



## The contribution of the Industrial Sector in the economic growth of Albania

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### **Abstract:**

*Since 1998, Albania has experienced a significant economic growth. The Gross Domestic Product grew annually until 2013 without stops and recessions. It is a “praxis” to imagine that a developed country, by an economic point of view, can sustain high living standards for its inhabitants. These countries are recognized by a first economic analysis through what they produce. The base is a mechanized agriculture and the biggest part of workforce is employed in service sector. The most important feature of a developed country is still a modern industrial sector. Industrial sector symbolize the engine of economic growth and is a guarantee of economic stability in the medium and long term. The intention is to analyze whether the Albanian economic growth of the last sixteen years, was constant, continuous and healthy. We would see the performance of the industrial activity in the country through regression analysis and we will connect the course of Manufacturing, Mining and Construction to GDP product. The goal is to find out if in Albania took place an “Industrial Revolution” who led the country economic growth or if economic growth was a consequence of other components and is characterized by an inherent weakness and instability. We will notice which of the sub-sectors of the industry and was the most active and who has had the most difficult problems. It will highlight the increase in the weight of the industrial sector on the Albanian national economy and the limits that did not allow a full industrial development. Finally, we will suggest a series of measures and strategies that tend to enhance the degree of organization and integration among the various sectors of industrial activity.*

**Key words:** Mining, Manufacturing, Construction, Gross Domestic Product, Economic Development.

## Introduction

In economics, the term “Economic Development” is referred to the complex process of structural transformation, changing the production structure that marks the transition from a mainly agricultural economy to an economy in which increases the weight of the modern industrial sector. Theories of Economic Development were present in classical economic discipline since Adam Smith, but referred generally to the ways in which the countries that passed the stage of industrial take-off (to use the famous expression economist Walt Whitman Rostow) could maintain and manage a balanced and constant.

Economists have been studying the reasons for the growth of services for many years. An early contribution to this line of inquiry was by A.G.B. Fisher who introduced the concept of primary, secondary, and tertiary industries.

Primary production was defined as agriculture, pastoral production, fishing, forestry, hunting, and mining. Secondary production consisted of manufacturing and construction. Some authors included mining in this category. Finally, tertiary production was composed of transportation, communications, trade, government, finance and personal services.

Fisher suggested that an economy can be characterized with respect to the proportion of its labor force employed in these sectors. He also argued that as income rises demand shifts from the primary to secondary and then to tertiary sectors. Sociologist Daniel Bell described the development of human societies in three general stages.

*Preindustrial society.* The dominant characteristic of economic activity in pre-industrial society is extractive, that is, agriculture, fishing, forestry, and mining. Life is primarily a

game against nature. The level of technology is low or nonexistent; people are dependent on raw muscle power to survive, and therefore the productivity is low. Their success is largely dependent on the elements: the seasons, the rain, and the nature of the soil. Because of low productivity and large population, there is significant underemployment, which is resident in both the agricultural and domestic-service sectors.

*Industrial society.* The dominant characteristic of economic activity in industrial society is goods production. Economic and social life has become mechanized and more efficient. Machines and the energy that powers them dominate production, replacing muscle power. Productivity has increased tremendously. Division of labor is further extended. Technological advancements lead to new, faster, and more specialized machines that constantly improve productivity and replace more workers. The workplace is where men, women, materials, and machines are organized for efficient production and distribution of goods. It is a world of planning and scheduling in which components for production are brought together at the right time and in the right proportions to speed the flow of goods. The workplace is also a world of organization based on bureaucracy and hierarchy. People are treated as “things” because it is easier to coordinate things than people.

*Postindustrial society.* The dominant characteristic of economic activity in postindustrial society is service production. What matters now is not muscle or machine power or energy, but information and knowledge. The central character of economic life is the professional. She possesses the kinds of skills and knowledge increasingly demanded in this society. This demand for increased technical knowledge and skills in the workplace makes higher education a prerequisite to entry into postindustrial society and good life. The quantity and quality of services such as health, education, and recreation that an

individual can afford are indicators of his standard of living. Citizens demand for more services such as healthcare, education, arts, and so on and the inadequacy of the market mechanism in meeting these demands lead to the growth of government, especially at the state and local level.

