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DEINDUSTRIALIZATION AS A PROCESS IN THE EU

Abstract

Deindustrialization is a natural process in the developed countries, which takes place under the influence of external and internal factors and occurs as a result of economic growth. It is marked by the decline in the share of industry in GDP and employment with a simultaneous increased importance of the service sector. Considering the complexity of the concept, there are many theoretical approaches of deindustrialisation. In this paper the analysis of deindustrialization in the EU was conducted. The research results indicate the existence of relative deindustrialization in the EU, which is characterized by reduced share of agriculture and industry and increased share of the service sector in GDP. Also, it was found that the decrease in employment in the industry was not created as a result of a decrease in industrial production. The EU economy, including the industrial sector, is heavily influenced by the globalization process, while the process of deindustrialization is significantly impacted by the increased volume of foreign direct investment. In key strategic documents European industry is recognized as the main "engine" of the recovery of the European economy. Therefore, the highest priority is the creation of conditions for the process of reindustrialization, i.e. the development of industry in the variable circumstances, with an emphasis on strengthening and improving the industrial foundation and implementation of new solutions based on innovation, research and new technologies.

Keywords: EU, deindustrialization, industry, labour productivity, reindustrialization

1. Introduction

Industrialization refers to the process of industry development. In the developed European countries it was occurring spontaneously; light industries appeared first, and then heavy industries (Družić et al., 2012). Most theorists emphasize that there is no general way of industrialization and that in fact it takes place under the influence of a large number of internal factors. According to numerous authors (Palma, 2007; Boulhol, Fontagné, 2006; Rowthorn, Ramaswamy, 1997), the development of industry follows a certain path, whereby its share in GDP and in total employment grows to a certain point, and then decreases, while the share of services increase. The beginning of integration processes[1] on

the European continent is based particularly on the industry. In fact, in 1951, by signing the Treaty of Paris the European Coal and Steel Community was established, which included six founding countries (Belgium, Netherlands, Luxembourg, Italy, Germany and France), later known as the "hard core" countries of the EU (Kandžija, 2003). The integration was continued in 1957 (Treaty of Rome) in the sector of nuclear energy by establishing the European Atomic Energy Community (EURATOM). However, the Treaty of Rome did not provide a common industrial policy[2] until the 1992 Treaty on European Union introduced the subtitle on industry, but not on industrial policy (Kandžija, Cvečić, 2010). According to the 2007 Treaty of Lisbon, it was defined that industry belongs to the area in which the Union *takes decisions on the activities of support, coordination and complementing the activities of Member States. This implies that the EU in the field of industry has no direct competences, but encourages cooperation and helps and encourages the development of industry in the Member States.* Article 173 of the Treaty on the Functioning of the EU emphasizes that the *aim of the EU and its Member States is to create favourable conditions for improving the competitiveness of European industry in accordance with a system of open and competitive markets.* Therefore, effects on the environmental factors of the company are anticipated, with particular emphasis on innovation, research and technological development, development of small and medium-sized enterprises and acceleration of structural reforms in industry.

The EU is faced with a reduction in the share of industry in GDP and in total employment, i.e. the process of deindustrialization is present. On the other hand, the key strategic documents emphasize the importance of industry in modern business as one of the key factors of the EU economic recovery. The EU economy is lagging behind major competitors, particularly the United States, since the research activity is focused mainly on traditional industries. Huge energy dependence is present and the whole European continent is affected by the aging of the population, which has a negative impact on innovation and consumer capacity of the population. The aim of the study is to present the theoretical aspect of the concept of deindustrialization and determine its key elements and factors. Furthermore, based on the presented theoretical aspects, the goal of the research is an analysis of deindustrialization in the EU. The purpose of the study is to evaluate the deindustrialization of the EU, to identify the challenges faced by European industry, strategic documents and key measures that the EU conducts towards ensuring the viability and competitiveness of the industrial sector.

In this paper a descriptive analysis was carried out on the process of deindustrialization in the EU. In addition, together with the basic macroeconomic indicators, specific indicators of industry and industrial production in the EU are analysed as well. According to the availability of data the study refers to the period from 1995 to 2015.

The paper consists of five interconnected parts. After the introduction, the following section presents the most important theoretical insights about the process of deindustrialization and covers the period from 1957 to 2011. Presentation of research methodology is accompanied by the analysis of deindustrialization in the EU. Furthermore, the paper presents the basic instruments and objectives of EU industrial policy, the key challenges and policy documents by which the EU wants to work on strengthening the competitiveness of the industrial sector. The paper ends with the conclusion which contains the key cognitions that were obtained during the investigation.

