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Process of Deindustrialization in Montenegro

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Abstract: Deindustrialization is a dynamic process that began to attract the attention of economic theorists in the 60s of the 20th century, which is characterized by a reduction in the share of the industrial sector in GDP and employment. A descriptive analysis of the deindustrialization process in Montenegro was carried out. It was established that throughout the observed period, the process of deindustrialization in Montenegro has characteristics present in developed countries. However, a deeper analysis and taking into account the key indicators showed that deindustrialization in Montenegro did not just arise as a sole consequence of positive economic trends. In addition, the entire process took place under the influence of various non-economic indicators. Moreover, the global economic crisis had a significant economic impact on Montenegro`s industrial sector. In the process of accession to the EU and in addressing global challenges, the country`s industrial sector, in line with key development strategies, is heading towards reindustrialization, i.e. development and progress under changing conditions.

Keywords: deindustrialization, EU, Montenegro, reindustrialization

Jel Classification: F6, L6

1. Introduction

In the process of joining the EU, Montenegro has to meet a number of criteria prescribed by EU legislation and prepare its economy for the expected challenges in a new and dynamic business environment. Apart from fulfilling the political, legal and administrative criteria, Montenegro must pay special attention to

fulfilling the economic criterion, which will provide the basis for maintaining and increasing the national competitiveness and taking advantage of a favourable position in the international environment. All of this requires thorough structural changes and the introduction of effective reforms in all segments of the economy. In addition, great emphasis is placed on industry, which represents the foundation of integration on the European continent. Singing the Paris Treaty in 1951 by six founding countries (Belgium, the Netherlands, Luxembourg, Italy, Germany and France), the European Coal and Steel Community was established, which represents the beginning of the connection and recovery of the countries affected by the devastating consequences of World War II. Furthermore, the integration was continued in 1957 by signing the Roman Treaties, establishing the European Economic Community and the European Atomic Energy Community (EURATOM) (Kandžija and Cvečić, 2010). In addition, the continuation of the integration processes has been marked by the great industry's importance, regarding its share in GDP and employment. In general, Article 173 of the Treaty on the Functioning of the EU (TFEU) emphasizes that the objective of the EU and its Member States is to create favourable conditions for improving competitiveness of the European industry in accordance with an open and competitive market system. Referred to the above, the industrial sector of Montenegro should go in that direction as well, with a particular emphasis to be put on research and development and their products, creating a favourable environment for the development of small and medium-sized enterprises and encouraging the industrial sector reforms.

Contemporary trends in the world economy and the globalization trends and their consequences have placed a new challenge on the European industry, which is deindustrialization, which is also obvious in the case of Montenegro.

This paper gives a descriptive analysis of the deindustrialization process in Montenegro. Therefore, the basic objective of the research is to identify the trends of the de-industrialization process in Montenegro, especially those important for the process of accession of this country to the EU. The effects of the EU accession on the country's economic performance represent a thoroughly studied area of international economy. However, recent events, in particular the global economic crisis and the UK`s leaving the EU (the BREXIT pointed out to new areas whose effects should be more visible in the near future (effects on monetary policy, etc.)) (Kyriazis and Economou, 2017, Dumičić, 2017, Vučinić, 2016). The purpose of the research is defined with its objectives: to present the theoretical knowledge of the process of deindustrialization, to identify the key factors of the process, to conduct the analysis of the deindustrialization movement, and to determine the perspectives of the further development of the industrial sector of Montenegro in

the process of accessing the EU and in the conditions of globalization. The motivation for the implementation of this research is due to the insufficient exploration of this topic in the Western Balkans and other transition countries. Therefore, this paper is a continuation of the recent research of Druzić et al. (2012) and Beg et al. (2017), who emphasized the process of deindustrialization in the Republic of Croatia and countries of Central and Eastern Europe, and in research of Kandžija et al. (2017), where a descriptive analysis of de-industrialization at the EU level was conducted.

The paper consists of 6 interrelated chapters. After the introductory considerations, the presentation of the previous researches of the deindustrialization process follows, after which the methodology was explained and an analysis of the deindustrialization process in Montenegro was carried out using the key indicators. Based on the results of the research, the perspectives for the further development of the industrial sector in Montenegro were considered. The paper ends with a conclusion that represents the synthesis of key findings that came up during the research.

2. Previous research of deindustrialization process

Deindustrialization is a complex and wide economic problem, and the attention of economic theorists began to prevail in the 1950s and 1960s when the first theoretical approaches were created. Clark (1957) and Kaldor (1966) introduce the term of deindustrialization into economic terminology, pointing to the correlation of economic growth (expressed by the growth of GDP) and the growth of the industry sector. Although there is still no single theoretical definition, most authors accept the thesis that deindustrialization is a natural process characterized by developed countries, resulting from accelerated economic growth and changes in the economic structure (Baumol, 1967, Fuchs, 1968), with particular emphasis on reduction of the share of the industrial sector in GDP (Čavrak et al., 2011). Furthermore, the authors point out that this process is the result of the accelerated growth of industrial productivity which, despite the decline in industry's share of employment and GDP, remains stable.

Caincross (1982) and Lever (1991) introduce four generally accepted approaches to theoretical determination of deindustrialization:

1. Deindustrialization is primarily characterized by a reduction in production and/or employment in the industrial sector, resulting in a shift towards service activities.

2. Due to the process of de-industrialization, the share of industrial products in foreign trade is decreasing, resulting in a failure to maintain the trade balance.
3. The external trade deficit continues to increase, so the countries become "unable" to "pay" imports needed to maintain domestic production.
4. Such developments in the economy slow down economic growth and begin to dominate the negative effects of deindustrialization.

Bluestone and Harrison (1982) complement the generally accepted theoretical framework, according to which deindustrialization represents "systemic disinvestment in the key industry of a country".

