

STRUCTURAL TRANSFORMATION AND INDUSTRIAL COMPETITIVENESS OF BULGARIA AFTER 10 YEARS OF EU MEMBERSHIP

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Summary

After the global crisis it was realized that manufacturing should be assigned a major role for Europe to continue to be a global player. The European Commission has called on EU countries to step up their industrial policies and try to restore the central position of manufacturing for creating jobs and growth. In this context the aim of the paper is to look at the process of structural change in Bulgaria in the period after its EU accession. An attempt is made to explore whether the Bulgarian economy has managed to reindustrialize and improve its industrial competitiveness taking advantage of the alleged benefits of the full EU membership. The analysis has been made in comparison to another two similar countries. The results show that so far reindustrialization has not been achieved and, despite the slight improvement in the industrial competitiveness, in relative terms it is extremely unsatisfactory.

Key words: manufacturing, reindustrialization, technological intensity, GVA, exports, structural change

JEL: F63, L52

Introduction

Ample historical evidence and recent empirical studies have conclusively shown that structural transformation (the shift of productive resources from low-productivity to high-productivity economic activities), especially towards *manufacturing* (defined narrowly as part of the industrial sector without mining, utilities and construction), has been the driver of economic growth, catching-up and development. Chang (2007) states that history has demonstrated that the single most important factor that distinguishes rich countries from poor ones is basically their higher capabilities in manufacturing, where productivity is generally higher and grows faster than in agriculture and services. According to a

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report published by the World Economic Forum (WEF, 2012), manufacturing has been crucial for the prosperity of nations, with over 70% of the income variations of 128 nations explained by differences in manufactured product export data alone. Furthermore, it is nowadays largely acknowledged that all of today's rich industrialized economies have not just let market forces drive the process of structural transformation, but have purposefully fostered it through some form of industrial (structural) policy (UNCTAD, 2016).

In the 1980s and 1990s up to the early 2000s however the international development paradigm has been in favour of a hands-off approach to industrial development. Laissez-faire type of policies epitomized in the so-called "Washington consensus" were prescribed to all developing and transition economies that needed the help of the international financial institutions. During this period horizontal or non-selective policies aimed at improving the business climate for all firms were pursued in the European Union to improve European competitiveness (Owen, 2012). Such passive structural policies were also imposed on Bulgaria through conditionality embodied in the EU accession process, given that industrial policy constituted one of the negotiating 'chapters' of the *acquis* which had to be adopted by the candidate countries (Bartlett, 2014).

In the years of transition to a market economy Bulgaria has undergone a massive deindustrialization¹ losing some of its most sophisticated industries, accordingly severely deteriorating its position in the international division of labour (Zhelev, 2013). While part of the decline in industrial activity can be attributed to the lack of competitive advantages and viability of the state-owned enterprises in the new environment, it is also the poor implementation of policy reforms and policymakers' general neglect for manufacturing industry that brought about this outcome. Despite the negative consequences of the premature deindustrialization prompted by the systemic transformation process, the economic laggard Bulgaria has largely complied with the principles of European horizontal industrial policy.

The Great Recession has taught an important lesson – countries which have maintained a larger manufacturing base fared better during and after the crisis than the ones that heavily rely on the non-exchangeable products in the GDP. Manufacturing has redeemed its reputation in the sense that a comparatively large manufacturing industry is no longer considered to reflect an outdated economic structure, inadequate for a post-industrial, services-dominated economy (Stoellinger, R., et.al., 2014). This has led to a major rethinking of the merits of industrial policy and increased interest in reindustrialization in many countries around the world.

At a EU level, industrial policy (that aims to stimulate growth and competitiveness in the manufacturing industry and the economy as a whole) has

¹ Industrialization, deindustrialization and reindustrialization reflect changes in the share of the manufacturing industry in the GDP and/or the employment of a country.

become an important part of wider economic reforms strategy for the current decade "Europe 2020". The main message of the flagship initiative "*An industrial policy for the globalisation era*" is that manufacturing should be assigned a major role to end economic decline and to ensure that Europe remains a global economic leader. In its 2012 Communication entitled "*A stronger European industry for growth and economic recovery*", the Commission has set a goal for the EU industrial policy – by the year 2020 the manufacturing contribution to GDP to be raised from 15.6% (2011) to 20%. This goal that calls for reindustrialization was reiterated in 2014 with the Communication "*For a European Industrial Renaissance*" (European Commission, 2014).