2. *The theoretical background of deindustrialization*

The term deindustrialization appeared for the first time in 1950s and 1960s in the works of Clark (1957) and Kaldor (1966), who pointed out the connection between GDP growth and growth in the industrial sector, and whose research was continued by many other authors. In general, although there is still no single definition, the most relevant authors agree on deindustrialization as a "natural process, which occurs as a result of economic growth and changes in the economic structure." As such, deindustrialization is a concept characteristic of developed countries (Baumol, 1967; Fuchs, 1968), occurring as a normal and positive result of the rapid growth of industrial productivity, which, despite the decline in the share of industry in employment and GDP, remains stable. On the other hand, a negative view of deindustrialization is given in Singh (1977), according to which deindustrialization is a "pathological condition" in the economy, i.e., the inability of the economy to achieve the full potential

of economic growth, employment and utilization of resources. Blackaby (1978) gives the first systematization of theoretical approaches of deindustrialisation and states that this concept "crept" into the scientific literature of that period. In defining the deindustrialization Caincross (1982) and Lever (1991) rely on four approaches that are still commonly used. According to the first approach (1), deindustrialization implies a reduction of production or decrease in employment in the industrial sector. Furthermore, deindustrialization represents a shift from industrial production to service industries (2). The authors point out a reduction in the share of industrial products in international trade, resulting in the progressive failure to maintain the balance of trade balance (3). In addition, the continuous deficit of foreign trade grows to such an extent where country is not able to "pay" for the imports necessary to sustain further production and where downward economic growth begins, which in this case is called deindustrialization (4).

Bluestone and Harrison (1982) build on previous authors and define the deindustrialization as "systemic disinvestment in the nation's basic productive capacity". Crafts (1992) points out that, although industrial production is growing, its growth is relatively slow, the proportion of the workforce in the industry is reduced and the trade balance moves from a surplus to a deficit. Different theoretical approaches "allow" different methods of measuring the level of deindustrialization. In doing so, as its main determinants the level of GDP per capita, expansion or recession of economy, trade patterns and structural changes in the economy are taken into the consideration. Priewe (1993) introduced the term premature[3] deindustrialization and describes it as a negative process, which is in most cases present in less developed, transition countries, and which as such should be barred or at best slowed down. Čavrak et al. (2011) determine deindustrialization as a process of reducing the importance of industry in the national economy, expressed through its share in GDP.

Deindustrialization is a process that occurs due to the effects of internal and external factors. Rowthorn and Ramaswamy (1997) and Rowthorn and Coutts (2004) emphasize the internal factors. Rowthorn and Ramaswamy (1997) affirm the current opinions of the author about "positivity" of the process of deindustrialization, as a result of successful economic development, achieved due to productivity[4] growth, while the share of spending on industrial goods is stable in recent decades. The authors indicate 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". Labour productivity growth implies a situation in which with the same amount of work it is possible to achieve higher production levels and it is as such determined as a key factor of deindustrialization. In the industrial sector, productivity growth has a double impact on employment, i.e., faster productivity growth makes industrial goods comparatively cheaper, stimulating demand at the same time. On the other hand, in such a situation, fewer and fewer workers are required. Furthermore, productivity growth and differences in the revenue elasticity of demand trigger structural changes, which initially result in industrialization, and then in deindustrialization (Rowthorn and Wells, 1987). The growth of labour productivity implies relative deindustrialization i.e. a situation where the level of employment in industry goes down, but without reducing the overall industrial productivity.[5] Rowthorn and Coutts (2004) emphasize changes in consumption patterns and trade with low-income countries as the most important factors of deindustrialization with productivity growth. On Rowthorn and Coutts builds Kollmeyer (2009), who emphasizes income elasticity of demand as the most important factor contributing to employment in industry.

Furthermore, it is necessary to identify the key external factors of deindustrialization. Consideration of the impact of international trade on the process of deindustrialization is represented in the works of authors from the mid-1980s to mid-1990s. By participating in international trade flows and stimulating competition, domestic industrial enterprises are encouraged to increase the efficiency of their production. That results in productivity growth in industry and eliminating inefficient enterprises, whose products are substituted by imports. At the same time, developed countries specialize in capital-intensive industries with high added value. On the example of the United States Lawrence (1983) indicates that the international trade caused a reduction by one third in industrial employment. On the other hand, Bluestone (1984) points out that the deindustrialization of the

United States happened despite the fact that employment in industry has remained constant. The author draws attention to the large job losses in the industrial regions as the "most negative" effect of deindustrialization. Sachs and Shatz (1994) on the example of the United States empirically established a link between international trade and the expansion of deindustrialization. Furthermore, through his analysis of employment in industry and imports from developing countries Wood (1995) proves the impact of increasing the volume of trade on reducing the importance of industry in OECD countries. According to Saeger (1997), four phenomena explain the impact of opening the economy on the decreasing importance of industry: 1) transfer of "comparative advantages" of highly industrialized countries from the factory into offices or distribution networks, resulting in a growing specialization in the services sector, 2) the pressure of new competitors with low labour costs and weak environmental legislation, resulting in the "survival" of only the most productive firms, whose products have no substitutes in low-cost imports, 3) the reorganization of the company to take advantage of differences in international costs on the global level, through the opening of foreign subsidiaries (for different segments of the production process) on (economically) the most favourable locations, 4) developing countries become "new" markets, i.e. a shift in international trade results in displacement of producers from developed countries to developing countries.

During the 1980s and 1990s many middle-income countries were passing the phase of deindustrialization, without reaching high levels of industrial production (Dasgupta, Singh (2009). The modern conditions of globalization have moved the attention of researchers to the "new" factors of deindustrialization. Alderson (1999) emphasizes the role of foreign direct investment (FDI) in the process of employment reduction in the industrial sector. The author concludes that 1) FDI reduces employment in industry since companies in search of cheaper labour move their factories to developing countries, and 2) FDI may increase the required marginal rate of return on domestic investments, move investments from industry to the services sector and reorient them from productive investments. Alderson (1999) distinguishes positive[6] and negative deindustrialization and deindustrialization associated with trade. Positive deindustrialization occurs as a result of economic development and productivity growth, while the negative one occurs due to structural imbalances in the economy, which as a result have stagnating income and rising unemployment. Finally, deindustrialization associated with trade depends on whether a country has a surplus or deficit in international trade.