According to Crafts (1992), industrial production is growing relatively slowly, employment in the industry is declining, while the trade balance goes into deficit. Singh (1977) negatively approaches the process of deindustrialization, characterized as a pathological condition, i.e. the impossibility and constraint of the economy to reach the full potential of economic growth, employment and resource utilization. Priewe (1993) and Dasgupta and Singh (2009) introduce the term of premature deindustrialization occurring in situations where the economy did not achieve high levels of industrial production. In most cases, premature deindustrialization is characteristic of post-communist transition countries where structural changes are the result of political and other non-economic factors, not a product of economic development.

Deindustrialization is the result of the action of external and internal factors. Considering the internal factors of the process, Rowthorn and Ramaswamy (1999), with the affirmation of its positive context, emphasize the importance of increasing labour productivity as a key factor in deindustrialization. Furthermore, Rowthorn and Coutts (2004) point out that the increase in productivity is responsible for more than 60% reduction in the share of employees in industry, and conclude that on each 4.4 lost jobs in the industrial sector due to the competition of cheap imports, on average one working position is opened in industry through export growth of more sophisticated products.

Generally, according to the relevant economic theoreticians, the increase in labour productivity is a situation in which the same amount of work can achieve higher production levels (Holjevac and Vrtdošuić Hrgović, 2012). The deeper argument of the effect of increasing labour productivity on the deindustrialization process is provided by Rowthorn and Wells (1987), pointing out that it has a double impact on employment. Namely, increasing productivity makes industrial goods relatively cheaper, thus stimulating demand. In addition, in such a

situation, a smaller number of workers are needed. Ultimately, the increase in productivity and the difference in income elasticity of demand are the drivers of structural changes, which initially result in industrialization, and then the effects of deindustrialization begin to appear. In the context of the effects of increased productivity of work, Rowthorn and Coutts (2004) introduce the term of relative deindustrialization, which implies a reduction in employment in industry, without reducing total industrial production. An overarching approach is provided by Družić et al. (2012) which by analysis of the deindustrialization process in the Republic of Croatia affirm the concept of *absolute deindustrialization*, which implies a parallel reduction in industrial production and a reduction in employment in the industrial sector.

Considering the external factors of deindustrialization, the authors agree to identify the leading role of international trade. By including the international trade flows and increasing competition, industrial companies are increasingly focusing on raising production efficiency, primarily through product and process improvement. In such a situation, industry productivity increases, eliminating ineffective and unprofitable companies whose products can be replaced by exports. Developed countries, represented by the deindustrialization holders, are specializing in capital intensive high value-added industries.

The current research on the effects of international trade on the deindustrialization process has mainly been conducted on the example of the US and OECD countries. Lawrence (1983) points out the effect of international trade on the loss of one-third of employment in the US industrial sector while, on the other hand, Bluestone (1984) points out that the deindustrialization process in the United States has been launched, although industrial employment has remained constant. Among other authors who have considered the correlation between foreign trade and the process of deindustrialization, it is necessary to emphasize Sachs and Shatz (1994), Wood (1995), and Saeger (1997).

Saeger (1997) lists four concepts explaining the impact of changes and inclusion in international trade flows on reducing the importance of industry:

1. Growing specialization in the service sector resulting from the shifting of comparative advantages in highly industrialized countries from factories to offices and/or distribution networks.
2. The appearance and pressure of new competitors characterized by low labour costs and poor legal regulation in the field of environmental protection. This situation results in the survival of the most productive enterprises, whose products do not have a substitute for cheap import.

3. Utilizing international cost differences on a global scale by opening branch offices on economically most cost-effective and most advantageous locations.
4. Orientation to developing countries which, within new developments in the international market, become new targeted markets for leading and competitive economic entities.

Penkova-Pearson (2012) points out that foreign trade is of particular importance to the "small" developing countries, including Montenegro, which is characterized by high openness and high import values, resulting in a continued balance of trade deficit.

In the context of considering the external factors, a particular emphasis should be placed on the process of globalization, where each country must take into account its complexity, observe the limitations and opportunities that can be used, in order to achieve recognition on the international market (Živković and Bjelić, 2017). In addition to foreign trade, globalization trends and their implications are increasingly focusing on the impact of foreign direct investment (FDI) as one of the most important external factors of the deindustrialization process. Alderson`s research (1999) points to the effects of FDI on employment trends in the industrial sector, namely: FDI reduces employment in the industrial sector by shifting plants to "new markets" i.e. developing countries, primarily due to lower labour costs. Furthermore, FDI can have a positive effect on increasing the rate of return on domestic investment and thus trigger the shift of investment from industrial to the service sector and ensure reorientation and shift away from productive investment. Krstevska and Petrovska (2012) point to the effects of FDI on GDP growth and the improvement of export performance of the Macedonian economy, similar to those of Montenegro.

Alderson (1999) considers and extends the concepts of *positive and negative deindustrialization*, *introduced in the researches of* Rowthorne and Wells (1987), and trade deindustrialization. Alderson (1999) points out that positive deindustrialization is the result of economic development and labour productivity growth. On the other hand, negative deindustrialization occurs due to structural constraints in the economy and, as such, results in stagnating income and increasing unemployment. Deindustrialization associated with the trade is determined by the position of the economy in international trade, i.e. by achieving surpluses or deficits.

Insights into the research so far have shown the orientation of economic theorists to study the process of deindustrialization in developed countries. However, de-

industrialization also took place in the so-called, transitional and post-socialist societies, where the term of forced deindustrialization was affirmed. Namely, through the harsh history, most economic reforms and development plans in these countries were largely motivated by changes in political regimes. In addition, economic trends did not take a "natural course". The processes of deindustrialization in these countries are represented in the papers by Mickiewicz and Zalewska (2001, 2002, 2006). The authors define the so-called transition paths that can be efficient and ineffective. In the case of an effective transition path, GDP is below just before transition, as well as employment in the industrial sector. On the other hand, in the case of inefficient transition paths, higher levels of employment in the primary sector prevail in the pre-transition period. Thiesen and Gregory (2005) have analysed the transition processes in Eastern European countries that have become EU members. The authors conclude that this group of countries will need at least ten years to reach the development levels and structural features of Western European countries. Nevertheless, the global crisis has slowed down the process of culpability and transition and its completion is uncertain.