Against this backdrop of strong call for industrial revival in the EU, it is highly interesting to examine the state of the Bulgarian manufacturing industry. Moreover, this year marks the 10th anniversary of Bulgaria's accession to the EU and it is the right time to check whether the country has managed to take advantage of the positive effects of the full membership and increase its industrial competitiveness.

The objective of this paper is to provide a general overview of the scale, positioning, performance and technological upgrading of Bulgaria's manufacturing industry during the last 10 years after the country's accession to the EU. To this end the following tasks have been identified: first, to substantiate the importance of having competitive manufacturing industry; second, to suggest a set of relevant indicators for measuring structural change and industrial competitiveness; third, to carry out a manufacturing diagnosis in Bulgaria for the last decade in a relative perspective with another two comparable countries. The results will basically expose the success of the national industrial policy in achieving the goal of reindustrialization and sustaining a strong and competitive manufacturing industry.

The major thesis is that without well-designed and consistent active national industrial policy, joining the EU is not sufficient to promote reindustrialization and speed up industrial upgrading, as structural transformation towards high-productivity activities is not an automatic process.

The importance of structural transformation towards manufacturing

Economic history has demonstrated that the quintessence of economic development lies in structural transformation – all today's developed countries have managed to diversify away from specialization in agriculture, natural resources and simple manufactured goods. As Kuznets (1979:130) states – "it is impossible to attain high rates of growth of per capita or per worker product without commensurate substantial shifts in the shares of various sectors". It is namely the gradual reallocation of labour and other productive resources from low-

productivity to high-productivity economic activities that allows for improving productive capacity and hence speeding up growth. Historically, this structural change was exemplified by the shift of production factors from agriculture to industry and in particular manufacturing – a process known as industrialization. While it is entirely possible that in the future external trade in the services sector, which has recently been increasingly gaining importance in certain developing countries such as India, will make possible another trajectory out of poverty without industrialization, the only so far tested path out of underdevelopment, however, has been through industrialization (Memiş, A., M. Montes, 2008).

Industrialization requires a qualitative increase in the use of physical capital in the production process and a subsequent increase in labour productivity. It has been marked by a considerable advancement in human and social development throughout the history.

Developing countries have pursued industrialization as they observed that the prices of their exports consisting mainly of primary commodities tended to fall relative to those of developed countries' exports consisting mainly of manufactures. The secular decline in developing countries' terms of trade (known as the "Prebisch-Singer hypothesis") means that developing countries find themselves in a disadvantaged position in the international division of labour where the income gap with the industrialized nations tends to be preserved. Furthermore, according to UNCTAD (2016), many empirical studies have shown that since the 1970s there has been a downward trend in the terms of trade of developing countries that specialized in low-tech, low-skill-intensive manufactures in contrast to the ones that managed to upgrade their exports into high-tech, high-skill intensive manufactures. This outcome suggests that an increased share of manufacturing in production and exports is not sufficient to ensure sustained economic development. What is further required is a structural change within manufacturing that leads to diversification and sophistication of countries' export bundle, i.e. both first tier (from primary sector to manufacturing) and second tier (shift towards more technology-intensive and high value added industries) upgrading.

In the economic literature there is abundant evidence suggesting that the usual pattern of structural transformation first requires a decline in the relative share of the primary sector in GDP and a rise in the share of industry. After reaching a certain level of per capita income, the share of industry in GDP stops growing while that of services gradually goes up (UNCTAD, 2016). This process is largely due to the fact that services have a higher income elasticity (consumption increases more than proportionately relative to income) and technical progress is faster in manufacturing than in services (leading to lower price increases for industrial products and thus a smaller share in GDP) (Aiginger, 2007). Based

on that understanding of how structural change proceeds, Rowthorn and Wells (1987) distinguish between positive and negative deindustrialization.

Positive deindustrialization is regarded as the normal result of sustained economic growth in a fully employed and already highly developed economy. In contrast, *negative deindustrialization* is a product of economic failure and occurs when industry faces serious challenges, shedding labour which is not reabsorbed in the service sector. Furthermore, in the case of emerging economies, we can speak of *premature deindustrialization*. Deindustrialization can be regarded as 'premature', given that it commenced at lower levels of per capita income than was generally the case for deindustrialization in advanced economies (Tregenna, 2011). In a sample of 21 high-income countries, Buera and Kaboski (2008) find that the turning point after which the relative share of manufacturing in the GDP declines and the share of the services sector continues to rise is at an average per capita income of around USD 7,100. Hence it may be concluded that during the transition to a market economy Bulgaria has gone through negative and premature deindustrialization (Zhelev, 2013). According to Tregenna (2011), reindustrialization may be particularly necessary and viable in countries where 'premature' deindustrialization has been triggered or exacerbated by policy-related factors such as trade or financial liberalization. This was very much what Bulgaria experienced in the years of European integration.