Most authors state that the internal and external factors independently affect deindustrialization. Kang and Lee (2011) consider their mutual influence i.e. the effect of external factors on internal factors and inversely. The authors agree that the process of deindustrialization is decisively influenced by internal factors i.e. labour productivity and changes in consumption patterns, with the important role of trade in case of low-income countries.

Most studies of deindustrialization and its effects are focused toward developed countries. However, the transition i.e. post-communist countries also went through this process. In these countries, the economic reforms in the majority of cases occurred as a result of changes in the political regime, and not as a natural course, which is affirmed in the economic literature as a term of forced deindustrialization. Mickiewicz and Zalewski (2001, 2002, 2006) investigate the processes of deindustrialization in the post-communist transition countries.

Based on the presented theoretical findings, we can conclude that deindustrialization is a natural process, which in developed countries is a consequence of economic growth and is determined by the actions of internal and external factors. In addition, of greatest importance are labour productivity and the volume of foreign direct investment, which is increasing as a result of the ever-present globalization process. On the other hand, less developed countries "perceive" deindustrialization as a negative phenomenon, occurring primarily due to political and regime change in situations when the economy has not yet reached high levels of industrial production. In such cases, deindustrialization results in an increasing unemployment and deterioration of the overall social situation.

3. Analysis of deindustrialization in the EU

3.1 Research methodology

Analysis of deindustrialization in this part of the work is carried out by taking into consideration the above theoretical assumptions, with particular emphasis on the following indicators: 1) GDP per capita (in euros), 2) gross value added in industry (% of

GDP), 3) employment rate (% of total employment), 4) employment rate in industry (% of total employment), 5) index of industrial production, 6) index of labour productivity and 7) foreign direct investment (% of GDP). According to the statistical classification of economic activities of the EU (NACE Rev. 2), in the analysis of industry a wide range of activities is included, such as: mining and quarrying (B), processing industry (C), production and supply of electricity, gas, steam and air-conditioning supply (D), water supply, sewerage, waste management and remediation activities (E), and construction (F) (Eurostat (5)[7], 2016). The analysis covers the period from 1995 to 2015. The data were collected from secondary statistical base of the World Bank and Eurostat.

Taking into account the basic assumption according to which deindustrialization implies *a natural process in the developed countries, which is a result of economic growth, marked by decrease in the gross value added of industry and its importance in total employment*, in the paper the projection of movement of listed indicators until 2020 is done. The projection is carried out using the method of exponential smoothing, which is commonly used in time series. Using this method, the forecast for the period is obtained as a weighted average of actual and forecasted values of the time series in period t. The actual value of the time series in the period is joined by the weight w (smoothing constant), which takes a value between 0 and 1, while weight is added to the forecast t. The higher the value of the parameter, the greater the weight which adds to the previous period (Winters, 1960).

The Holt-Winters method uses triple smoothing and has three smoothing constants:

1) a constant which is used in each exponential smoothing (overall smoothing)
2) a constant which is used in determining the trend of the value (trend smoothing)
3) a constant which is used to determine the periodicity of the value (seasonal smoothing).

Calculation of prediction is based on the following formulas:

$$St = \alpha\, yt / It\text{-}L + (1-\alpha)(St\text{-}1 + bt\text{-}1) \quad (1)$$

$$bt = y(St\text{-}St\text{-}1) + (1-y)\, bt\text{-}1 \quad (2)$$

$$It\ \beta = yt / St + (1-\beta)\, It\text{-}L$$

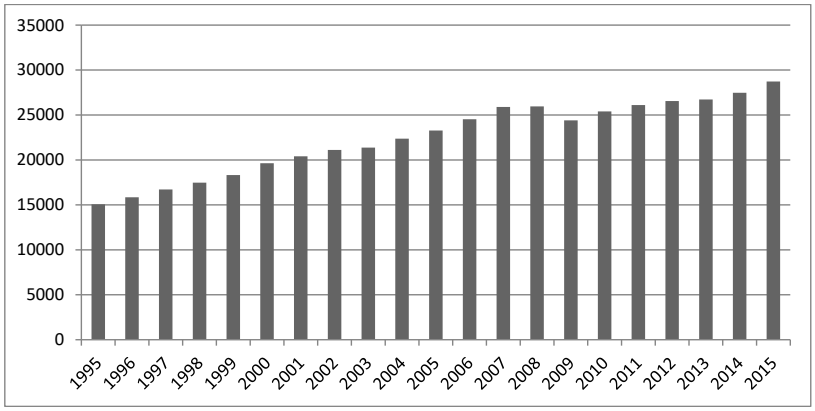
$$Ft + m = (St + MBT)\, It\text{-}L + m, \text{ where} \quad (3)$$

Y = observed values
S = smoothed values
b = factor trend value
I = index periodicity value
f = prediction for m periods ahead
t = index that represents the period

3.2 Analysis

The level of GDP per capita in the EU was constantly increasing until 2008, when the level of 25,897 euros was achieved. The negative effects of the economic crisis had an impact on its reduction in 2009. Further growth of GDP per capita started in 2010 and continued until 2015, when the GDP per capita in the EU was 28,725 euros (Chart 1).

