



CHINA-CEE INSTITUTE

**OVERVIEW OF INDUSTRIES
IN CENTRAL AND EASTERN
EUROPEAN COUNTRIES**

(2019)

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European Countries
(2019)**

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CHINA-CEE INSTITUTE

Budapest, April 2020

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Preface

This book is providing a brief analysis on the industries and industrial sectors in Central and Eastern Europe in 2019. The book is based on a collection of reports by the associate researchers of the China-CEE Institute. The reports are originated from the Weekly Briefings, a core product by the China-CEE Institute. The views in the book are represented by the individual authors instead of the China-CEE Institute.

The China-CEE Institute is established by the Chinese Academy of Social Sciences (CASS), registered as a non-profit limited company in Budapest, Hungary in April 2017. The China-CEE Institute is building ties and strengthen partnerships with academic institutions and think tanks in Hungary, Central and Eastern European countries, as well as other parts of Europe. The China-CEE Institute aims to encourage scholars and researchers to carry out joint researches, field studies, to organize seminars and lecture series, to hold some training programs for younger students, and make publication, etc.

I hope this book will help enriching the knowledge of the industries in the region and promoting the bilateral relations between China and CEE countries.

Prof. Dr. CHEN Xin

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Deputy Director General, Institute of European Studies, CASS

A Synopsis of Albanian Industries

Marsela Musabelliu

Mainstream theories tend to divide industries in four groups: primary, secondary, tertiary and quaternary. Primary industries involve raw materials extraction; secondary industries involve manufacturing; tertiary industries comprise providers of services and quaternary industries involve research and development. For the purpose of this briefing however, a different economic approach is taken by analyzing the composition by sector of the Albanian GDP based on three areas: industry, agriculture and services. As of the latest (or best reliable) data available the data breakdown demonstrates the following distribution in Albania: industry 24.2% (mining, manufacturing, energy production and construction); agriculture 21.7% (fishing, farming and forestry); services 54.1% (government activities, communications, transport, finance and all other activities that do not produce material goods).¹

Albania and its industry

Due to the small size of the country and the economy, Albania has been struggling to create and maintain a strong industrial sector. The only two periods of intense industrialization that the country has witnessed after World War II have been the 1960s when with the Chinese aid and support helped the country build from scratch more than 150 nationwide industrial projects; the second period coincides with the end of the tumultuous 1997-8, when the Socialist then headed by Fatos Nano created a fertile economic environment for investors by facilitating the rise of small workshops which later become the embryo of the upgrading process as the industrial base of the country.

In order to have an overall top-bottom approach, the long term statistics are analyzed first.

¹ The World FactBook. CIA. Available at: <https://www.cia.gov/library/publications/the-world-factbook/geos/al.html>

Figure 1 Indicators of Albanian industry

| Series Name | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|------|------|------|------|------|------|------|------|------|
| Employment in industry (% of total employment) (modeled ILO estimate) | 20.6 | 18.9 | 17.3 | 16.9 | 17.5 | 18.6 | 19.0 | 19.4 | 19.3 |
| Employment in industry, male (% of male employment) (modeled ILO estimate) | 27.7 | 24.3 | 22.5 | 21.9 | 21.8 | 22.1 | 22.3 | 22.5 | 22.5 |
| Employment in industry, female (% of female employment) (modeled ILO estimate) | 10.6 | 11.4 | 10.6 | 10.2 | 11.7 | 13.9 | 14.5 | 15.1 | 15.0 |
| Industry (including construction), value added (annual % growth) | 3.2 | 3.8 | -8.9 | 0.2 | -3.8 | 3.7 | 1.9 | 5.5 | 5.9 |
| Industry (including construction), value added (current US\$ in billions) | 2.97 | 3.15 | 2.82 | 2.95 | 2.84 | 2.48 | 2.51 | 2.72 | n/a |

Source: World Bank database: Albania – economic indicators (own graphic elaboration)

The table demonstrates the trend and impact of industry in Albania with concern to employment, total value added and yearly growth (in percentage and in total amount). As seen from the figures, industries in the country employ around 1/5 of the total working force, it is mainly a male dominated sector however, the trend in the past eight years is declining: for the male workers (from almost 28% in 2010 to 22 % in 2018) and the trend for the female workers is rising (from almost 11% in 2010 to 15% in 2018). This is mainly due to the emigration phenomenon, usually the first to leave the country are adult male and the vacancies created from these departures are filled by women, as the data demonstrates. Yet, the latest update of Albanian GDP accounts for around 13 billion US\$, and as seen from the above, industry takes a share of 1/6 in the entire input. At this age and time, also compared to the countries nearby, industry is still lagging behind.

