

THE IMPACT OF INDUSTRIAL PRODUCTION ON EMPLOYMENT IN BOSNIA AND HERZEGOVINA

Emina Osmančević, MA student
University of Zenica, Faculty of Economics
Zenica, Bosnia and Herzegovina

ABSTRACT

Industrial production occupies a significant place in the economy of Bosnia and Herzegovina. In the past it was the backbone of growth and development. However, research on its impact on employment is very scarce. The aim of this paper is to investigate the impact of industrial production on employment in Bosnia and Herzegovina, in order to obtain relevant conclusions on the basis of which it is possible to determine strategic development goals to reduce the high unemployment rate. Methods of induction, deduction, analysis and synthesis, and comparison were applied in theoretical research and analytical data processing. The results of the research show whether the impact of industrial production on employment growth is still significant and to what extent BiH has entered the process of deindustrialization of the economy.

Keywords: industrial production, economy, employment, growth, Bosnia and Herzegovina.

1. INTRODUCTION

The five-year stagnation in production, caused by the war, left extremely negative traces on the economy of Bosnia and Herzegovina, especially on the level of technology and processing, which reflected on industrial production. Due to the lack of energy, raw materials, market, and damaged production equipment, Bosnia and Herzegovina was very slow to join the production and market flows. Aware of the fact that industry in the period up to 1990 occupied a key place in the structure of the BiH economy, this study was conducted in order to obtain relevant data on the basis of which it is possible to determine strategic development goals to ensure faster development of this sector in the future. However, for any economic policy, the ultimate goal is to achieve full employment, which corresponds to the full unemployment rate. Full employment implies a state of the economy in which anyone who wants to work can find a job. Therefore, this paper refers to the analysis of the industry in order to improve it and determine the impact of industry on employment.

The first part of the paper refers to the introduction itself. The second part of the paper is a theoretical framework. The third part of the paper refers to the research methodology and data used, while the fourth part presents the results of the analysis. Conclusions and recommendations are in the last part of the paper.

2. THEORETICAL FRAMEWORK OF INDUSTRY AND EMPLOYMENT

This section gives a brief overview of the conceptual definition of industry and employment. The first part refers to the notion of industry and industrial policy. The second part is the theoretical framework of employment and the labor market.

2.1. Conceptual definition of industry and industrial policy

The term "industry" means any human labor, material production activity, any craft activity or factory production. Industry is a set of human activities focused on the production of goods and services. However, the industry also implies a division of labor, unlike a trade, where the same person can take care of the whole process, production, sales and management. Precisely because of its complexity the industry involves a large number of people in the process. Industry can be divided into three economic areas, i.e. sectors, namely the primary sector (collection and direct exploitation of natural resources), the secondary sector (manufacturing industry), and the tertiary sector (service activities). The term "industrial policy" refers to the practical activity of the state in improving the productivity and competitiveness of industry in order to develop and improve industrial production [1].

In economic policy, which includes industrial policy, the term industrialization means a method of overall socio-economic development that includes not only industry, but also other economic and non-economic activities such as mechanization, electronics, informatics, education and the like. Countries where industrialization has just begun are called "developing countries". Countries where industrialization has taken place are mostly called "newly industrialized countries", while countries where this process has been completed are called "developed countries" [2].

The fact is that the creation and implementation of industrial policy is a long-term process and therefore it is necessary that it be coordinated at the level of the entire economy of a country. Industrial policy goals should be compatible with economic goals in order to achieve development. Industrial policy uses a wide range of instruments to achieve the objectives and it is desirable that they are not too complicated to use because of additional costs. According to the above, industrial policy must serve to achieve the goals of general economic growth, financial stability, improved balance of payments, full employment, and improved living conditions.

2.2. Conceptual definition of (un)employment and the labor market

Employment as a goal of macroeconomic policy is expressed as the achievement of high employment, i.e. low unemployment [3]. Employees are all persons who have established an employment relationship with the employer, for a definite or indefinite period of time, regardless of the length of working hours and the ownership of the legal entity. We measure the size of employment by the employment rate, which represents the percentage of the labor force that is employed. An unemployed person is a person who is not employed and is actively looking for a job. It is measured by the unemployment rate, i.e. the share of unemployed persons in the labor force. The unemployment rate moves in line with business cycles - when production decreases labor demand declines and the unemployment rate rises. The labor force represents all able-bodied persons, including the total sum of employed and unemployed persons in one country.