In analyzing the link between the industrialization of a country and its economic development, we cannot avoid the theories on economic and industrial growth. In this case not worth neglected the theory of late industrialization Aleksander Gerschenkron. This theory is based on the assumption that the less developed countries can shorten the time of its development through the adoption of leading edge technologies created beforehand. This position, which is defined as the advantage of backwardness, consists of four laws:

1. The more a country is backward, the more intense is its industrial development. Development processes in industrial countries late are much shorter and faster than those that occurred in countries with early industrialization; these, in contrast, they took a much longer time to complete technology development and capital accumulation, but also to have the transfer of technology and imports of capital.

2. Supremacy of heavy industry. Late industrialization is able to develop the chemical industry and heavy industry (steel, metallurgical, engineering etc.) more quickly than those of the most advanced countries; This is because the backward countries, although lacking of skilled labor, are able to establish new technologies through imports, are able to introduce new institutions for investment in large-scale, while the more advanced countries have a hard time to get rid of outdated equipment.

3. Tendency to centralize production. The trade groups are experiencing a tendency to congregate in large trusts (under monopoly), as capital investments on a large scale require small costs of operation.

4. Irrelevance of the logical relationship between capitalist development of agriculture and industrial development. In the industrial countries late there is not necessarily a logical correlation between the development in the capitalist sense of agriculture and industrial development; in other words, industrialization can reach maximum heights of development, but agricultural capitalism may still remain in a state of backwardness. This is because the motor for development is not agriculture (as it was in countries with early industrialization), but banks or Governments.

Beyond theories exposed and other theories that for obvious reasons we could list, we will try to see if Albania has benefited by late Industrialization in recent years, according to the Gerschenkron theories.

The methodology in this study consists in analyzing sixteen years, to begin from 1998 to 2013. Will be weighed the contributions of sub-sectors of the industry, starting with the manufacturing, construction and mining activities . The data is compared to the annual gross domestic product to highlight their weight in the total economy. For each of these sub-sectors will be carried out analysis of correlation and regression to distinguish whether the evolution of these sectors was similar to the gross domestic product one or if this sub sectors experienced a particular dynamics of autonomy from the rest of the economy. This analysis is carried out to understand what areas were towing of productive activities and those who followed the natural tendency of the economy as a whole. These analyzes are through the SPSS program.

## **Analysis**

In the first analysis we take into account, the GDP together without the contribution of Construction Industry. Already from an initial estimate it may be noted that the sector's contribution to GDP is very low but at the same time the

Industrial sector has a very high correlation to GDP. Thus we can understand that the industrial sector has helped to the economic growth to a similar extent to the growth of GDP for the past 16 years. On the other hand we can affirm that the economic growth was not caused by the industrial sector in Albania because this sector does not stand out compared to the general trends of the economy and continues to represent still a small slice inside of GDP. The contribution of the manufacturing and mining to GDP and increased from 6.9% in 1998 to 10.9% in 2013. Despite the fact that the contribution of the industrial sector has been growing in Albania, it had a role and a point of start extremely small. Then we can already say that Albania has not experienced an "economic boom" resulting from the production sector, despite its growth.

#### Descriptive Statistics

Mean	Std. Deviation	N
884112.31	321982.030	16
81499.19	41479.255	16

#### Correlations

	GDP	Indust.
Pearson Correlation	1.000	.985
	.985	1.000

Model Summary<sup>b</sup>

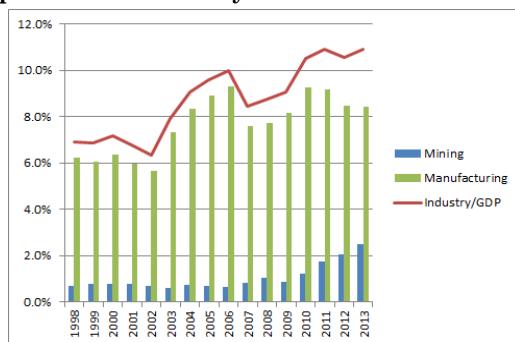
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.985 <sup>a</sup>	.971	.968	57174.735	.971	461.714	1	14	.000	.959

a. Predictors: (Constant), Industri

b. Dependent Variable: PBB

Referring to the analysis above we can appreciate a proper level of regression  $R^2$  very high (0.968) indicating the similarity of the paths of the industrial sector to the GDP of the whole. In all analyzes the indicator Durbin Watson is quite far away from his excellent (2). This indicates the presence of an autocorrelation between data.