For sectorial data official government databases are consulted, such as Ministry of Finance and the Central Institute of Statistics (INSTAT). According to the later and the latest available data introduced to the public in March 2019, the separation of indicators is grouped as Industry (Mining and quarrying and Manufacturing); Electricity, Gas, Steam; Water supply; Sewerage, Waste management and Remediation activities and Construction. For having a comparison based analysis, also service producers are displayed in the below table.

Figure 2 Goods and service producers by category

| Description | Number of enterprises | | | | | Number of employed persons | | | | |
|---|-----------------------|---------------|----------------|----------------|----------------|----------------------------|----------------|----------------|----------------|----------------|
| | 2014 | 2015 | 2016 | 2017 | 2018 | 2014 | 2015 | 2016 | 2017 | 2018 |
| All market producers | 84,790 | 85,206 | 104,534 | 108,526 | 107,677 | 344,528 | 370,887 | 435,437 | 469,665 | 492,913 |
| Goods producers | 12,480 | 11,660 | 13,269 | 13,875 | 13,701 | 130,064 | 138,009 | 153,756 | 167,464 | 177,143 |
| Mining & quarrying | 528 | 619 | 626 | 498 | 487 | 10,701 | 11,169 | 11,747 | 11,120 | 11,281 |
| Manufacturing | 7,912 | 7,015 | 8,137 | 9,337 | 9,035 | 68,151 | 73,386 | 83,107 | 95,562 | 100,642 |
| Electricity, gas, water supply & waste manag. | 542 | 531 | 679 | 656 | 701 | 17,653 | 18,708 | 20,082 | 20,571 | 22,559 |
| Construction | 3,497 | 3,495 | 3,827 | 3,384 | 3,478 | 33,559 | 34,745 | 38,820 | 40,210 | 42,661 |
| Services producers | 72,310 | 73,546 | 91,265 | 94,650 | 93,976 | 214,464 | 232,878 | 281,681 | 302,202 | 315,770 |
| Trade | 36,674 | 36,357 | 45,093 | 45,041 | 44,571 | 89,694 | 91,943 | 111,848 | 113,957 | 121,324 |
| Accommodation & food services | 13,784 | 14,637 | 18,586 | 20,043 | 19,599 | 33,520 | 36,098 | 45,309 | 52,141 | 54,524 |
| Transport & information & communication | 8,492 | 8,176 | 7,365 | 7,838 | 7,389 | 30,888 | 30,653 | 31,082 | 34,256 | 34,380 |
| Services | 13,360 | 14,377 | 20,221 | 21,729 | 22,416 | 60,363 | 74,184 | 93,442 | 101,848 | 105,541 |

Source: INSTAT, Annual structural business survey (own graphic elaboration)

In the range of producers of goods, manufacturing hits the majority of employees and companies, followed by construction. There is steady growth in employment rate in these two categories which can only benefit the society as whole. While analyzing the last data available the numbers of the past year especially, seem encouraging, with increase at all levels; this gives a sign of positivity also to future/potential investors.

In fourth quarter 2018, are as follows: Industry: fourth quarter of 2018 - turnover volume index increased by 12.4 %; production volume index increased by 12.9 %; the number of employees' index increased by 7 % , Wages index increased by 11.8 % compared with the fourth quarter of the previous year. ¹ Electricity, Gas, Steam: fourth quarter of 2018 - Turnover volume index increased by 5.7 %; Production volume index decreased by 8 %; the number of employees' index increased by 9.2 %; wages index increased by 9.9 % compared with the fourth quarter of the previous year.