There is a supply and demand for labor on the labor market. Labor supply is expressed by the number of working hours that workers are willing to offer under certain market conditions. A difference exists on the labor market between individual labor supply that reflects the choice

of individuals between more work (employment) and rest (free time) and aggregate labor supply, when in conditions of full competition there is full labor mobility in the market [4]. The demand for labor is the demand of an individual enterprise for labor and it is determined by the yield of the marginal product of labor which must be greater than the marginal cost of labor, or the wage that belongs to the worker. If the marginal productivity of the worker is higher than their salary, the new worker brings the employer a higher profit and they are more likely to be hired.

3. METHODOLOGY AND DATA

The BiH economy is in the process of recovering from the war and the global economic crisis caused by weak industrial production and the departure of young skilled labor to developed and more stable countries, which is the very core of the research problem. Therefore, the subject of this research is the impact of industrial production on employment. It is necessary to answer the question whether the impact of industrial production on employment growth is still significant and to what extent BiH has entered the process of deindustrialization of the economy.

The main goal of the research paper "Impact of industrial production on employment in BiH" is to investigate the impact of industrial production on employment in Bosnia and Herzegovina in order to obtain relevant conclusions based on which it is possible to determine strategic development goals to reduce high unemployment.

Industrial production, industrial production in GDP, and the movement of the number of employees by industrial branches over the period will be observed for the purpose of analyzing industrial production and employment. Methods of induction, deduction, analysis and synthesis, and comparison were applied in theoretical research and analytical data processing, all in order to draw conclusions about the defined subject of research. Five years is the timespan of the study and the data monitored in this period includes the movements in GDP, industrial production, the share of industrial production in GDP, and employment in the industry.

Content analysis was applied in the data collection process. Data from the field of economic policy as well as articles and studies related to industrial production and employment were used in the theoretical part of the research. In the analytical part of the research, statistical publications of Bosnia and Herzegovina, reports of the Agency for Statistics of Bosnia and Herzegovina, Central Bank of BiH, Directorate for Economic Planning of BiH, and reports of the Ministry of Finance and Treasury of Bosnia and Herzegovina and the Federal Employment Agency were used.

4. RESULTS OF THE ANALYSIS OF THE IMPACT OF INDUSTRIAL PRODUCTION ON EMPLOYMENT

Given that the purpose of every economy and society is to fully meet the overall needs of the entire population, it is necessary to improve all forms of living and working conditions and thus improve overall economic growth, increase income per capita and ultimately increase living standards. The most common measures of success of an economy according to macroeconomic bases are: economic growth, high employment, price stability, and foreign trade balance [5]. Due to the fact that industry occupies a key place in the structure of the economy of Bosnia and Herzegovina, this part of the paper refers to the analysis of the impact of industrial production on employment in order to create goals for economic growth. Economic growth is mainly expressed in gross domestic product - the total value of production

of all final goods and services in one country in a year. Therefore, the share of industrial production in GDP was analyzed first.

4.1. Share of industrial production in gross domestic product of Bosnia and Herzegovina

The following chart presents the movements in gross domestic product of Bosnia and Herzegovina and the share of industrial production in the total output of the economy of Bosnia and Herzegovina and in the GDP in the 2016-2020 period.

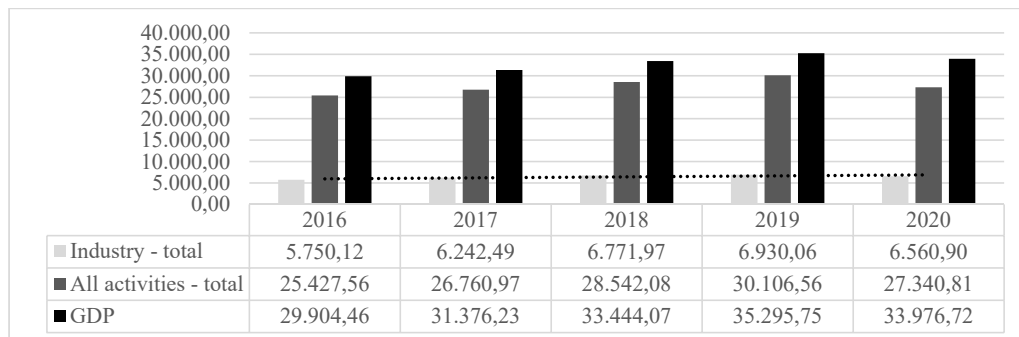


Figure 1. Value of industrial production in GDP and total economy (in millions BAM)
Source: Authors' calculation based on the data of the Agency for Statistics of BiH [6].