The latest research of the processes and determinants of deindustrialization in the transition countries is contained in Beg et al. (2017). Using a dynamic panel model, the authors determine how key factors and triggers of de-industrialization in the transition countries and developed European countries, despite the widely-held opinion, do not significantly differ. In addition, the emphasis has been re-introduced to changes in the structure of the economy, labour productivity and the side of the direct investment. The above mentioned indicates the necessity of affirming investment in R&D and new technologies, as shown by the example of Montenegro noted by Tomljanović and Grubišić (2017).

By the insight into the research so far, the complexity of the concept of deindustrialization and its key factors have been established. The authors of this paper, taking into account previous research, *are approaching deindustrialization as a process that arises as a result of positive trends in national economies, and is conditioned primarily by the increase in labour productivity and the orientation towards international trade. Globalization trends, therefore, underline the growing importance of foreign direct investment and the need to implement new growth engines, i.e. investment in R & D towards industry development in new changed conditions.*

3. Analysis of deindustrialization in Montenegro

3.1. Research methodology

A descriptive analysis of the deindustrialization process in Montenegro has been carried out in this research. Taking into account the previous research, the process of deindustrialization has been analysed using a large number of relevant indicators, namely: GDP per capita (current, US $), GDP growth rate (%), gross added value of the agricultural sector, industry sector and the service sector (%), employment between the ages of 15 and 64 (%), employment in the agricultural, industrial, and service sectors (% of total employment), labour productivity growth (%),foreign direct investments (% of GDP), current account deficit (% GDP).

The analysis took into account the 2000-2016 period. However, in the case of a certain number of indicators, data for the entire period were unavailable and in that case, available time series were used. Key indicators have been collected from a number of international statistical databases, including Eurostat and the World Bank.

3.2. Deindustrialization in Montenegro

In 2014, Montenegro had a GDP per capita of 7378, 345 US dollars, which represents an increase of 4.53 times compared to the beginning of the observed period (Chart 1).

Chart 1: Evaluation of GDP in Montenegro in the period 2000-2016 (current, US $)
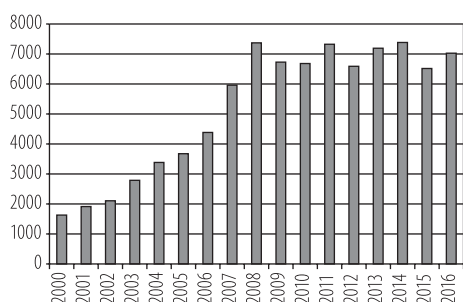
Source: developed by the authors, based on the World Bank (1), 2017

Also, the economy of Montenegro in the period 2001-2013 achieved relatively high average rates of economic growth, i.e. 3.9% over the whole period. On the other hand, the EU economy grew at an average of 1.6% (Eurostat (1), 2017) over the same period, confirming the convergence presumption of faster economic growth of less developed countries.

Considering the deindustrialization process in Montenegro, it is necessary to analyse trends in the structure of

the economy. A three-sector model was used in which key sectors are: primary (agriculture), secondary (industry) and tertiary (service sectors), i.e. their added value in GDP. In the observed period, Montenegro has reduced the share of agriculture in total added value. Namely, at the beginning of the period, the added value of agriculture amounted to 12.46%, while in 2016 agricultural activities accounted for 10.2% of total value added in the economy. However, these data point to a significant economic backlog for the EU, with 1.52% of added value (World Bank (2), 2017) on agricultural activities. On the other hand, the largest share of the value-added services sector was expected, which grew in the observed period. At the Montenegrin level, 69.3% of GDP is generated by service sector activities. In this case, Montenegro expects to lower the share of services in GDP from the EU (74.08%) (World Bank (3), 2017).

A decline in the share of the industrial sector in Montenegro`s GDP began in 2002 (24.11% of GDP), with the exception of 2010 and 2013, which continued until 2014 when the level of 17.74% was achieved. However, there was an increase in the value of the industrial sector, whose activities in 2016 amounted to 20.5% of GDP (Chart 2). Montenegro is still below the EU average (24.4% of GDP) with these values.

Based on the available data, it can be concluded that deindustrialization in Montenegro started in 2001, at the level of GDP per capita of 1909.58 US dollars and the share of the industrial sector in total gross value added of 24.66% of GDP. This trend continued (with certain exceptions) until 2014 (industry share of 17.67% in GDP) and GDP levels per capita of 7378.34 US dollars.

Industrial production in Montenegro has steadily increased from 2000 to 2007 (except for 2005), when the slowdown and decline began, which was most significant in the transition from

Chart 2: Gross Value Added by Industrial Sector in the period 2000 - 2016 (% of GDP)
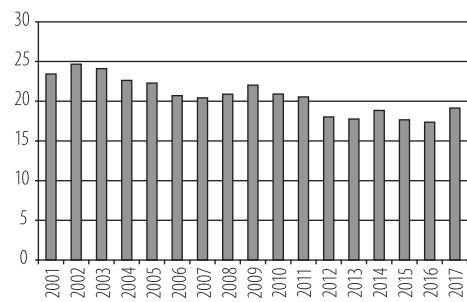
Source: developed by the authors, based on the World Bank (4), 2017