Water supply, Sewerage, Waste management and Remediation activities: fourth quarter of 2018 - turnover volume index increased by 17.7 %; production volume index increased by 9.1 %; the number of employees' index increased by 6.1 %; wages index increased by 10.6 % compared with the fourth quarter of the previous year. Construction: fourth quarter of 2018 - Turnover volume index increased by 8.3 %; production volume index increased by 8 %; the number of employees' index increased by 2.8 %; wages index increased by 4.3 % compared the fourth quarter of the previous year.

The management of industries

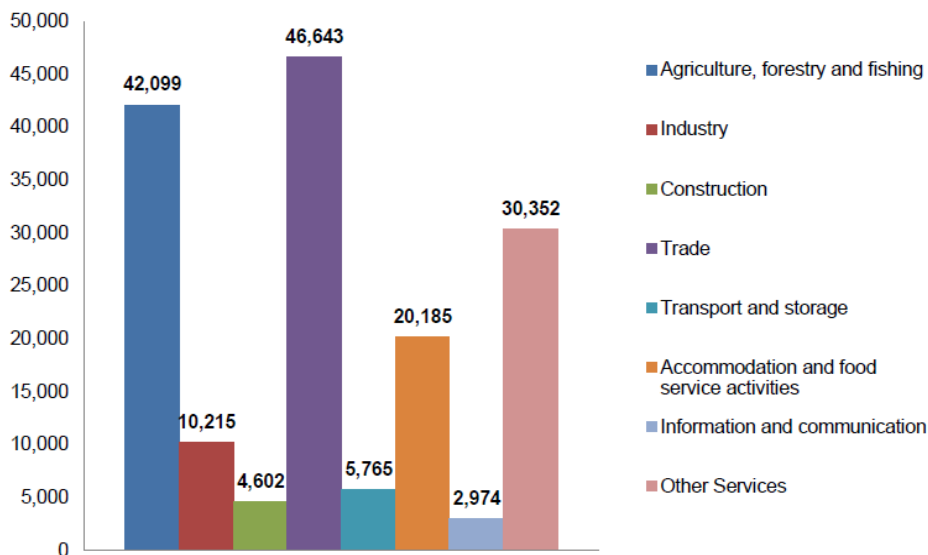
Business register at the end of 2018 counted 162,835 active enterprises, and it is approximately the same number as active enterprises by the end of 2017. Albanian economy is focused mainly in trade activity as well as for new registrations. Enterprises registered during 2018 in trade activity are 23.2 % out of 25 % during 2017.

Big enterprises with 50 and more employed represent only 1.2 % of total active enterprises and their contribution on employment in 2018 is 48.1 % out of 47.8 % in 2017. Municipality of Tirana territory counts the biggest number of enterprises and municipality of Fushë-Arrëz the lowest ones. In 2018 are 172.554 active local units of which 160,928 have just one location. Multi-location enterprises are 1,524 and represent only 1.0 % of total number of active enterprises and employ 26.5 % of total employment. Financial activities have the

¹ Info available at: <http://www.instat.gov.al/>

highest number of employed for multi-location enterprises. Local units are concentrated mainly in Tirana, Fier and Elbasan municipalities with 54.1 % of total active local units. The most developed region is the center region (Tirana and Elbasan prefecture), where operate 41.3 % of total enterprises.¹ Only 10,215 activities are registered as industries, still way behind trade and agriculture.

Figure 3 Active enterprises by economic activity



Source: INSTAT

The table below demonstrates the typology of industries and the size of the companies operating in this area. It is surprising to realize that the majority of the industrial companies, precisely 7,224 are composed by four employees at maximum. This has only two logical deductions, either the drastic majority of these registered companies are obviously small workshops of low-level handicrafts productions or there is high level of informality and workers are not declared to the authorities. Since the two variables are impossible to measure, the best assumption is that it might be a combination of both.