In terms of GDP, the economy of Bosnia and Herzegovina was on the rise until 2019. GDP grew by an average of 6% in nominal terms. However, in 2020 the GDP of BiH fell by 3.8% compared to the previous year, due to the COVID 19 crisis. Furthermore, the total output of the BiH economy increased in the 2016-2019 period, but it also dropped by 9% in 2020. The total value of the industry grew continuously by 9% in 2017, 8% in 2018, and 2% in 2019, until the year 2020 when a decline of 7% was recorded (Figure 1). Accordingly, it is possible to note that the economy of BiH moved in a positive direction until 2020 and the emergence of COVID 19 crisis. However, it is important to note that the growth rate decreased from year to year. In order to analyze the industrial production of BiH in more detail, in the following chart the industry is broken down according to the branches of industry.

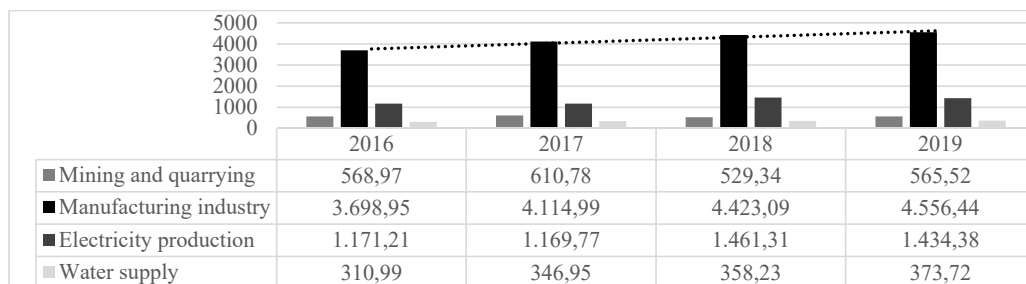


Figure 2. Industrial production according to the branches of the industry
Source: Authors' calculation based on the data of the Directorate for Economic Planning [7].

After a closer look at the structure of industry by branches, it can be observed that the share of industrial production in the GDP of BiH is as follows: mining and quarrying 2%, manufacturing industry 15%, electricity production 5%, and water supply 1%. The average growth of industrial production was 8% in 2017, 6% in 2018, and 3% in 2019.

The manufacturing industry ranks second in the total economy of BiH, while wholesale and retail trade is in the first place with a share of 17%. Therefore, the largest contribution to the growth of industrial production relates to the manufacturing industry. Although the growth rate is positive, namely 11% in 2017, 7% in 2018, and 3% in 2019, it noticeably decreases over the analyzed period. The above indicators show that it is still possible to achieve a certain growth of GDP, but the industry has a modest share in GDP growth.

4.2. Share of employees in industrial production

Movements in the total number of employees, employees in industry, and the share of employees in industry in total employment in Bosnia and Herzegovina in the 2016-2020 period are presented in the following chart.

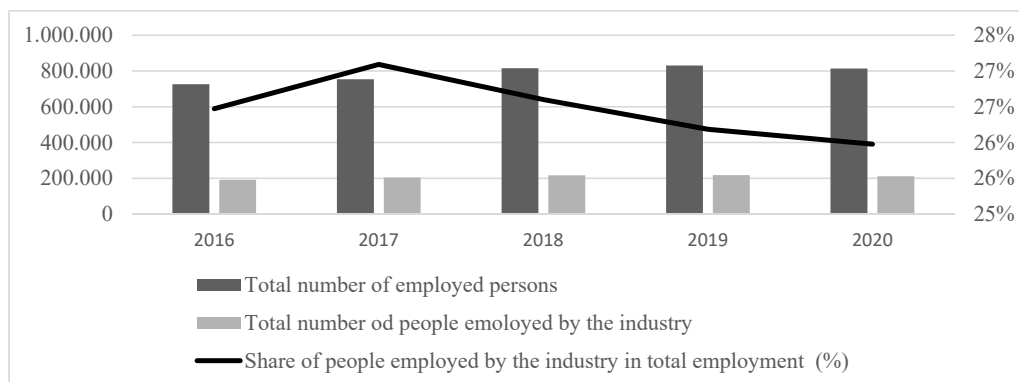


Figure 3 Share of employees in industrial production

Source: Authors' calculation based on the data of the Federal Employment Agency [8].