Chart 3: Industrial production index in Montenegro, 2000-2015 (2010 = 100)
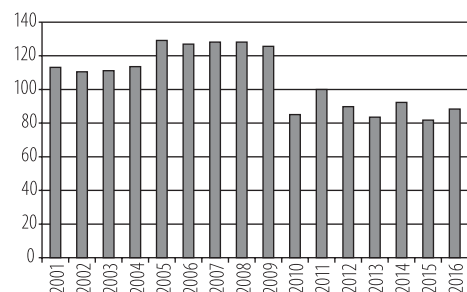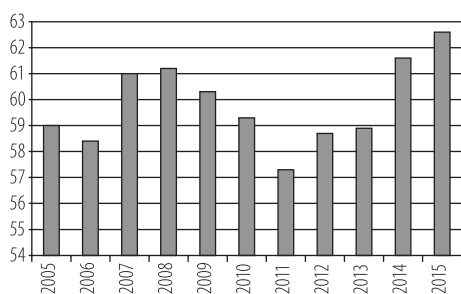

Source: developed by the authors, based on Eurostat (2), 2017

2008 to 2009 (Chart 3). Namely, the beginning of the global economic crisis has had a strong impact on the Montenegrin economy, which was also the case with other countries of similar characteristics in the neighbourhood.

Various industrial production values continued after 2010. Nevertheless, 2014 and 2015 brought about a new growth in industrial production that should be continued in the future with the achievement and exceeding the values reached between 2004 and 2008. Data presented in Charts 1-3 indicate that the level of GDP per capita in the entire analysed period (except in 2009, 2012 and 2015) increased. Declines in the aforementioned years can be attributed, primarily in 2009, to the negative effects of the global economic crisis that lasted until 2015. The economy of Montenegro is still in the recovery period, which will require thorough and effective reforms. Furthermore, the increase in GDP in the period 2001-2014 was followed by a decline in the share of industry in GDP (except in 2007, 2008 and 2013) and by increasing the added value of the service sector. Based on the above-mentioned data it is possible to get an initial impression on the deindustrialization process in Montenegro. Namely, it is evident that in the period 2001-2014 (with the exceptions mentioned above), it had characteristics of a natural process resulting from economic development, which is the characteristic of developed economies. Furthermore, in 2015 and 2016, GDP growth was accompanied by an increase in industry value added. Such a situation in some way points to the beginning of the process of re-industrialization, i.e. industry development in changed conditions, which is also a priority set by the key development strategies of Montenegro, which are explained in more detail below in the research. In addition, data show that over the entire period of time, economic growth and a decline in the industry's share in GDP were accompanied by an increase in the index of industrial production. Exceptions to this process are largely related to the onset of the global economic crisis. It is possible to conclude that, as with other European countries, the global economic crisis has slowed economic growth and developments in the Montenegrin industrial sector.

Chart 4: Employment of the population aged 15 -64 in Montenegro in the period 2005-2015 (%)

Source: developed by the authors, based on Eurostat (3), 2017

Further assessment of deindustrialization in Montenegro was conducted on the basis of trends in total employment and employment in the industrial sector.

Employment was estimated on the basis of the overall employment rate of the population aged 15 to 64 in the period 2005-2015 (Chart 4).

Data suggest that the employment rate of the population aged from 15 to 64 in the observed period was constantly increasing, with the exception of the initial years of the global economic crisis. In 2015, a level of 62.6% was achieved. Furthermore, it is necessary to consider employment trends in the industrial sector, as presented in Chart 5.

Chart 5: Employment trends in Montenegro's industrial sector (% of total employment) in the period 2000-2016
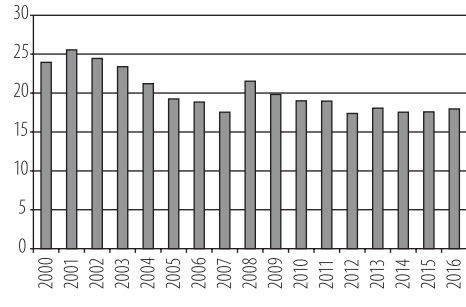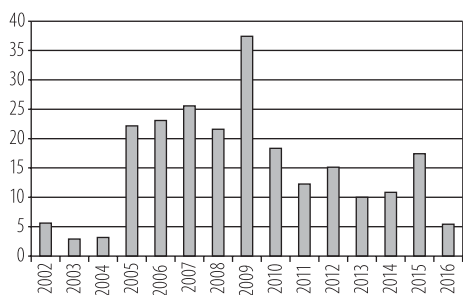

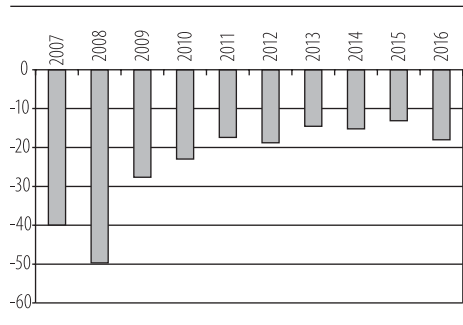Source: developed by the authors, based on the World Bank (5), 2017

The data presented show that employment in the industrial sector declined in almost entire observed period, reaching the level of 17.95% in 2016, which is below the EU average (23.9%) (World Bank (6), 2017). Analysing other economic sectors, it is possible to conclude that Montenegro has recorded a reduction in employment in agriculture and an increase in industrial sector surpluses. In the agricultural sector of Montenegro, 7.63% of the total population is employed (data for 2017) (World Bank (6), 2017). On the other hand, the largest sector of employment is expected to be occupied by the service sector, which increased in the observed period and reached 74.15% of total employment. In this case, Montenegro achieves higher levels of employment than the EU average (70.91%) (World Bank (7), 2017), which is certainly a positive indicator of economic trends.

It can be concluded that almost entire observed period of employment increase in was accompanied by a reduction in employment in the industrial sector and an increase in the index of industrial production, indicating the progress of the relative deindustrialization process. However, such conclusions should be taken with a certain degree of caution and take into account certain derogations during the observed period. Therefore, in the case of Montenegro, it is possible to talk about the process of absolute deindustrialization in a certain period, but to a much lesser extent.