Figure1. Composition of Industry to GDP



Source: INSTAT Albania (2014)

To delve further in the analysis we need to check the link between the Extractive Industry and the effects that this variable has on GDP. From Figure 1 we can see that it accounted for a small fraction of GDP in 1998, even though Albania is a country rich in minerals and oil. Only after 2009 we can distinguish a steady growth in the mining industry. His connection with the GDP seems to be weaker than the entire industrial sector. The factors that influenced the Growth of mining equipment were the approval of the laws on "concessions" in 2007 and the beginning of the exploitation of oil deposits in Patos-Marinez zone from 2009 onwards. This positive development, however, was not followed by the strengthening of the manufacturing industry in rapport to GDP, which has had an extremely slow process of growth over the years.

#### Descriptive Statistics

	Mean	Std. Deviation	N
GDP	884112.31	321982.030	16
Mining	10521.38	9381.240	16

#### Correlations

		GDP	Mining
Pearson Correlation	GDP	1.000	.859
	Mining	.859	1.000

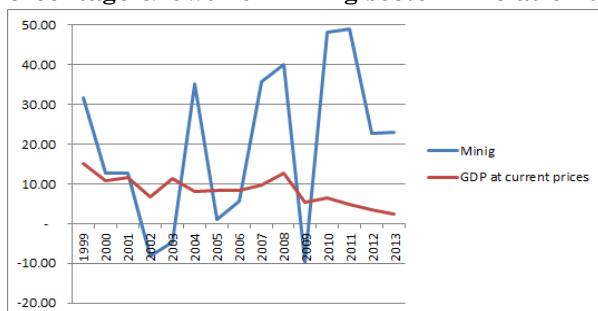
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.859 <sup>a</sup>	.737	.718	170850.612	.737	39.275	1	14	.000	.231

a. Predictors: (Constant), I\_Nkjerrese

b. Dependent Variable: PBB

The link seems to be relatively weak through the test of Pearson correlation (0.859) and in the regression  $R^2$  (0718) adjusted, because this sector had been extremely unstable and characterized by strong volatility over the years. This link is not necessarily bad news because this sector performed better than the rest of the economy, especially in recent years. No coincidence that his contribution in the GDP and increased from 0.8% in 2007 to 2.5% of GDP in 2013.

**Figure 2. Percentage Growth of Mining sector in relation to GDP**



Source: INSTAT Albania (2014)

#### Descriptive Statistics

	Mean	Std. Deviation	N
GDP	884112.31	321982.030	16
Manufact.	70977.69	33420.081	16

#### Correlations

	GDP	Manufact.
Pearson Correlation		
GDP	1.000	.982
Manufact.	.982	1.000

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.982 <sup>a</sup>	.964	.961	63419.195	.964	372.646	1	14	.000	1.166

a. Predictors: (Constant), I\_Perpunuese

b. Dependent Variable: PBB

The manufactures have had rather a way almost identical to the evolution of GDP with a proper square adjusted regression  $R^2$  (0.961). In comparison to 1998, when Albania started its activities production after its internal uprising, the growth of the manufacturing sector as a contribution to GDP and was just 2.2%, from 6.2% in 1999 to 8.4% in 2013. We can say that in the past sixteen years, this sector demonstrates clearly its fragility and is the "weak link" in the Albanian economy. This weakness indicates a poor ability to produce and to be competitive in technologically and massive advanced markets. The size of the Industrial Sector is typical of the economies of underdeveloped countries or in the best case of those countries where development has schizophrenic traits (with a dual personality) where live together relatively developed areas with other ones arrears and embryonic.

As for the first area we intend Construction Sector, which is the sector that tripled its dimensions and ratio to GDP rising from 4.7% in 1999 to 13.4% in 2008. The Construction Sector is currently returned to a stage that can be called as a "maturity" stage. Its contribution to GDP was 7.4% during 2013. The very high volatility of this sector indicates a strong autonomy compared to GDP and Industrial sector trend. Because of that, the link between GDP and Construction is quite lowered with an Adjusted  $R^2$  (0.630) despite the correlation level remains quite high.