During the last couple of decades, the developed countries (the OECD members), including the more developed EU member states, have been experiencing substantial changes in the structure of their economies. These changes pertained to a reduction in the share of manufacturing in the gross value added and employment along with services becoming the prevalent sector. This process ensues objectively from their economic development, considering that with the growth of personal income, people tend to consume more services than goods. Moreover, fast productivity growth and technological progress, which allows for more production with less labour and substitution of workers with robots, leads to less manufacturing jobs and redundant workers move to the service sector. Therefore, this process could be described as a positive and mature deindustrialization.

Nevertheless, there are growing concerns in developed countries over the erosion of the so-called "industrial commons" – knowledge, capabilities and supplier networks. According to Pisano and Shih (2012), the loss of core manufacturing activities may set off a reaction that will subsequently erode adjacent activities in the value chain, including activities related to innovation and design, all of which could eventually weaken the competitiveness of OECD countries, given that once lost industrial commons are hard to recover. Thus deindustrialization is no longer perceived so much as a normal outcome of economic development. According to the Director-General of DG "Enterprise

and Industry" at the European Commission, the shift away from manufacturing in Europe has accelerated, reaching a critical threshold below which the sustainability of the European economic and social model might be at risk (European Commission, 2013).

There is powerful theoretical and empirical evidence showing that manufacturing possesses specific characteristics that make it a crucial industry for the competitiveness of any country. Some of the main arguments in favour of a strong manufacturing base could be summarized as follows:

- Manufacturing branches realize *economies of scale* the most. Specialization, division of labour, bulk buying, transport economies and larger capacity machines enable the reduction of long-run unit costs in manufacturing, which is harder to be achieved in agriculture and services (Gunther and Alcorta, 2011).
- *Technological progress* is concentrated in manufacturing. On average, the share of the manufacturing industry in business R&D exceeds that of the value-added share by a factor close to four in the EU Member States, the same holds for the United States, Japan and South Korea, which identifies manufacturing firms as the main source of innovation and technological progress (European Commission, 2013).
- Manufacturing stimulates the other economic activities through intense *forward* and *backward linkages*. It provides machines, tools, equipment, chemicals, etc., that enable the further development of the primary sector. There is a growing complementarity and interdependence between manufacturing and services. Today many services are closely linked to manufacturing production and located depending on it. In order to differentiate their products manufacturing firms increasingly rely on sophisticated services inputs that makes industry an important source of demand for various services. Studies show that each additional job in manufacturing creates between 0.5 to 2 jobs in other sectors (Dheret, C., M. Morosi, et.al., 2014).
- Manufacturing is highly tradable industry and manufactures have the highest share in international trade. That makes industrial competitiveness extremely important for countries' balance of payments.
- Due to the increasing returns to scale, externalities, learning effects, strong exposition to international competition, manufacturing shows a high potential for *productivity growth*. According to the European Commission (2013), total factor productivity (TFP) growth in the manufacturing industry outperforms TFP growth in the total economy as well as that of business services across a sample of EU Member States and also in the United States.

Given the presented evidence that demonstrates the paramount role of manufacturing as a source of investment in R&D, exports, job creation in the other sectors, the loss of manufacturing capacities would have negative long-term effects on the whole economy. Therefore re-building or creating a dynamic manufacturing industry as a prerequisite for a strong and sustained economic growth is increasingly seen as a policy target in many countries around the world, both developed and developing.

Methodology applied

The analysis of Bulgaria's structural transformation and industrial competitiveness performance is based on a number of traditional indicators according to the stipulated research tasks. The most widely used and evident measures of structural change are the ratios of manufacturing value added, employment and exports to total value added, total employment and total merchandise exports respectively. The share of manufacturing value added (MVA) in the country's gross domestic product (GDP) shows the intensity of national industrialization. Furthermore, in dynamic terms it can be used to identify whether there is a process of reindustrialization or deindustrialization of the economy. This indicator is complemented by the share of manufacturing employment in total employment. According to Rodrik (2016), it is namely through employment creation that manufacturing can spur economic growth. The share of manufactured exports in total merchandise exports reveals the role of manufacturing in the export activity of the analyzed country.