Contemporary globalization trends increasingly emphasize the role of foreign investment and their effects on the process of deindustrialization. The analysis of foreign investment developments in Montenegro is shown in Chart 6.

Chart 6: Foreign Direct Investment in Montenegro 2002-2016 (% of GDP)

Source: developed by the authors, based on the World Bank (8), 2017

Chart 7: Trade deficit in Montenegro for the period 2007-2016 (% of GDP)

Source: developed by the authors, based on the World Bank (9), 2017

It is evident that foreign investments to the country increased almost throughout the entire period. Consequently, there are quite large deviations in their values. The total value of foreign investment in Montenegro was 5.18% of GDP in 2016, thus achieving a significant reduction compared to 2015. With such values, Montenegro is below the EU average (5.055% of GDP in 2016).

In this case, a reference should be made to Alderson (1999) and its consideration of the effects of foreign investment and the reduction of employment in the industrial sector. The available data indicate that such a trend was recorded over most of the observed period (naturally, with certain derogations), i.e. foreign investment growth has in most cases been accompanied by a decrease in employment in the industrial sector.

Furthermore, deindustrialization can be assessed in terms of the country's position in international trade, using data on trade balance deficit/surplus, which was carried out for Montenegro for the period 2007-2016 (Chart 7).

Throughout the observed period, Montenegro realized trade deficit, which is the characteristic of smaller open developing countries. It is, therefore, possible to conclude that, in this case, it is about negative de-industrialization associated with international trade.

As highlighted in the review of previous research, contemporary theorists, as the most important factor of deindustrialization, emphasize the increase in labour productivity. The limitation of this research results from the lack of a time series of data on increasing labour productivity in Montenegro. Namely, the World Bank (10) states only data for the period 2012-2016. In that period, the average level of increase in labour productivity was -1.6%, i.e. negative. Consequently,

relying on Rowthorne and Wells (1987) and Alderson (1999), it can be inferred from this point that it is not possible to talk about the process of positive deindustrialization in the case of Montenegro. Namely, as clearly indicated by the data, reducing the share of industry in GDP was not the result of any significant and large increase in labour productivity.

Of course, in the case of deindustrialization in Montenegro, it is necessary to look at the historical and political concept, i.e. long-term functioning in complex economic and political systems and a relatively late declaration of independence. Namely, Montenegro adopted the Decision on Independence after the 2006 referendum. Therefore, having in mind the above-mentioned facts, all processes in the industrial sector have certain characteristics of forced and premature deindustrialization, characteristic for developing countries, which have long functioned in systems where economic trends and reforms were often a direct consequence or result of political (regime) decisions.

4. The perspectives of the industrial sector in Montenegro

The process of de-industrialization, carried out by an analysis recognized in the Montenegrin economy, results in significant risks, which pose threats to the emergence of a sectoral unbalanced economy, insufficient diversification and high sensitivity to external shocks.

Industrial Policy of Montenegro until 2020 is the key development document that sets out the vision, mission, purpose and goals of further industrial sector development in Montenegro by 2020. In general, the basic purpose of the industrial sector in the Montenegrin economy by 2020 is "to establish integration potential, and to determine a strategic framework and priorities for industrial development, which are realistic and achievable, taking into account the available natural, human and financial resources, which can generate increased employment, accelerated innovative development of all regions as well as overall economic growth". Industrial policy of Montenegro until 2020 identifies key obstacles to achieving competitiveness of the Montenegrin economy, with the greatest emphasis on the process of deindustrialization, the dominant role of traditional export sectors, and the low utilization of scientific research potential, regional inequality, and the lack of investment in small and medium-sized enterprises (Government of Montenegro, Ministry of Economy, 2016).

In order to increase economic competitiveness and achieve a strong industrial base, Montenegro deals with the challenges which are divided into two key cat-

egories: efficient use of input factors by improving core prerequisites for development and ensuring and improving output performance at the enterprise level. The first category includes challenges in the area of physical capital (the development of all forms of infrastructure, the development of information and communication technologies and the increasing use of modern technologies), the development of human capital (through education and training), the improvement of the entrepreneurial environment, and the creation of a favourable environment for increased inflow of foreign direct investment.

Furthermore, another type of challenge implies progress in the areas of trade integration, the development of new high value-added products and the improvement of institutional infrastructure. Regarding the identified key weaknesses of the industrial sector, the key 2020 development goals have been identified:

1. Competitiveness of industry - Improving the business environment and general conditions for achieving competitiveness and sustainability
2. Investments and finance for industrial modernization - improving the investment framework for industrial modernization through better approach, availability and availability of finance
3. Innovation and entrepreneurship - promotion of entrepreneurship and entrepreneurial culture for innovation, stable economic growth, increasing productivity and employment
4. Market access - Simplification of trade procedures and facilitation of access to domestic and international markets.

All the listed above points to the necessity of orientation towards the realization of the process of reindustrialization, i.e. the development of industry under changed conditions, with the emphasis on investing in research and development and their products and the implementation of new technological solutions in production processes. Such a relationship with the industry should result in increased productivity, efficient use of available resources, and increased share of high technology products in total exports. Consequently, that will have a direct impact on improving the competitive position of Montenegro at the international level. Furthermore, the creation of better conditions for the development of small and medium-sized enterprises, developing and encouraging education and their inclusion and linking with the economy, will lay the foundation for achieving long-term and sustainable economic growth.

This approach is in line with the policy vision, which states that "The Industrial Policy for Montenegro will create conditions for modernization of industry based on knowledge and innovation and it will provide better integration

into international market, through further improving the business environment, supporting enterprises and entrepreneurship, and stimulating the use of modern technologies with a view to creating new, and better quality jobs." (Government of Montenegro, Ministry of Economy, 2016).