¹Press release on Business Register of Albania. Available at: <http://www.instat.gov.al/al/temat/ekonomi-dhe-financ%C3%AB/>

Figure 4 Active enterprises by economic activity and size

| Economic Activity | Total | Group by the number of employed | | | |
|---|----------------|---------------------------------|--------------|--------------|--------------|
| | | 1-4 | 5-9 | 10-49 | 50+ |
| Total | 162,835 | 145,549 | 8,518 | 6,801 | 1,967 |
| Producers of goods | 56,916 | 52,269 | 1,858 | 1,987 | 802 |
| Agriculture, forestry and fishing | 42,099 | 41,946 | 76 | 63 | 14 |
| Industry | 10,215 | 7,247 | 1,153 | 1,240 | 575 |
| Construction | 4,602 | 3,076 | 629 | 684 | 213 |
| Producers of services | 105,919 | 93,280 | 6,660 | 4,814 | 1,165 |
| Trade | 46,643 | 42,337 | 2,458 | 1,651 | 197 |
| Transport and storage | 5,765 | 5,257 | 245 | 211 | 52 |
| Accommodation and food service activities | 20,185 | 17,455 | 1,923 | 756 | 51 |
| Information and communication | 2,974 | 2,523 | 212 | 196 | 43 |
| Other Services | 30,352 | 25,708 | 1,822 | 2,000 | 822 |

Source: INSTAT

Influence of industries in exports

When analyzing the exported products of Albania in the last year it manufacturing base becomes the most important branch. It is obvious that the *fason* element is very important in this stance. Textile and footwear account for at least 1 billion Euros of export per year; these are usually medium enterprises (from 10 to 49 employees) for whom the comparative advantage of cheap labor cost becomes attractive for entrepreneurs. The first to heavily invest in this branch were Italian nationals, starting from the early 1990s. However, in the last decade more and more Albanian entrepreneurs are joining the field, oftentimes with a foreign partner in order to secure the trading channels in an EU member country.

Figure 5 Albania exports by product category (Euros)

| Export FOB | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|
| Food, beverages, tobacco | 136,151,614 | 171,270,940 | 206,073,324 | 244,556,962 | 262,874,769 |
| Minerals, fuels, electricity | 698,248,315 | 524,431,761 | 378,560,032 | 350,307,937 | 458,517,462 |
| Chemical and plastic products | 27,590,088 | 32,206,036 | 35,430,671 | 38,468,728 | 50,331,425 |
| Leather and leather manufactures | 25,010,904 | 23,555,484 | 21,109,427 | 24,113,482 | 22,174,019 |
| Wood manufactures and articles of paper | 74,641,656 | 67,775,661 | 63,123,718 | 67,549,576 | 78,268,162 |
| Textile and footwear | 698,665,467 | 732,447,070 | 866,729,474 | 954,379,945 | 1,006,031,948 |
| Construction materials and metals | 301,646,369 | 286,825,280 | 259,274,804 | 356,116,856 | 432,470,561 |
| Machineries, equipments and spare parts | 75,080,932 | 87,715,842 | 91,644,443 | 122,592,794 | 146,357,473 |
| Others | 42,306,166 | 50,869,412 | 57,703,463 | 61,327,793 | 66,843,486 |
| Total | 2,079,343,524 | 1,977,097,486 | 1,979,649,354 | 2,219,414,073 | 2,523,869,305 |

Source: INSTAT (own graphic elaboration, values converted from Albanian LEK)¹

Conclusions

From the available data and the sectorial analysis of industries in Albania it is showcased that there is a positive trend of increase in production, value and income. These are all good signs for the economy of the country as whole but also for future prospects. However, the overall portrait of this branch is not quite complete if there are not taken into consideration two factors: the cheap labor cost and the proximity to EU markets. With these comparative advantages, by 2019 Albania should have been at the forefront of (at least) small scale industries.

It is our argument that this is not happening because of three crucial reasons:

First: over-exploitation of workers. According to a thorough qualitative study conducted by the “Institute for critique and Social Emancipation” in Albania, the groups of workers in industry are the less paid and have extremely poor working conditions.² Almost 70% of the interviewed declared that their wage does not cover expenses for basic needs, they usually have one day off per

¹ Exchange rate calculated by Bank of Albania official rate of June 2019 : 1 Euro = 123 Lek

² Working class conditions in Albania. Available at: [http://ikesh.org/wp-content/themes/ikesh/images/The%20working%20class%20conditions%20in%20Albania%20\(II\).pdf](http://ikesh.org/wp-content/themes/ikesh/images/The%20working%20class%20conditions%20in%20Albania%20(II).pdf)

week, and plenty no day off at all and the mining and oil industry have the highest number of reported injuries (67%). With this working environment, it makes sense that emigration is the only viable solution.