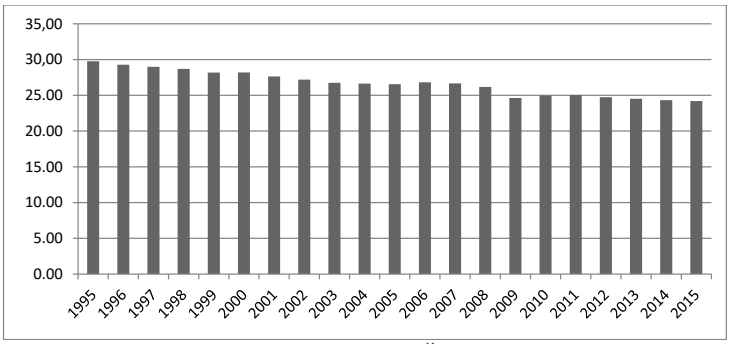
Chart 1 Movement of GDP per capita of the EU in the period from 1995 to 2015 (euro per capita)



Source: Developed by the authors, based on the AMECO (1)[8], 2016

Below is the analysis of gross value added by activities. In this case, a three-sector model is used, according to which activities are divided into three basic groups: the primary sector, the secondary sector and the tertiary sector. The analysis indicates that in the observed period the structure of gross value added in the EU was changing. The primary sector has over the whole observed period (except 2011 and 2013) realized value impairment. At the beginning of the period, its value was at the level of 2.99%, while in 2015 the gross value added of the primary sector was 1.56% (World Bank (2)[9], 2016). On the other hand, the gross value added of the tertiary sector during the entire observed period (except for 2006 and 2011) increased and in 2015 reached the level of 74.25% (World Bank (3)[10], 2016). During the entire observed period a constant decrease in gross value added of the secondary sector was recorded (with the exceptions in 2006, 2010 and 2011). Gross value added of the secondary sector in 2015 in the EU was 24.19% (Chart 2).

Chart 2 Gross value added of the secondary sector in the EU from 1995 to 2015 (% of GDP)

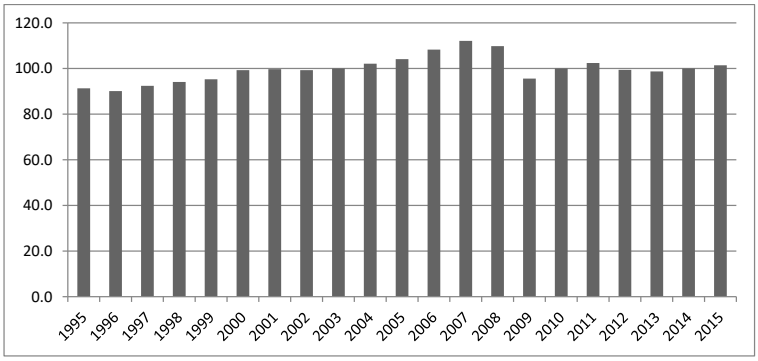


Source: Developed by the authors, based on the World Bank (1)[11], 2016

The data from Charts 1 and 2 suggest that the increased deindustrialization in the EU began in 1995, when the level of GDP per capita stood at the level of 25,897 euros, while gross value added of the industrial sector was 29.57% of GDP.

Furthermore, industrial production in the EU has risen steadily in the observed period, with the exceptions of 2008 and 2009, which can be connected with the negative effects of the economic crisis. Also, the reduction of industrial production was recorded in 2012 and 2013 (Chart 3).

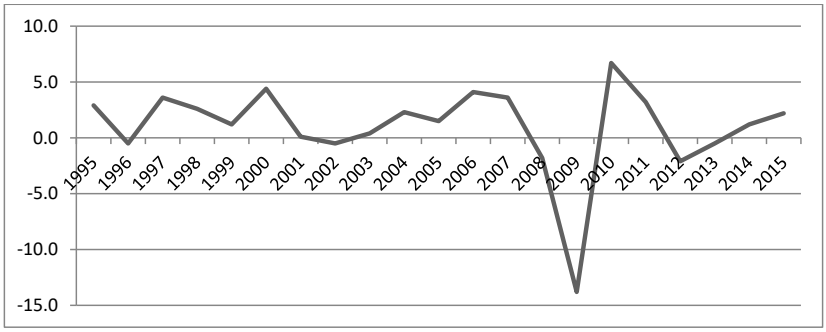
Chart 3 Index of industrial production in the EU in the period from 1995 to 2015



Source: Developed by the authors, on the basis of the Eurostat (1)[12], 2016

Industrial production in the EU grew an average of 1.04% annually in the period from 1995 to 2015. Also, in the period before the 2008 crisis, the average growth of industry was 1.8% annually. However, the negative effects of the economic crisis affected the slowdown of industrial production (Chart 4). Namely, as shown in Chart 3, the industrial production in the EU is still largely growing, but at a slower pace.