The United Nations Industrial Development Organization (UNIDO, 2002) defines *industrial competitiveness* as "the capacity of a country to increase its industrial presence in domestic and international markets, while developing industrial structures in sectors and activities with higher value-added and technological content". This definition recognizes the importance of productive and export capacity as the key components of economic success. Therefore industrial competitiveness is analyzed by employing indicators pertaining to both production and trade.

Structural change represents one of the dimensions of industrial competitiveness according to the methodology used by UNIDO to calculate the Competitive Industrial Performance index which is intended to benchmark countries' ability to produce and export manufactures competitively. The other dimensions of industrial competitiveness are *capacity*, *impact* and *upgrading* of the manufacturing industry.

The methodology proposed by UNIDO is largely followed in this paper and is duly summarized in table 1.

Table 1. Dimensions and indicators of industrial competitiveness

Dimensions	Production indicators	Trade indicators
Structural change	$\frac{MVA}{GDP}$	$\frac{Manufact. exports}{Total exports}$
	$\frac{Manufact. employment}{Total employment}$	
Capacity	$\frac{MVA}{population}$	$\frac{Manufact. exports}{population}$
Impact	$\frac{Country's MVA}{World's MVA}$	$\frac{Country's manufact. exports}{World's manufact. exports}$
Upgrading	$\frac{MHTech activities}{MVA}$	$\frac{MHTech exports}{Total exports}$

Source: based on UNIDO (2002)

The *capacity dimension* of industrial competitiveness is analyzed through the indicator MVA per capita and manufactured exports per capita. These two indicators capture the ability of countries to add value in the production process and to meet international standards and the demand for manufactured goods in a highly competitive global economy. By dividing MVA and exports by the population, the size of the country is taken into account, making the indicators comparable across economies.

While the trade indicator shows the export orientation and trade competitiveness of countries' manufacturing, it should be analyzed in connection with the production indicator, considering that otherwise misleading results might be obtained. This is because exports data are based on gross terms and in a world where global value chains allow fragmentation of the production process into many phases carried out in different countries, it might be the case that a certain economy is used only as an export platform for simple assembly activities and accordingly has very high manufacturing exports but at the same time high import intensity and low real manufacturing capabilities reflected in low MVA.

The *impact dimension* of industrial competitiveness is measured by country's share in world MVA and in world manufactured exports. They reveal a country's competitive position relative to the other players in the world economy taking into account the global volumes of production and trade.

The *upgrading dimension* of industrial performance is measured through indicators related to the technological content of a country's manufacturing production and of a country's export bundle. To this end a technological classification elaborated by the UNCTAD is used that divides manufacturing products into four groups: 1) labour-intensive and resource-intensive manufactures, 2) low-skill and technology-intensive manufactures: 3) medium-skill and technology-

intensive manufactures and 4) high-skill and technology-intensive manufactures. Higher shares of medium- and high tech (MHT) manufactures in the MVA and in the exports are regarded as positive outcomes of technological upgrading of the economy.

Based on the understanding that competitiveness is always a relative concept, this paper applies the comparative approach to analyzing Bulgaria's structural change and industrial competitiveness. Romania and Hungary are selected as relevant regional comparator countries because they as well are post-socialist economies and new members of the EU, and are more or less comparable in terms of territory and population.

Major results achieved

After transitioning from planned economy, Bulgaria carried out a set of important reforms in order to join the EU. Adhering to the European common market principles, policies and guidelines, the country managed to significantly improve its business environment. According to the World Bank Doing Business 2017 Report, Bulgaria comes 39th out of the 190 analyzed countries in terms of the business regulations and favourable business climate. Besides improved legal and institutional framework, large inflows of FDI and new technologies, unimpeded access to a single market with half a billion consumers, Bulgaria was also entitled to considerable transfers from the pre-accession and since 2007 the Structural and Cohesion Funds for modernization of the economy and the infrastructure. In the 2007-13 program period, Bulgaria was allocated almost 6.9 billion euro from the European funds, out of which nearly €2 billion were earmarked for improving transport infrastructure, €850 million for investment in research and innovation, €320 million for business support, €67 million for developing broadband network and e-services for businesses and citizens, €370 million for upgrading skills and training and €2.8 billion for environmental and energy projects (European Commission, 2009). At the same time Bulgarian governments following a neo-liberal approach did not embark on a structural policy prior to or after the EU accession. They regarded the EU membership as a panacea to the specific problems of the Bulgarian economy (Zhelev, 2012).