Second: excessive avidity (of ownership/management) for higher profit margins. Since the labor cost is certainly cheap and the raw materials are often outscored in non-EU countries it becomes clear that the profit margins are high. It makes absolute economic sense that entrepreneurs and job-creation opportunities should be welcomed, endorsed and praised, but, how much profit is too much? This element links to the third point, political involvement.

Third: political influences – in many cases, in the real courts of Albania or in the courts of public allegations, businesses are linked to political actors. In order to have a comfortable environment for doing business, often times a local government office, a high rank official or the right connection, might have a cost. It is supposed that these costs raise the required level of profit margin as in a never-ending vicious circle.

Estonia: An Overview on the Country's Industrial Capacity

E-MAP Foundation MTÜ, Tallinn, Estonia

Industry as a process of production of goods and services cannot be established overnight. There is a high number of factors, which help an industry to appear in a more or less tangible form. Sometimes, in order to gain a certain level of industrial capacity, a country needs to commence the work almost from scratch. Singapore would, perhaps, be one of the best examples of reaching the top, while starting from the bottom. In regards of what the notion of 'industry' means for the Republic of Estonia, a serious observer should not be neglecting the usage of process tracing as a method of analysis, rather than light-mindedly assuming that the country started up 'crafting' its industrial capacity from the absolute grown 'zero', taking off from the economically uncomfortable platform of the Soviet Union's rambles.

Undeniably, the decades-long period of Soviet occupation was harsh for the Estonian state from all possible perspectives. In a significant addition, the Soviet economy at any given moment of its historical development never represented a dazzling paradise of opportunities to establish a well-thought-out growth. At the same time, intriguingly, the Baltics made it to the top of the list regarding Per Capita Gross Domestic Product among all fifteen titular republics of the former USSR (see *Table 1*).

Table 1 Per Capita Gross Domestic Product Estimated in 1990 International Geary-Khamis Dollars

(a non-existent quasi-currency used in the estimate for scientific purpose)

| Country/Year | 1991 |
|---------------------|-------------|
| <i>Estonia</i> | \$ 9,744 |
| Latvia | \$ 8,888 |
| Lithuania | \$ 8,139 |
| Russian Federation | \$ 7,370 |
| Ukraine | \$ 5,485 |
| USSR | \$ 6,409 |

Source: Angus Maddison¹

As argued, by the year when the Soviet Union was about to collapse, Estonia – the smallest of all titular Soviet nations – was the wealthiest at the same time². Characteristically for the highly irrational as well as ideology-bound political economy of the former USSR, the two main engines of the Soviet economic machine (Russia and Ukraine) were far from reaching the ‘Estonian’ level. However, as a process tracing-driven methodological approach requires us to think of, the Soviet Estonia’s relatively high level of economic development (comparing to the other constitutional ‘pieces’ of the Soviet politico-administrative ‘puzzle’) had also plenty to do with what Estonia represented as

¹ Angus Maddison, *The world economy: historical statistics* (Paris, France: Development Centre of the Organisation for Economic Co-operation and Development, 2003).

² Vlad Vernygora, ‘Discovering the Baltics? Think Tallinn. Perspectives for New Zealand in the Baltic States’, 2011. Available from [<http://ir.canterbury.ac.nz/handle/10092/5301>].

a part of the former Russian Empire and as an independent country in the period between the WWI and WWII.

For example, the beginning of the XX century saw Estonia as “one of the most developed regions of the Russian Empire”, which, if to be compared with the imperial average, was “boast[ing] twice as many workers per 1,000 residents and three times greater output”¹. Later on, having already gained independence and being recognised internationally, the pre-WWII Estonian economy was featured by a significant number of workers (about 60,000 people) being employed by large and medium-sized industrial clusters – the majority was linked to the textile-producing industry, “followed by metals and engineering, construction, food, drink and condiments, timber and cellulose, clothing and fancy goods [...]; [o]nly 1,200 people worked in power stations and gas and water supply”². Structurally, as argued, the lion share of the shale-oil-, forestry- and peat-associated industrial clusters were related to either state or semi-state-owned enterprises; export wise, the country’s main trading partners were in the European west – Britain and Germany “accounted for more than 60% of Estonian exports”³.

