do not find job opportunities. Governments can maximize the demographic dividend by providing job opportunities for the youth category. The manufacturing sector remains a major source of job opportunities.
- **The challenge of using advanced technologies:** Some countries face the challenge of automating and digitizing production sectors, which contributes to slowing down the production process, and thus diminishing the country's production capacity. This is attributed to a number of reasons, including: for example, the difficulty of accessing international markets and the necessary funding for some Arab countries.
- **The social diversity gap in education:** This refers to the quality of education, economic equality between the sexes, and the mismatch of skills. These characteristics still represent a gap between developing and developed countries, but this gap has begun to narrow according to the International Labor Organization over the past twenty years, Enrolment in higher education institutions has nearly doubled to 136 million in 113 emerging and developing economies, creating a highly skilled, low-wage workforce, a key factor in investment allocation patterns.

- **Slowing globalization of production:** The process of accelerating the transformation of global value chains, or the globalization of production, where estimates in this regard indicate the growth of trade in intermediate goods. Although this represents opportunities for countries and companies, it also represents challenges for countries that lack the primary and intermediate goods needed for manufacturing.
- **Climate change:** It poses a major challenge to countries of the world in all their classifications, and requires formulating economic growth hypotheses, including energy savings and carbon reductions, in order to adapt to the phenomenon of climate change.
- Challenges of developing productive sectors in some Arab countries rich in economic and human resources. For example, high agricultural productivity growth can help achieve industrial development, especially in the manufacturing sector, if a suitable foundation is provided based on fair distribution of income and wealth, solid legal and regulatory frameworks, and effective management based on institutionalization and specialization, thus preparing for innovation (Talha, 2020, p. 19).

Algeria has been promoting economic structural transformation and policy changes for a long time in the past, and we can learn from the development experiences of other economies. The process of transforming the economic structure and industrial policies from the old system to the new system may not be very smooth when the development of the capital market is not sufficient to support equity investments, especially since the Algerian capital market is still weak. It is necessary to carefully consider whether this process can be canceled.

High-risk but long-term investments value government financial support. If there is a full and developed venture capital market like the United States, the cancellation of government financial support may not have any effect, because there are enough risky assets in the market willing to participate in investment, but at present, my country's capital market is not so How should the government make a decision in this process? During the transition period, the industrial policy vacuum may not be the best situation, and some temporary arrangements may be needed to help achieve the policy transformation.

5. Conclusion

From the current situation, to promote structural transformation, we need a set of economic and institutional changes necessary to continue to grow income and GDP, change the structure of aggregate demand, production and international trade, reduce illiteracy, prolong life while increasing per capita income level to reach an advanced stage of development, and we need to continuously solve the structural contradictions between policies, systems, laws and legislation, in the short, medium and long term, we need to continuously solve the structural contradictions between demand and supply, industry and service industry, economic growth and social development.

From a practical perspective, structural transformation requires stabilizing and strengthening development expectations, fully stimulating market vitality, and forming a market environment for fair competition, all of which directly depend on achieving breakthroughs in structural reforms. From the perspective of the specific tasks of structural transformation, to adapt to the transformation trend of industrial structure and consumption structure, we must focus on the service sector, strive to break the market monopoly and administrative monopoly, and promote the deep integration of the modern and advanced service industry.

Manufacturing industry, realize the integration of consumption and supply, to adapt to the trend of upgrading the scientific and technological structure, it is necessary to deepen the reform of the science and education system and talent management system, improve the system and mechanism for enterprises to invest in basic research and development, stimulate the vitality of scientific and technological innovation, release the potential of scientific and technological innovation to adapt to the trend of urban and rural structural transformation, it is necessary to strengthen public resources and institutional reform of production for the free flow of factors in both directions, accelerate the improvement of urban and rural infrastructure, etc.

Study results:

After conducting an analytical study of some indicators of structural transformation in Algeria during the period 2000-2018, the study concluded the following:

- ✓ The agricultural orientation index for government expenditures in Algeria recorded a rate of less than one, which indicates that the state is not oriented towards the agricultural sector.
- ✓ The productive capacity index in Algeria is between 20.7 and 29.16, which means that Algeria is in the process of strengthening structural transformation.
- ✓ The economic complexity index in Algeria recorded a low rank (108), which means the lack of diversity and development of the country's industrial product basket. The low value of economic complexity also had a major impact on the low value of the gross domestic product.

Accordingly, through the study, it became clear to us that Algeria has not been able to achieve a structural transformation. Therefore, the competitive advantage of the economy across all productive sectors, their share of contribution to the gross domestic product, and the rate of the workforce in each sector must also be considered.

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