#### Descriptive Statistics

Mean	Std. Deviation	N
884112.31	321982.030	16
92256.38	39807.327	16

#### Correlations

		GDP	Constr.
Pearson Correlation	GDP	1.000	.809
	Constr.	.809	1.000

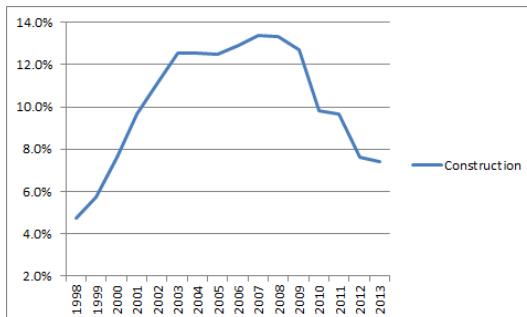
Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.809 <sup>a</sup>	.655	.630	195771.098	.655	28.575	1	14	.000	.208

a. Predictors: (Constant), Ndertimi

b. Dependent Variable: PBB

**Figure 3. Evolution of Costrution sector in relation to GDP**



Source: INSTAT Albania (2014)

The final regression analyzes the industry as a whole (manufacturing + mining construction). The size of the industry compared to the Gross Domestic Product over the years moved from 11.6% for 1998 years where the data are the most discouraging, to 22.9% for 2006, falling back towards the 18.3% of GDP in 2013. These percentages indicate that the industrialization of the country is a process still not concluded and that the industrial activities brought a minor contribution to the national economy growth. The industrial sector in Albania marked growth rates similar to those of GDP. If from one side of the Construction strengthened the industrial sector

from 2000 to 2008, on the other hand, the Manufacturing industry in those years remained anemic. The moment at the end of the first decade of the twenty-first century, the mining industry had a strong impulse and growth, but the Construction sector was in danger of collapsing. The result was a rebalancing of the industrial sector in line with the GDP evolution. The limit and the real challenge still not won by Albania in these sixteen years regard the manufacturing industry. This sector is the backbone of the production activities and the source of major technological developments and intangible assets.

#### Descriptive Statistics

	Mean	Std. Deviation	N
GDP	884112.31	321982.030	16
Ind_Tot	173755.31	75786.681	16

#### Correlations

	GDP	Ind_Tot
Pearson Correlation	1.000	.964
	.964	1.000

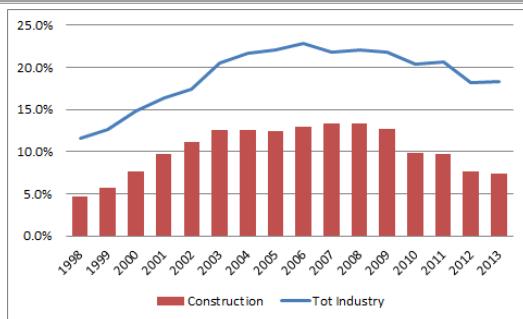
Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.964 <sup>a</sup>	.930	.925	88270.728	.930	186.582	1	14	.000	.316

a. Predictors: (Constant), Ind\_Tot

b. Dependent Variable: PBB

Below, in Figure 4 we can see that the Construction Sector for many years has been the principal factor and protagonist of the Industry in Albania, especially from 2003 to 2008. The reduction of that contribution was only partially offset by the mining sector growth and the block building permits during 2014 brings new question marks on the evolution of the Construction industry and with that the entire Albanian Industry Sector in the near future.



## Conclusions and recommendations

After the data analysis we can infer that economic growth that Albania had, was not caused by the enlargement of the industrial sector, on the contrary the economic growth wound was towing that sector. The Industrial sector, although is becoming more and more strong and stable, over the last sixteen years, achieved its successes very slowly. Every economic development in order to be sustainable and stable needs a primary and significant contribution by the industrial sector.

If it is true that not all countries which have a strong industrial sector are rich and developed, it is also true that all the rich countries of medium and large size have an important Industrial System. A strong industrial system constitutes a basic and primary condition, necessary but not sufficient for a developed country. From this point of view, Albania has so far missed the appointment for the development of its industrial apparatus. The positive developments in the field of Construction and Extraction were often a structural economic need and were not put under the lens of national plans for industrial development. Therefore their evolution was unstable and a hostage of contingent junctures. Currently the country needs a strategy which it combines the private and public interests in order to be able to start initiatives in manufacturing and mining. For example, the extraction of minerals and oil should lead institutions to raise awareness of

international private investors under the market economy conditions, to build and renovate facilities for the enrichment of minerals and petroleum refining. These strategies could increase the manufacturing sector Value Added. Other fields related to mechanical, chemical, gas distribution sectors, processing of agricultural products remain virtually unexplored. The Albanian presence in these fields would guarantee to the country professional human capital resources that would support the Industrial Sector growth in a more systematic and less volatile way.

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