Now after 10 years passed since the EU accession it is interesting to see whether this passive type of industrial policy contributed to improving industrial competitiveness and reversing the process of deindustrialization that was triggered in the early years of transition.

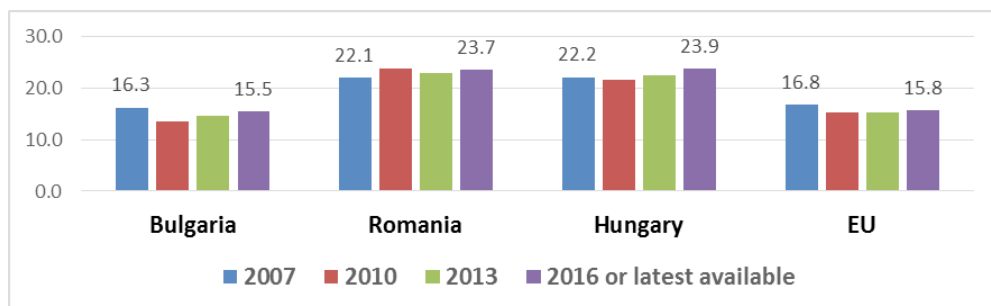


Fig. 1. Share of MVA in GDP for selected years in the period 2007-2016 in Bulgaria, Romania, Hungary and the EU (%)

Source: World Development Indicators

Last updated: 08/02/2017

Note: Latest data available for Bulgaria – 2015, for Romania – 2014

Looking at the data for the MVA in the GDP in Bulgaria (fig.1), we see that the strength of the manufacturing industry has declined in the period 2007-2015. In 2007 the manufacturing industry accounted for 16.3% of the national output, while in 2015 its share dropped by 0.8 percentage points to 15.5%. This decline may be attributed to the detrimental effects of the Global Recession that hit manufacturing production harder than services and agriculture and to the slower pace of recovery ever since, as is the case in the EU altogether. However, the performance of the comparator countries reveals quite a different picture. Both Romania and Hungary managed to increase the importance of manufacturing in their economies, de facto undergoing a process of reindustrialization. The MVA share in GDP in these countries is by more than 8 percentage points higher than in Bulgaria. What is even more alarming is that manufacturing provides lower share in GDP in Bulgaria – the poorest EU Member State, than the average value for the EU-28. That exposes the premature type of deindustrialization the country had undergone and jeopardizes the catching-up prospects unless the process is reversed.

Another indicator that also confirms the ongoing process of deindustrialization is the share of manufacturing employment in total employment. According to ILO data, in the last 10 years Bulgaria has lost 177,000 jobs in manufacturing. That is reflected in the drop of manufacturing share in total employment by 4p.p. – from 23.5% in 2007 to 19.5% in 2016. A similar trend with much less intensity is observed in Romania. The most advanced from the three Central and Eastern European countries (CEECs), Hungary managed to create new manufacturing jobs in the past decade though not with the same rate as in the other sectors and the relative share of its manufacturing also slightly declined.

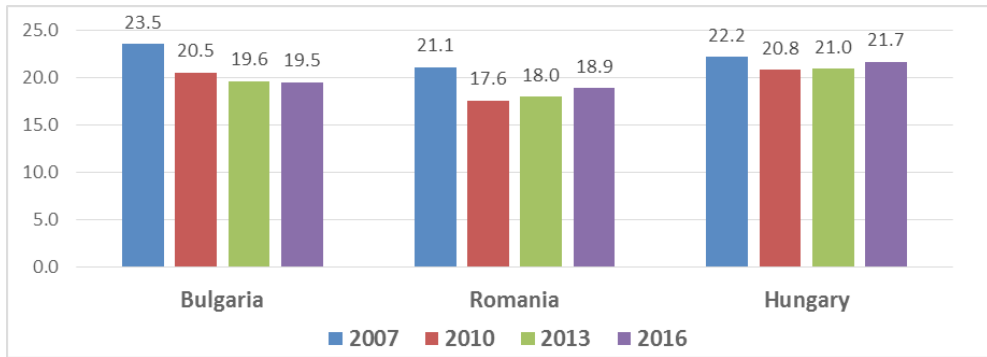


Fig. 2. Share of manufacturing employment in total employment for selected years in the period 2007-2016 in Bulgaria, Romania and Hungary (%)

Source: ILO

Accessed on: 06/10/2017

Another weak position of Bulgaria's manufacturing is identified when its share in the gross value added is compared to that in the employment. Unlike in the other two CEECs, in Bulgaria manufacturing has higher share in the employment than in the production. This implies that Bulgarian manufacturing branches have a low labour productivity and specialize in low value added activities.