Chart 4 Industrial growth rates in the EU in the period from 1995 to 2015

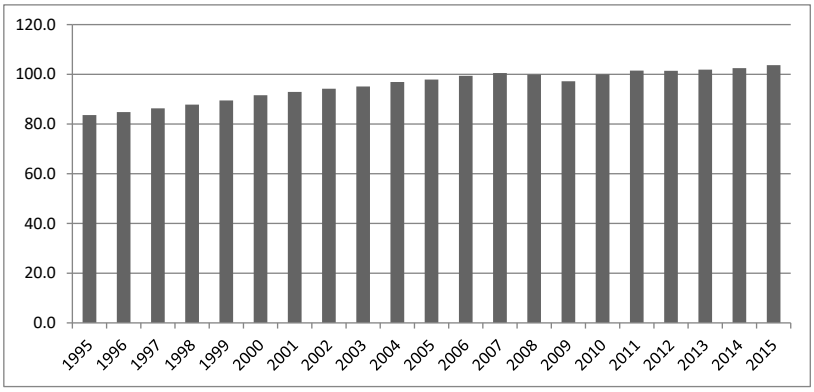


Source: Developed by the authors, on the basis of the Eurostat (4)[13]*, 2016*

The largest decrease in industrial production was recorded in 2009 (-13.8%), followed by recovery in 2010 and 2011. In 2015, the industrial production in the EU has recorded a growth of 2.2%. Generally, in the years of economic crisis and after it was over, the industrial production in the EU achieved an average reduction of 0.44%.

Also, the existence of deindustrialization in the EU indicates the movement of the index of labour productivity, which is a constant (except in 2008 and 2009), increased throughout the study period (Chart 5).

Chart 5 The index of labour productivity in the EU in the period from 1995 to 2015

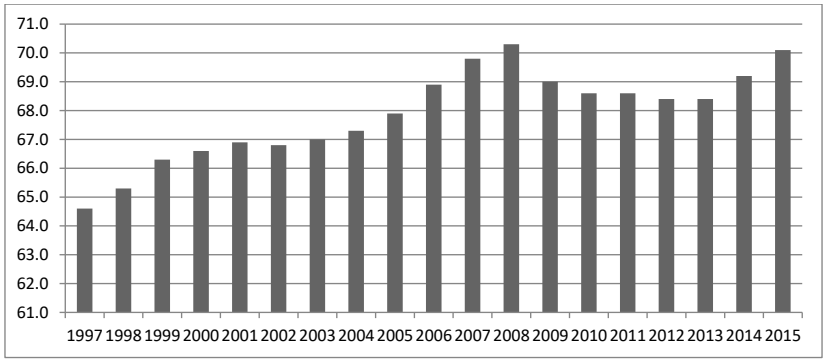


Source: Developed by the authors, on the basis of the Eurostat (2)[14]*, 2016*

The data in Charts 1-5 suggest that the process of deindustrialization in the EU unfolded along the paths characteristic for the developed countries. Namely, the growth of GDP per capita in the EU followed the reduction in gross value added of industry and agriculture in GDP, while gross value added of the tertiary sector was increasing. Furthermore, the decrease in industrial employment is accompanied by the growth of labour productivity and an increase in industrial production, which indicates the process of relative deindustrialization.

The trends in the employment rate and its structure in the EU are analysed below. The employment rate in the EU increased until 2008, when it began to stagnate and decline, and that went on until 2013. New employment growth began in 2014 and continued until 2015, when the employment rate in the EU was 70.1% (Chart 6).

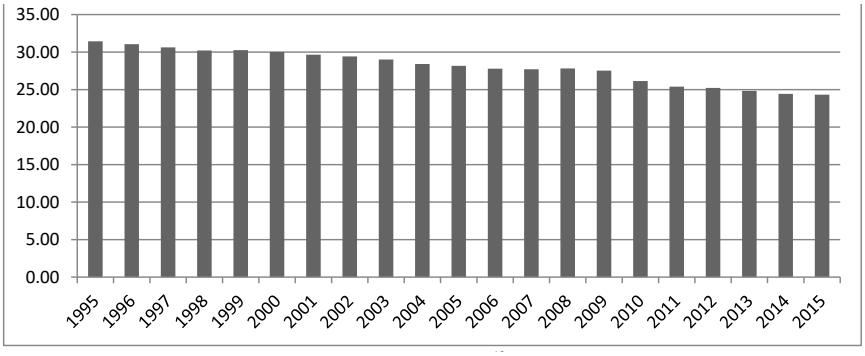
Chart 6 The employment rate in the EU in the period from 1997 to 2015



Source: Developed by the authors, based on the data from the Eurostat (3)[15], 2016

By analysing the structure of employment by sector, it is evident that during the whole observed period, employment in the primary sector was steadily declining (exceptions of 2009 and 2010) and in 2015 it accounted for 4.42% of total employment (World Bank (5)[16], 2016). On the other hand, employment in the tertiary sector was constantly increasing and in 2015 it was 70.69% (World Bank (6)[17], 2016). Also, over the whole observed period the employment was decreasing in the industrial sector as well, whose level of 31.43% in 1995 fell to 24.43% in 2015 (Chart 7).