In the context of EU accession, Montenegro needs to create the preconditions for the implementation of EU legislation in the field of industrial policy, whose basic objectives include[1] "adapting the EU industry to structural changes, encouraging more environment for enterprises and risk capital, creating a competitive environment conducive to enterprise co-operation and innovation policy and technology development" (Pelkmans, 2006). Furthermore, Kandžija and Cvečić (2010) define the meaning, instruments, and key pillars of the EU industrial policy. The authors point out that the purpose of the EU industrial policy is to correct market failures through research and development policy, which results in positive externalities and spillovers to other sectors of the economy. Also, the industrial policy also works to correct institutional weaknesses that affect the cost of adjusting the industry. The dismantling of the EU industry is based on basic and auxiliary instruments. In this case, basic instruments consist of tax incentives and subsidies, while in the group of ancillary instruments there are guarantees, standards, public procurement and the "home equity" campaign. Also, Budzinski and Schmidt (2006) points to the existence of instruments characteristic of market economies (e.g. public property, price control, investment control). However, the author emphasizes that such instruments are in principle not implemented, except in those countries that have not gone to the capitalist economic system. The EU`s industrial policy is based on three pillars (Kandžija and Cvečić, 2010): 1) Institutional frameworks of the EU for market integration, aimed at creating and strengthening the Internal Market of the EU based on the measures and instruments of the joint competition, regional development and social cohesion policies, and regulation and privatization; 2) Horizontal industrial policy, which includes newer instruments of action, and refers to the whole economy (research strategies, incentives for innovation, entrepreneurship, venture capital, competitiveness, public procurement), and 3) Sectoral or specific industrial policy, relating to sectoral policies and interventions, clustering, cohesion policy, regional policy and technology policy.

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[1]   These goals are the result of broader industrial policy principles defined at the beginning of the 1990s through two Bangemann memorandums. Then the Union departs from selective interventions for individual companies and industries by creating preconditions for adjusting the overall market (horizontal approach).

The overall industrial policy of the EU is based on interaction with other policies, particularly with competition policy, trade policy, education policy, and above all research and development policy. The objectives of research and development policy are defined in Articles 179 to 190 of the TFEU, which emphasize that the aim of this policy is *to strengthen the scientific and technological basis of the Union industry and to foster the development of international competitiveness based on multiannual research programs defining scientific and technological objectives.*

However, modern trends in business and economic activity point to a constant decline in the share of industry in GDP, and employment and growing importance of the services sector. Accordingly, the EU must define measures and create favourable conditions for further development of the industry under changed conditions.

Similarly to the Industrial Policy of Montenegro until 2020, in 2002, the European Commission defined the key challenges facing the industry sector, highlighting globalization, de-industrialization, technological change, innovation and entrepreneurship, and sustainability and new social demands. As a result, the need for reindustrialization has been established.

The EU has recognized the importance of investing in research and development in the pursuit of economic growth and industrial sector progress. This approach is backed up by defining the Lisbon Strategy, whose implementation, however, was relatively unsuccessful, lasted until 2010 when it succeeded in the 2020 strategy. This Strategy represents the key development document of the European economy until 2020, whose key goal is for the EU "to become the most competitive and dynamic knowledge-based economy in the world". The scope of the Strategy is defined through key priorities, goals and initiatives. In the context of consideration of the development of the industrial sector, it is crucial to emphasize that the Strategy emphasizes the need to increase total investment in R&D at a level of 3% of GDP and their focus on industry and entrepreneurship. Also, of seven key initiatives[2], four are geared towards further industry advancement, namely: Innovation Union, Digital Program for Europe, Industrial Policy for Globalization, New Skills for Workplaces. In addition, the Global Policy Agenda for Industries is aimed at improving the business environment and developing a strong and sustainable industrial base. Furthermore, the Innovation Union strives to increase overall investment in R&D and facilitate access to finance for

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[2] The seven key initiatives of the EUROPA 2020 strategy are the Digital Agenda for Europe, Innovation Union, Young people on the move, Efficient resource utilization, Industrial Policy for the Globalization Age, New Qualifications and Jobs Program and the European Platform against Poverty.

SMEs and industrial entities, thus stimulating innovation processes and directly influencing economic growth and employment (European Commission, 2013).

Strengthening industrial policy in years after the adoption and coming into force of the Europe 2020 Strategy has been marked by defining several communications. Communication "Industrial Policy: Strengthening Competitiveness" highlights the importance of launching structural changes and coherence and policy coherence in the Member States with the aim of boosting economic and industrial competitiveness and sustainable growth in the EU. In 2012, Communication "Stronger European Industry for Growth and Economic Recovery" was adopted, aimed at the creation and implementation of measures aimed at fostering investment in industrial sector innovation. In 2014, a new communication "For European Industrial Revival" (European Parliament, 2016) was launched, resulting from a number of weaknesses and obstacles to the development of the European industry despite its "performance". It is recognized that these barriers could threaten the competitiveness of the European industry in the future.

A key challenge for the global economy, as well as for the Montenegrin economy, is the beginning of the fourth industrial revolution, i.e. Industry 4.0. Such contemporary trends will result in the emergence of smart factories and the complete integration of information communication technologies into the manufacturing process. The deployment and expansion of smart systems will result in the emergence of a management system in which cyber-physical systems monitor physical processes, execute decentralized decisions and create a virtual copy of the world, collaborating and communicating with each other and with people over the Internet. The introduction of such systems multiplies productivity and product quality, and thus competitiveness on an international level.

5. Conclusion

This paper has presented a descriptive analysis of deindustrialization in Montenegro, which is a growing and complex problem in other transition countries, EU Member States, and a general process that has been recognized globally since the 1950s. The analysis of deindustrialization has been based on the key indicators that were analysed by previous researches and by taking into account the attitudes of relevant economic theorists.