The third indicator used to gauge structural change further confirms that Bulgaria's economy has not yet moved in the right direction. In 2007 55.5% of the merchandise exports consisted of manufactured goods. Ten years later their share has increased to a mere 57.2%, while the equivalent share for the EU-28 is by more than 23 p.p. higher. Thus there is a significant divergence between the degree of processing of Bulgaria's export bundle in which raw materials and agricultural goods are overrepresented and that of its European partners, including Romania and Hungary.

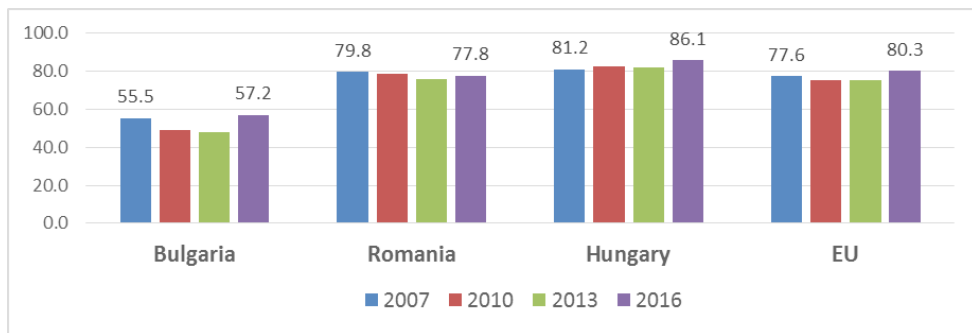


Fig. 3. Share of manufacturing exports in total merchandise exports for selected years in the period 2007-2016 in Bulgaria, Romania, Hungary and the EU (%)

Source: World Development Indicators

Last updated: 08/02/2017

Note: Latest data available for Romania – 2015

The MVA per person in Bulgaria increased by 14.2% from 2007 to 2015 and stood at \$938/capita. In Romania the growth rate was double that of Bulgaria and the MVA per capita reached \$2097 in 2014. Even though Hungary had a negative growth rate, this indicator has a higher value than that of the other two CEECs. In comparison with the EU average level, the three countries are severely lagging behind and Bulgaria has by far the lowest industrial capacity among them.

Table 2. Domestic and export dimensions of industrial capacity of Bulgaria, Romania, Hungary and the EU-28 for selected years in the period 2007-2016

Country/Year	MVA/Population (\$)				Manuf. exports/Population (\$)			
	2007	2010	2013	2015	2007	2010	2013	2016
Bulgaria	821	802	971	938	1361	1374	1957	2083
Romania	1604	1769	1945	2097	1547	1923	2498	2378
Hungary	2641	2384	2581	2550	7703	7883	8943	8939
EU	5255	4651	4928	4572	8328	7765	9026	8437

Source: World Development Indicators

Last updated: 08/02/2017

Note: Latest data available for Romania 2014 for MVA and 2015 for manuf. exports

In terms of manufactured export capacity there is a visible trend of increase in the value of exports per capita in Bulgaria. Compared to the EU and to the comparator countries, however the Bulgarian level again is far behind. It comes as no surprise that the three CEECs (especially Hungary) have much higher manufacturing exports than MVA, considering that many TNCs operate on their territories and they fragment the production process and import much of the intermediate inputs and components of their exports.

Given the small size of its economy, Bulgaria logically has a small share in the world MVA. What matters however is that this petty share has further decreased, falling from 0.07% in 2007 to 0.06% in 2015. This comes to show that Bulgaria is not only a small player with an insignificant impact on the global arena but that this country has been outperformed by others in contributing to world MVA in the recent years. The same trend however holds for the comparator countries which are also losing weight in the world MVA. It is especially evident at the EU-28 level, signifying lost positions in world manufacturing production due to better performance of Asian competitors.