Chart 7 Movement of the employment in the secondary sector of the EU in the period from 1995 to 2015

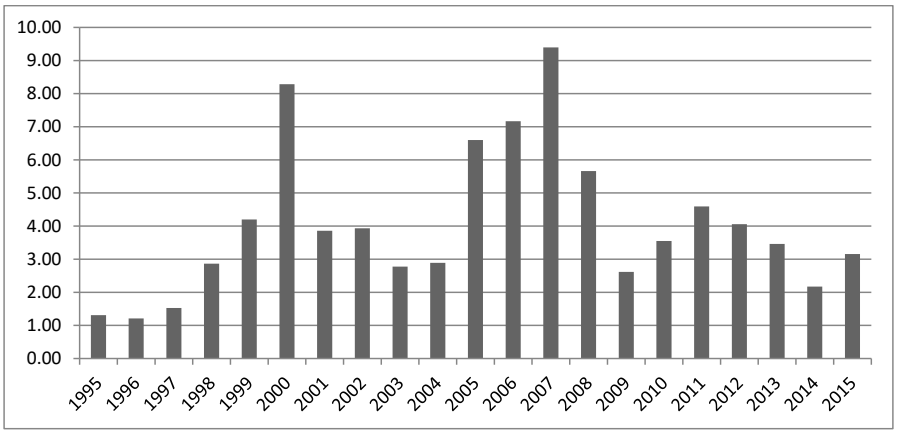


Source: Developed by the authors, based on the World Bank (4)[18], 2016

According to the data from the previous charts it can be concluded that the employment growth in the EU is followed by a decline in the share of employees in industry and the primary sector, while on the other hand, employment in the service sector increases, and the latter accounts for the largest share of employment in the EU.

The level of foreign direct investment increased throughout the observed period, with certain exceptions. The highest values were recorded in 2000 and 2007. According to the latest available data, foreign direct investment in the EU in 2015 was at the level of 3.16% of EU GDP, which represents an increase compared to 2014 (Chart 8).

Chart 8 Foreign direct investment in the EU in the period from 1995 to 2015 (% of GDP)

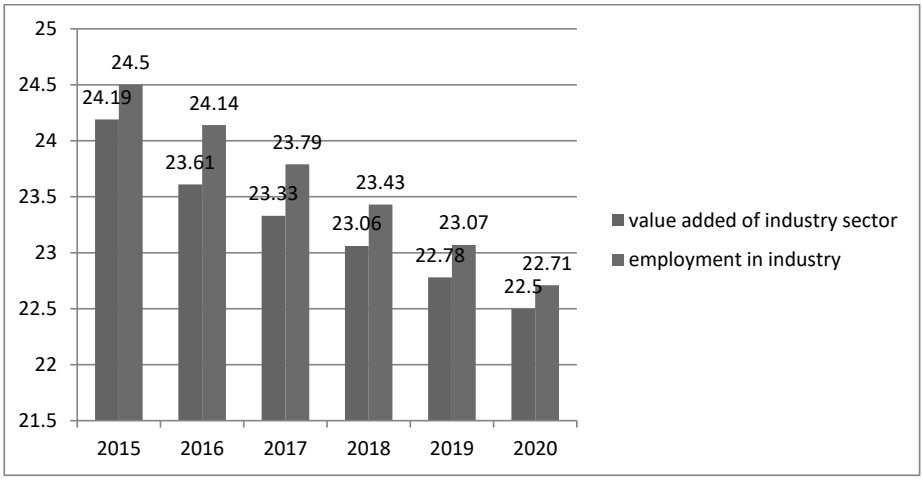


Source: Developed by the authors, based on the World Bank (7)[19], 2016

As previously stated, in the same period occurred the decrease in employment in industry in the EU. These results, referring to Alderson (1999), show a relationship between the growth of foreign direct investment and the reduction in employment in the industrial sector.

Using the method of exponential smoothing, the projection of gross value added of industry and employment in industry up to 2020 is made (Chart 9).

Chart 9 Projections of gross value added and employment in industry up to 2020



Source: Developed by the authors, based on the World Bank (1) and the World Bank (4)

The data from Chart 9 indicate that at the EU level up to 2020, reducing the share of industry in GDP and total employment is going to continue. Also, projections indicate that by 2020 the share of gross value added of industry and employment in industry will continue to decline steadily, and their value will be 22.71% of total employment i.e. 22.50% of GDP.

4. EU industrial policy and the prospects for future development

In general, EU industrial policy covers all state intervention aimed at the supply side of the economy, which targets to affect the industrial structure of the economy and its changes. Also, the interventions impact on encouraging the production of specific goods and on the decision to enter or exit the specific market goods. Industry is not limited to the processing industry; it can refer to a range of commercial activities in the economy, including trade and services. Also, approaches to and types of industrial policy differ widely (Kandžija, Cvečić, 2010). The highest emphasis is on market-oriented and interventionist approach. According to a market-oriented approach, the most effective way to encourage competition is to enable the free operation of market mechanisms. On the other hand, interventionist approach includes interventions to specific companies or industries, in order to improve their market position and achieve competitive advantage (Kandžija, Cvečić, 2010). As the basic types of industrial policy, it is necessary to sort out general and selective industrial policy. In doing so, selective industrial policy "favours" certain enterprises, industries or sectors, while in the general industrial policy there is no discrimination between companies, industries and sectors.