The scientific contribution of the research carried out arises primarily from the systematization of the previous author's approaches to the deindustrialization process, which differs in the ways of defining and determining key elements and

process factors. Based on the views of relevant economists, the authors provide their own theoretical approach to the deindexation process, placing the focus on the key role of labour productivity, investing in research and development and international trade. Furthermore, de-industrialization, despite its long-term development, is still a relatively undetermined process, especially in the Western Balkans and other transition countries. Therefore, the scientific contribution of the work derives from the orientation to the study of this topic in Montenegro, which in the process of joining the EU must adapt its economy to the demands and challenges of the EU Internal Market.

The research found that deindustrialization in Montenegro occurred naturally throughout the observed period, that is, the reduction of the industry's share in gross added value increased, as did the share of the service sector and the industrial production. However, throughout the industry, the consequences of the global economic crisis are also present. Furthermore, in view of the increase in industrial production growth with the increase in total employment and the reduction of employment in the industrial sector, in the case of Montenegro, it is possible to talk about the case of relative deindustrialization. However, certain derogations in the movements recorded during the period also point to the presence of absolute deindustrialization process, but to a much lesser extent. The effects of globalization trends on the Montenegrin economy are evident from the increase in foreign investment, accompanied by a decline in employment in the industrial sector and the continued realization of trade deficits. In terms of international trade, Montenegro experiences negative de-industrialization. Data on the increase of labour productivity, which represents the most significant indicator of deindustrialization, suggests that, in contrast to the initial impression, deindustrialization in Montenegro did not arise as a sole consequence of positive changes in the economy, but other, very often non-economic factors, which is characteristic of most developing countries. Therefore, in the case of Montenegro, it is inevitable to talk about forced and/or premature deindustrialization. Also, the research mentions the term Industry 4.0, which represents the key development direction of the industrial sector in the future. Such orientation will significantly affect further development of employment in industry and changes in the industrial sector.

Future research should focus on other Western Balkan countries and examine the specific features of the deindustrialization processes in these countries. Namely, these countries require a full inclusion in the EU, therefore, it is necessary to define quality guidelines and directions for their future development. In general, as a key development work recommendation, the need for further affirmation of reindustrialization in Montenegro is emphasized, which will be

based on the implementation of innovations and other products of investment in R&D in order to achieve economic growth and increase competitiveness of the economy. This approach is also included in key EU development strategies and represents a tool to face the key challenges of the globalization era, especially in the industrial sector.

References

1. Alderson, A. S. (1999). Explaining Deindustrialization: Globalization, Failure, or Success?. *American Sociological Review, Vol. 64, No. 5*, 701.-721.
2. Baumol, W. (1967). Macroeconomics of Unbalanced Growth. *American Economic Review, Vol. 57, No.3*, 415-26.
3. Beg, M., Basarac Sertic, M., Družić, I. (2017). Determinants of Deindustrialisations in Developed and Post-Communist Countries. *Montenegrin Journal of Economics, Vol. 12, No. 2*, 93-106.
4. *Bluestone, B., Harrison, B.* (1982). *The deindustrialization of America* New York: Basic Books.
5. Bluestone, B. (1984). Is Deindustrialization a Myth? Capital Mobility versus Absorptive Capacity in the U.S. Economy. *The Annals of the American Academy of Political and Social Science, Vol. 475, No. 1*, 39.-51.
6. Budzinski, O., Schmidt, C. (2006). European Industrial Policy: Economic Foundations, Concepts and Consequences.
7. Cairncross, A. (1982). What is deindustrialisation?, in *Deindustrialisation*, ed. Franck Blackaby, 5-17. London: National Institute of Economic and Social Research, Economic Policy Papers, Heinemann Educational Books.
8. Clark, C. (1957). *The Conditions of Economic Progress* London: Macmillan
9. Consolidated version of the Treaty on the functioning of the European union, article 173, and articles 179-190, available on: http://eur-lex.europa.eu/legal-content/HR/TXT/?uri=CELEX%3A12012E%2FTXT
10. Crafts, N. (1996). Deindustrialisation and Economic Growth. *The Economic Journal, Vol. 106, No.434*, 172-183.
11. Čavrak, V., Družić, I., Barić, V., Grahovac, P., Gelo, T., Karaman Aksentijević, N. (2011). *Gospodarstvo Hrvatske* Zagreb: Politička kultura.
12. Dasgupta, S., Singh, A. (2009). Manufacturing, Services and Premature Deindustrialization in Developing Countries: A Kaldorian Analysis. World Institute for Development Economic Research (UNU-WIDER), Working Paper Series RP2006/49
13. Družić, I., Penava, M., Raguž, I. (2012), "Strukturni učinci deindustrijalizacije", ed. Gordan Družić and Ivo Družić, *Razvojna strategija malog nacionalnog gospodarstva u globaliziranom svijetu*, Zagreb: University of Zagreb, Faculty of Economics.
14. Dumičić, M. (2017). A Brief Introduction to the World of Macroprudential Policy. *Journal of Central Banking Theory and Practice, Vol. 6, No. 1, 87-109.*
15. Eurostat (1), (2017), available on: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=cpc_ecnagdp&lang=en
16. Eurostat (2), (2017), available on: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=cpc_insts&lang=en

17. Eurostat (3), (2017), available on: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=cpc_pslm&lang=en

18. European Commission (2013), available on: https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction/european-semester/framework/europe-2020-strategy_hr

19. European Parliament, (2016), available on: http://www.europarl.europa.eu/

20. Fuchs, V. (1968). *The Service Economy* New York: Columbia University Press.

21. Government of Montenegro, Ministry of economy (2016). *Industrijska politika Crne Gore do 2020 godine.* Podgorica: Government of Montenegro, Ministry of economy.

22. Holjevac, I.A., Vrtdošuić Hrgović, A.M. (2012). *Dugoročna analiza produktivnosti rada u hotelijerstvu u Hrvatskoj/Long-term analysis of labour productivity in the Croatian hotel industry. Acta Turistica, Vol. 24, No. 1*, 39-60.