Table 3. Impact in world MVA and world manufacturing trade of Bulgaria, Romania, Hungary and the EU-28 for selected years in the period 2007-2016

Country/Year	Country's MVA/world MVA (%)				Country's manuf. exports/world manuf. exports (%)			
	2007	2010	2013	2015	2007	2010	2013	2015
Bulgaria	0.07	0.06	0.06	0.06	0.10	0.10	0.11	0.12
Romania	0.36	0.34	0.32	0.34	0.33	0.38	0.40	0.41
Hungary	0.28	0.23	0.21	0.22	0.79	0.77	0.71	0.73
EU	28.2	22.4	20.6	20.1	42.5	38.4	36.8	37.4

Source: World Development Indicators

Last updated: 08/02/2017

Note: Latest data available for MVA in Romania – 2014

While Bulgaria and Romania are decreasing their share in world MVA, they have managed to improve their manufacturing export competitiveness. Bulgaria's contribution to world manufactured exports has risen from 0.10% in 2007 to 0.12% in 2015. In Romania however this trend has both higher magnitude and intensity, given that the country's share in world manufactured exports increased from 0.33% in 2007 to 0.41% in 2014. The bigger shares in world manufacturing trade than that in world MVA again sheds light on the very high import intensity of the national exports and relatively low ability to create manufacturing value added domestically.

The last indicator used to provide a comprehensive picture of the current status and performance of Bulgaria's manufacturing over the last 10 years is connected with industrial and export upgrading. It involves a shift of productive and exports structures to higher technological content and value added. Higher-technology goods offer greater opportunities for learning and positive spillover effects, they have greater entry barriers, hence reducing competitive pressures posed by emerging economies and are less affected by declining terms of trade.

Table 4. Technological content of the manufacturing production and the export basket of Bulgaria, Romania, Hungary and the EU-28 for selected years in the period 2007-2016

Country/Year	MHTech. activities/MVA (%)				MHTech. exports/total exports (%)			
	2007	2010	2013	2015	2007	2010	2013	2016
Bulgaria	27.3	24.7	32.1	30.0	25.3	27.9	29.3	35.4
Romania	31.0	40.1	41.3	37.9	40.0	50.5	50.1	55.4
Hungary	52.5	56.1	57.9	58.8	70.1	72.2	70.7	74.7
EU					58.6	57.6	56.7	61.1

Source: UNIDO; UNCTAD

Last accessed: 12/10/2017

Data from table 4 shows that Bulgaria's manufacturing production and exports have evolved towards higher-technology activities and products rather slowly relative to its comparators. In 2015, a mere 30% of the MVA in Bulgaria consisted of medium- and high-tech subsectors while the corresponding shares in Romania and Hungary were higher by almost 8 and 29 p.p. respectively. Bulgaria has managed to increase by 10 p.p. the share of MHT goods in its exports for the last 10 years, and they reached 35.4% in 2016. Yet in Romania this share is by 20 p.p. higher, and in Hungary comprises almost two-thirds of total exports.

Most Bulgarian exports are still concentrated in branches with labour-intensive, resource-intensive and low-skill and technology-intensive manufactures that generate little value added and pay low wages. Such trade specialization exposes the economy to fierce competition from producers in developing economies that possess ampler productive resources. This puts a drag on the country's future growth prospects.

Conclusion

The paper suggests that Bulgaria has not yet been able to stop the process of deindustrialization that started in the early years of transition. The EU membership and all of its ensuing advantages did not make up for the lack of consistent industrial policy to stimulate the transformation of the productive and export manufacturing capacity of the country's economy. Bulgaria still falls short of the target set by the European Commission, whereby the share of manufacturing in the GDP should be restored to 20% by the year 2020. At the same time reindustrialization is critically needed if Bulgaria is to pursue a policy aimed at catching up with economic development with the other EU Member States.

The analyzed data however show that Bulgaria continues to deindustrialize not only in terms of employment but also in terms of the weight of the MVA in the total domestic output. This deindustrialization is not so much a result of rapid growth of productivity, mechanisation and robotisation. It is rather due to this country's limited ability to cope with and benefit from globalization. Even though some positive changes in the industrial capacity and product upgrading have been established in the period 2007-2016, Bulgaria lags way behind the selected benchmark countries from the region Romania and Hungary according to all presented indicators. According to UN data in constant 2005 prices, Bulgaria has managed to slightly surpass its pre-transition value of manufacturing production (5.16 billion USD in 1989) only after 27 years (5.2 billion USD in 2015).

What Bulgaria needs to do is to step up a proactive, well designed and consistent national industrial policy. A good basis in this regard is the "Innovation strategy for smart specialization of the Republic of Bulgaria 2014-2020" (approved by the Council of Ministers in November 2015), which has identified several technological areas for priority development: mechatronics and clean technologies; ICT; biotechnologies; nanotechnologies; creative industries; pharmacy; food industry. These priorities are not limited to the manufacturing industry. Despite its important role, manufacturing should not be developed at the expense of other sectors. The challenge rather is to stimulate mutually reinforcing links between the various sectors while increasing their productivity and ensuring a strong industrial backbone of the economy.