Budzinski and Schmidt (2006)[20] state how running of industrial policy is based on various instruments, which can be divided into basic and auxiliary ones. The basic instruments include tax reliefs and subsidies, while auxiliary instruments include guarantees, norms and standards, public procurement and the campaign "Buy Domestic". Apart from these instruments, the author also includes instruments that are not typical for market economies, which cover the public domain, price controls, investment control etc. Budzinski and Schmidt (2006) state that such instruments are generally not implemented, except in countries that are not in the capital system.

The broader principles of the EU industry were defined in early 1990s through two Bangemann memorandums on industrial policy. Since then begins the move away of the Union from selective interventions for individual companies and industries towards creation of the preconditions for the total market adjustment (horizontal approach). The main objectives of such an industrial policy include*:* *Adaptation of the EU industry to the structural changes, encouraging favourable environment for businesses and for venture capital, creating a competitive environment suitable for cooperation among enterprises and innovation policy and technology development* (Pelkmans, 2006). Kandžija and Cvečić (2010) point out that the purpose of the industrial policy is correcting market failures and institutional shortcomings. According to this, correcting market failures is carried out through research and development policy, whereby a particular economy achieves positive external effects and causes a spillover to other sectors and economies. As previously stated, industrial policy is also important to correct the institutional deficiencies which affect the adjustment costs of industry.

The EU industrial policy is based on three pillars (Kandžija, Cvečić, 2010): 1) the institutional framework of the EU for market integration, directed towards creating and strengthening the EU internal market, based on the measures and instruments of the common competition policy, regional development, social cohesion and regulation and privatization, 2) horizontal industrial policy, which includes newer instruments of action, and refers to the whole economy (research strategies, encouraging innovation, entrepreneurship, venture capital, fostering competition, public procurement) and 3) Sector or specific industrial policies which refer to the policies and interventions in sectors, clustering, cohesion policy, regional policy and technology policy.

Industrial policy is directed towards the improvement of the industrial growth and its effectiveness and the achievement of general economic growth, full employment, financial stability and improving living standards. It is a very complex concept and is based on the interaction with other policies, particularly with the competition policy, trade and educational policy, research and development and regional development policy. Under Articles 179-190 of the Treaty on the Functioning of the EU[21], the aim of research and development policy is *to strengthen the scientific and technological bases of the Union's industry and to encourage the development of international competitiveness based on the multi-annual research programmes, which establish the scientific and technological objectives.* However, current trends in the business and economic activities indicate a decline in the share of industry in GDP and employment, and an increasing importance of the services sector. Accordingly, the EU

must define measures and create favourable conditions for further development of industry in changing conditions.

"The new climate" in the European economy started in 1985, by the White Paper on the Internal Market[22] that highlighted the necessity of the growth of the integrated market, *which would allow European industry some advantages: the wholesale market, mass production, economies of scale, technical harmonization and research and innovation.*

In 2002 the European Commission identified the most important challenges of European industry and thereby emphasized globalization, technological change, innovation and entrepreneurship, sustainability and new social requirements. Due to market globalization and competition, European industry faces a new industrial revolution triggered by the development of information and communication technologies. Such changes have a significant impact on the production structure and processes, management, productivity and structural changes.

After the failure to achieve the goals set by the Lisbon strategy, further development of the European industry is closely correlated with the priorities and objectives of the Europe 2020 strategy, which was defined in 2010. Smart, sustainable and inclusive growth was defined as one of the key priorities of the Strategy and the emphasis was put on achieving five key objectives: 1) increasing the employment rate to 75%, 2) achieving the level of investment in research and development of a minimum of 3% of the EU's GDP, 3) reducing greenhouse gas emissions by 20%, increasing energy efficiency by 20% and achieving the threshold of 20% for energy coming from renewable energy sources, 4) reducing the early school leaving rates to below 10% and increasing the share of highly educated population aged 30 to 34 years to at least 40% and 5) reducing the number of poor people and people living on the edge of poverty by 20 million. Also, as a key "tool" of the Strategy the seven key initiatives are emphasized: A Digital Agenda for Europe, Innovation Union, Youth on the Move, Resource efficient Europe, An industrial policy for the globalization era, Agenda for new skills and jobs and the European platform against poverty[23].

Of these seven initiatives, four are aimed towards ensuring further progress of the European industry, and these are: Innovation Union, A Digital Agenda for Europe, An industrial policy for the globalization era and the Agenda for new skills for the jobs. A special contribution to strengthening the role of industrial policy is provided by the initiative "An industrial policy for the globalization era", in which 10 measures for the improvement of EU industry are proposed. The main goal of this initiative is to ensure improvement of the business environment (especially for SMEs) and encourage the development of strong and sustainable industrial base. In addition to this initiative, of particular significance is the Innovation Union initiative, which is specifically directed towards improving the business environment and access to finance for research and development and innovation. By encouraging business innovation the growth and creation of new jobs is encouraged, which is particularly important for the European industry (European Commission, 2013)[24]. These two initiatives are considered as pioneering initiatives of the Europe 2020 strategy in the industrial sector, as well as drivers of a new industrial revolution that gave rise to industrial policy as a key element in the future development of the Union.