23. Kaldor, N. (1966). *Causes of the Slow Rate of Economic Growth of the United Kingdom* Cambridge: Cambridge UniversityPress.

24. Kandžija, V., Cvečić, I. (2010). *Ekonomika i politika Europske Unije.* University of Rijeka, Faculty of Economics.

25. Kandžija, V., Tomljanović, M., Huđek, I. (2017). Deindustrialization as a process in the EU. *Ekonomski vjesnik – Econviews – Review of Contemporary Enterpreneurship, Business, and Economic Issues, Vol. 30, No. 2,* 399-414.

26. Krstevska, A., Petrovska, M. *(2012).*The economic impacts of the foreign direct investments: panel estimation by sectors on the case of Macedonian economy. *Journal of Central Banking Theory and Practice, Vol. 1, No. 2, 55-73.*

27. Kyriazis, N.A., Economou, N.A. (2017). The Relation of Brexit with the UK's QE Decisions and its Impact on the Eurozone. *Journal of Central Banking Theory and Practice, Vol. 6, No. 1, 5-14.*

28. Lawrence, R. Z. (1983). Is Trade Deindustrializing America? A Medium-Term Perspective. *Brookings Papers on Economic Activity, Vol. 14, No. 1,* 129.-172.

29. Lever, W. F. (1991). Deindustrialisation and the Reality of the Post-industrial City. *Urban Studies, Vol. 28, No. 6,* 983-999.

30. Mickiewicz, T., Zalewska, A. (2001). Deindustrialisation and Structural Change During The Post-Communist Transition. William Davidson Institute, Working Paper 383.

31. Mickiewicz, T., Zalewska, A. (2002). Deindustrialisation. Lessons from the Structural Outcomes of Post-Communist Transition. William Davidson Working Paper 463.

32. Mickiewicz, T., Zalewska, A. (2006). De-industrialisation: Rowthorn and Wells' Model Revisited. *Acta Oeconomica, Vol. 56, No. 2*, 143.-166.

33. Pelkmans, J. (2006). *European Integration: Methods and Economic Analysis*. London: Pearson Education.

34. Penkova-Pearson, E. (2012). Trade, convergence and exchange rate regime: evidence from Bulgaria and Romania. *Journal of Central Banking Theory and Practice, Vol. 1, No. 1, 107-139.*

35. Priewe, J. (1993). Privatisation of the Industrial Sector: The Function and Activities of the Treuhandanstalt. *Cambridge Journal of Economics, 1993, vol. 17, No. 3*, 33-48.

36. Rowthorn, R., Wells, J. R. (1987). *De-industrialisation and Foreign Trade.* Cambridge: Cambridge University Press. University of Marburg Working Paper.

37. Rowthorn, R., Ramaswamy, R. (1997). Deindustrialization: Causes and Implications. IMF Working Paper, available on: https://www.imf.org/external/pubs/ft/wp/wp9742.pdf

38. Rowthorn, R., Coutts, K. (2004). De-industrialization and the balance of payments in advanced economies. *Cambridge Journal of Economics, Vol. 28. N. 5*, 767.-790.

39. Sachs, J. D., Shatz, H. J. (1994). Trade and Jobs in U.S. Manufacturing. *Brookings Papers on Economic Activity, Vol. 1994, No. 1*, 1.-84.

40. Saeger, S. S. (1997). Globalization and Deindustrialization: Myth and Reality in the OECD. *Review of World Economics, vol. 133, No. 4*, 579.-608.

41. Singh, A. (1977). UK Industry and the World Economy: A Case of De-industrialization?. *Cambridge Journal of Economics, Vol. 1, No.2*, 113-36.

42. Thiesen, U., Gregory, P.R. (2005). Modelling the Structural Change of Transition Countries. German Institute for Economic Research. Discussion Papers of DIW Berlin 519.

43. Tomljanović, M., Grubišić, Z. (2016). Investment in research and development – A Factor of adjustment of Montenegro to the EU Economy. *Journal of Central Banking Theory and Practice, Vol. 5, No. 3, 139-165.*

44. Vučinić, M. (2016). Importance of Macroprudential Policy Implementation for Safeguarding Financial Stability. *Journal of Central Banking Theory and Practice, Vol. 5, No. 3, 79-98.*

45. Wood, A. (1995). How Trade Hurt Unskilled Workers. *The Journal of Economic Perspectives, Vol 9, No. 3.*, 57.-80.

46. World Bank (1), (2017), available on: https://data.worldbank.org/indicator/NY.GDP.PCAP.CD

47. World Bank (2), (2017), available on: https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS

48. World Bank (3), (2017), available on: https://data.worldbank.org/indicator/ NV.SRV.TETC.ZS

49. World Bank (4), (2017), available on: https://data.worldbank.org/indicator/ NV.IND.TOTL.ZS

50. World Bank (5), (2017), available on: https://data.worldbank.org/indicator/ SL.IND.EMPL.ZS

51. World Bank (6), (2017), available on: https://data.worldbank.org/indicator/ SL.AGR.EMPL.ZS

52. World Bank (7), (2017), available on: https://data.worldbank.org/indicator/ SL.SRV.EMPL.ZS

53. World Bank (8), (2017), available on: https://data.worldbank.org/indicator/ BX.KLT.DINV.WD.GD.ZS

54. World Bank (9), (2017), available on: https://data.worldbank.org/indicator/ BN.CAB.XOKA.GD.ZS

55. World Bank (10), (2017), available on: https://tcdata360.worldbank.org/ indicators/lbr.prod?country=HRV&indicator=3266&product=0&viz=line_chart&years=2011,2014

56. Živković, O., Bjelić, P. (2017). An Analysis of International Trade of Montenegro Using Statistics on the Operations of Transnational Corporations' Affiliates. *Journal of Central Banking Theory and Practice, Vol. 6, No. 1, 145-163.*