The success of Bulgaria's industrial policy will depend on policymakers' ability to create an environment conducive to permanent dialogue with the relevant stakeholders (including businesses, academia and civil society) in order to identify key spheres for action and to modify actions when goals are not achieved, based on strict monitoring and evaluation. It also requires long-term political commitment and solid implementation capabilities to coordinate policy tools from various fields including attracting FDI in export-oriented industries, upgrading human skills for current and future needs, improving infrastructure, ensuring access to long-term financing and channeling the public resources to projects with highest interlinkage effects. The goal of the industrial policy should be to transform and steer the economy to activities with higher technological sophistication and value added that will provide for the desired improvement of the people's living standards.

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References

- Andreone, A. (2011), Productive Capabilities Indicators for Industrial Policy Design, UNIDO Working paper 17/2011
- Aiginger, K. (2007), Industrial Policy: A Dying Breed or A Re-emerging Phoenix, *Journal of Industry Competition and Trade* (2007) 7:297–323
- Bartlett, W. (2014), Shut out? South East Europe and the EU's New Industrial Policy, LEQS Paper No. 84/2014
- Buera, J. and J. Kaboski (2008), Scale and the Origins of Structural Change, Federal Reserve Bank of Chicago Working Paper WP2008-06
- Chang, H.J. (2007), *Bad Samaritans: The Myth of Free Trade and the Secret History of Capitalism*, Bloomsbury Press
- Dheret, C., M. Morosi (2014), Towards a New Industrial Policy for Europe, EPC issue paper No.78
- European Commission (2009), European Cohesion Policy 2007-2013 in Bulgaria: Priorities and Impact of Cohesion Policy in the Member States, available at: http://ec.europa.eu/regional_policy/en/information/publications/factsheets/2009
- European Commission (2012), A Stronger European Industry for Growth and Economic Recovery, COM (2012)582
- European Commission (2013), European Competitiveness Report – towards a knowledge-driven reindustrialization, Commission Staff Working Document SWD(2013)347 final
- European Commission (2014), For a European industrial renaissance, COM (2014)14/2.
- Gunther, T., L. Alcorta (2011), Industrial Policy for Prosperity: Reasoning and Approach, UNIDO Working paper 02/2011
- Kuznets, S. (1979), Growth and Structural Shifts // Galenson, W. ed. *Economic Growth and Structural Change in Taiwan. The Postwar Experience of the Republic of China*, Cornell University Press, L.
- Memiş, A., M. Montes (2008), Who is afraid of Industrial Policy?, Discussion Paper, UNDP Regional Centre in Colombo
- Owen, G. (2012) Industrial policy in Europe since the Second World War: what has been learnt? ECIPE Occasional paper, 1. The European Centre for International Political Economy, Brussels
- Pisano, G.P., W.C. Shih (2012), *Producing Prosperity: Why America Needs a Manufacturing Renaissance*, Cambridge: Harvard Business Press
- BooksRowthorn, R., J. Wells (1987), *De-industrialization and Foreign Trade*, Cambridge University Press
- Rodrik, D. (2016), Premature deindustrialization, *Journal of Economic Growth* 21: 1-33

Stoellinger, R., et al., (2013), A 'Manufacturing Imperative' in the EU – Europe's Position in Global Manufacturing and the Role of Industrial Policy, WIIW Research report 393

Tregenna, F. (2011), Manufacturing Productivity, Deindustrialization, and Reindustrialization, UNU-WIDER Working Paper No. 2011/57

UNCTAD (2016) Structural Transformation and Industrial Policy, UNCTAD/GDS/2016/, NY and Geneva

UNIDO (2002) Industrial Development Report 2002/2003, Vienna

World Economic Forum (2012) The Future of Manufacturing Opportunities to drive economic growth. A WEF Report in collaboration with Deloitte Touche Tohmatsu Limited, April 2012

Zhelev, P., (2012) Industrial Policy under Conditions of EU Membership – the Case of Bulgaria, //Evolution of International Trading System: Prospects and Challenges, conference proceedings, Saint Petersburg

Zhelev, P., (2013) Industrial Growth – an Objective Necessity for the Economic Development of Bulgaria, // Kikerkova, I., (ed.) Systemic Economic Crisis: Current Issues