Strengthening the industrial policy in the years following the adoption and entry into force of the Europe 2020 strategy was marked by several defining communications. The Communication "Industrial policy: Reinforcing competitiveness"[25], adopted in 2011, emphasizes the importance of initiating structural changes, and the coherence and consistency of policies in the Member States, with the aim of encouraging economic and industrial competitiveness and sustainable growth in the EU. The Communication "A Stronger European Industry for Growth and Economic Recovery"[26] was adopted in 2012 and was directed towards the creation and implementation of measures with the aim of encouraging investment in innovation of the industrial sector. In 2014 there was a new Communication "For a European Industrial Renaissance" (European Parliament, 2016)[27], which was created as a result of detecting a series of weaknesses and obstacles to the development of the European industry despite its excellent "performance". It is recognized that these obstacles could in future threaten the competitiveness of European industry.

5. Conclusion

In this paper the analysis of deindustrialization in the EU was conducted. By the review of previous theoretical knowledge it was found that deindus-

trialization generally can be defined as a "natural process", characteristic of developed countries, which occurs as a natural consequence of economic growth. In general, authors define deindustrialization as a process initiated by the activities of internal and external factors, which is usually characterized by the reduction in the share of industry in GDP, decreasing employment and labour productivity growth. Furthermore, globalization conditions put great emphasis on foreign direct investment, emphasizing its role in reducing employment in industry.

The conducted analysis indicates that deindustrialization of the EU in the observed period proceeded under the conditions of economic growth, the reduction in gross value added of the industries and increasing labour productivity. Moreover, employment growth in the EU is accompanied by a decrease in employment in industry and agriculture, while on the other hand, employment in the service sector increased. The analysed situation in the EU suggests that the decrease in employment in industry does not come as a result of a decrease in industrial production. In fact, in the entire period (with a few exceptions), industrial production has grown in value. That points to the existence of the so-called relative deindustrialization in the EU. Furthermore, globalization trends have resulted in the growth of foreign direct investment. The projection of gross value added of industry and the share of industrial sector in total employment indicate the continuation of the trend of their reduction by 2020.

In strategic documents and policies of the EU industry is recognized as a key "engine" of growth and recovery of the European economy. Therefore, the EU must create the conditions necessary for reindustrialization i.e. industry development in different terms. The key step is the implementation and "connection" with the priorities and objectives of the Europe 2020 strategy and encouraging the development of the industry through modern technological solutions and innovative approaches.

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(Endnotes)

1 The integration process in Europe started in 1946, with Churchill's speech in Zurich, when the first time the desire to create the United States of Europe was mentioned (Kandžija and Cvečić, 2010).

2 Although there is no chapter on industrial policy, it is wrong to conclude that it does not exist. The industrial policy in the EU has a diffuse form, based on the close "cooperation" with the competition policy, research, standardization and regional development (Kandžija and Cvečić, 2010).

3 Deindustrialization which happens when the economy has not yet reached a high level of industrial production. Such is the case often observed in the post-communist transition countries in which structural reforms are the result of the regime and political change, and not as a "natural" sequence of economic development.

4 Generally, productivity can be defined as the ability of workers to produce a certain amount of goods under certain conditions and at a given time.

5 On the other hand, Penava and Družić (2012) in the case of Croatia refer to the notion of absolute deindustrialization, i.e. a situation where the reduction of industrial production is accompanied by a reduction in employment in the industry.

6 The concept of positive and negative deindustrialization was introduced by Rowthorn and Wells (1987). Positive deindustrialization implies a situation in which employment in the industry decreases as a result of productivity growth.

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DEINDUSTRIJALIZACIJA KAO PROCES U EU

Deindustrijalizacija je prirodan proces u razvijenim zemljama, koji se odvija pod utjecajem izvanjskih i unutarnjih čimbenika, a nastaje kao posljedica gospodarskoga rasta te je obilježen smanjenje udjela industrije u BDP-u i zaposlenosti, uz istovremeno povećanje važnosti uslužnoga sektora. S obzirom na kompleksnost pojma, postoje mnogobrojni teorijski pristupi deindustrijalizaciji. U radu je provedena analiza deindustrijalizacije u EU. Rezultati istraživanja upućuju na postojanje relativne deindustrijalizacije u EU, koja je obilježena smanjenjem udjela poljoprivrede i industrije te povećanjem uslužnog sektora u BDP-u. Također, utvrđeno je kako smanjenje zaposlenosti u industriji nije nastalo kao rezultat smanjenja industrijske proizvodnje. Gospodarstvo EU-a, pa tako i industrijski sektor, nalaze se pod velikim utjecajem globalizacijskih procesa, pri čemu važan utjecaj na odvijanje procesa deindustrijalizacije ima i povećan obujam stranih izravnih investicija. Europska industrija je u ključnim strateškim dokumentima prepoznata kao ključni „motor" oporavka europskoga gospodarstva. Stoga se kao ključni prioritet nameće stvaranje uvjeta za odvijanje procesa reindustrijalizacije tj. razvoja industrije u promijenjenim uvjetima, pri čemu je poseban naglasak potrebno staviti na jačanje i unaprjeđenje industrijskih temelja te implementaciju novih rješenja temeljenih na inovacijama, istraživanjima te novim tehnologijama.

Ključne riječi: EU, deindustrijalizacija, industrija, produktivnost rada, reindustrijalizacija