The total number of employees in BiH has grown in the last five years, until 2020, and this growth is accompanied by the growth of employees in industry by an average of 3% over the observed period. The share of employees in industry in the total number of employees in the same period has been declining since 2017, as a result of slower growth in employment in industry compared to growth in total employment, as shown in Figure 3.

According to the Labor Force Survey, the most significant number of employees in the industry refers to the manufacturing industry with 163,683 employees. Therefore, 20% of the total employment refers to the manufacturing industry, while 2% of the total employment refers to other branches of industry. Therefore, most employees in BiH are in the manufacturing industry, followed by wholesale and retail trade with 18% of employees. However, it is important to point out that the number of employees in the manufacturing industry in 2019 increased by 1.2% with a much more modest contribution to the growth of the total number of employees in Bosnia and Herzegovina compared to the previous year, which is possibly related to decreased physical volume of production in the manufacturing industry.

5. CONCLUSION AND RECOMMENDATIONS

According to the results of the analysis, a positive trend of gross domestic product is noticeable. However, industrial production achieves modest GDP growth rates. It is necessary to emphasize that, in the case of BiH, GDP was based on the growth of domestic consumption and reconstruction and it does not solve the problem of unemployment to a sufficient extent, which means that not only the growth rate is important but also its structure. The real sector should play the primary role in the growth of GDP and the basic requirement for its long-term

growth is exports. Investments in production are not high enough for the production to have a greater impact on the structure of GDP.

It can be concluded that the share of industry in the creation of gross domestic product and total output of the economy is decreasing from year to year, which indicates the emergence of deindustrialization in BiH. Deindustrialization is a global phenomenon and is manifested through a reduction in the share of industry in the total production of a country and a reduced contribution to employment [9]. The extent of deindustrialization can be illustrated by the fact that in 1990 the manufacturing industry generated 34.8 percent of gross value added and 40.5 percent of total employment in BiH. In 2019, the industry generated 19% percent of GDP and 20% percent of total employment in BiH.

The emergence of deindustrialization in BiH has been influenced by factors of global liberalization, which exposes domestic industry to fierce international competition, and factors of technological development that are based on digitalization. All this leads to high productivity growth in an industry that meets the growing demand with fewer jobs. During the transition period, the transformation of society and the economy into an efficient market economy was lacking. Reconstruction and development of industry should be carried out primarily on the basis of market incentives, and the system of institutional support through industry adapted to the social and economic system.

The sector growth strategy in BiH should be based on reindustrialization because of the the inherited industrial base, efficiency-based competitiveness, tradition of industrial production, and the structure of labor supply.

6. REFERENCES

- [1] Mahmutović, H., Hodžić, K., Čejvanović, F., *Ekonomika politika*, University of Zenica, 2017, Zenica, p. 224.
- [2] Adžić, S., *Privredni sistem i ekonomska politika*, Faculty of Economics, 2006, Subotica, p.491.
- [3] Blanchard, O., *Makroekonomija*, MATE, 2011., Zagreb, p.136
- [4] Hodžić, K., Mahmutović, H., *Uvod u ekonomiju*, University of Zenica, 2009, Zenica, p. 108
- [5] Samuelson, P., Nordhaus, W., *Ekonomija*, MATE, 2011, Zagreb, p. 370.
- [6] *Industrial production 2020, 2019, 2018, 2017, 2016*, Agency for Statistics of BiH, Sarajevo, 2021, 2020, 2019, 2018, 2017, Recovered from: <http://www.bhas.ba/>
- [7] *Economic trends 2019, 2018, 2017, 2016*, Directorate for Economic Planning of Bosnia and Herzegovina, Sarajevo, 2020, 2019, 2018, 2017, Recovered from: <http://www.dep.gov.ba/>
- [8] *Labor market movements 2020, 2019, 2018, 2017, 2019*, Federal Employment Bureau, Sarajevo, 2021, 2020, 2019, 2018, 2017, Recovered from: <http://www.fzzz.ba/>
- [9] Obadić, A., *Značaj industrije za gospodarski rast*, *Ekonomski pregled*, Faculty of Economics Zagreb, 2001, Recovered from: <https://hrcak.srce.hr>