The Soviet occupation substantially ‘redesigned’ the Estonian economy, making it more industrialised and dramatically redirecting the routes for the Republic-produced goods. Depending on how non-partisan and academically uncompromising a research on the Soviet Estonia-bound economy is, a reader can learn about an almost limitless number of different approaches on what was objectively positive as well as negative when it would come to the Estonian Republic’s economic development during the Soviet period. In 2009, Martin Klesment⁴ offered his classic and, thus, very useful historiographic overview in regards of what was written and researched on the subject by then. Having covered both publications appeared in the Soviet Estonia and contributions from exile, the scholar also noted that

¹ Heido Vitsur, ‘A hundred years of the Estonian economy’ in *Estonian World*. 5 March 2018. Available from [<https://estonianworld.com/business/a-hundred-years-of-the-estonian-economy/>].

² Vitsur.

³ Vitsur.

⁴ Martin Klesment, ‘The Estonian Economy Under Soviet Rule: A Historiographic Overview’ in *Journal of Baltic Studies*, 2009, 40:2, 245-264. Available from <https://www.tandfonline.com/doi/full/10.1080/01629770902884284>

[m]any of the recently issued publications tend to expose the damages caused by the Soviet regime. These damages are evaluated either in terms of specific losses (e.g. unequal trade, human losses, and ecological damage) or in comparison with market economies and the interwar republic. General consensus is that, in view of the level of Estonian economic development until 1940, Soviet reconstruction of the economy had a severely detrimental effect. Questions have been posed as to whether forced industrialization actually had any modernizing impact at all.¹

In any case, when only pure digits are to be counted, manufacturing became the Republic's leading industrial cluster by 1950s – the “energy industry had developed particularly fast”, mainly supplying Leningrad and “later [the] Russia[n] Federation]’s north-western region with electricity”². Contextualising the discussion with a particular time-frame, Heido Vitsur, an Advisor to the current Estonian President Kersti Kaljulaid, specified that

[s]hale oil output in 1950 was double that of 1939 at 3.5 million metric tonnes. By [...] 1961 [...], the volume of shale oil mining had grown to 31.3 million metric tonnes. Electricity production was also doing well; the output for 1950 was approximately three times more than in 1938, but power cuts of several hours remained a regular occurrence for several years. Electricity production peaked in the 1980s, by which time production was 122 times greater than in 1938. [...] With the construction of power stations around the Baltic and in Estonia, the latter became one of the largest electricity producers in the north-western Soviet Union and was ranked sixth in the world in per capita terms after Finland. This was a great achievement if we ignore the environmental issues. The Soviet-occupied Estonia produced 173 million cubic metres (6.1 million cubic feet) of coal-derived gas, which was 66 times the amount produced before the war.³

The disappearance of the Soviet Union from the world's political map provided for a rapid comeback of the Republic of Estonia to the global economy.

¹ Klesment, p. 259.

² Vitsur.

³ Vitsur.

Despite its small size, the Estonian market, its strategic location and numerous opportunities associated with its fast-paced development were considered appealing by major integrative frameworks, including the EU and OECD. In a significant addition, the Estonian society had a strong desire to work hard in the process of returning to the European family in all senses of this expressional *cliché*. As argued in some of the previous briefings, Estonia has become one of the most globally interconnected economies. With some of the basic as well as self-explanatory indicators being outlined in *Table 2*, it is worthwhile looking at the industrial side of the Estonian economy in more details.

Table 2 Basic economic profile indicators, Estonia

| Indicator/Year | 2017 |
|--|------|
| Agriculture, forestry, and fishing, value added (% of GDP) | 2 |
| Industry (including construction), value added (% of GDP) | 24 |
| Exports of goods and services (% of GDP) | 77 |
| Imports of goods and services (% of GDP) | 72 |
| Revenue, excluding grants (% of GDP) | 35 |
| Gross capital formation (% of GDP) | 26 |

Source: The World Bank Group¹

Statistically speaking, as argued in the 2/2018 Quarterly Bulletin of Statistics Estonia, the country's economic growth was broad-based: the value added in manufacturing, which represents the largest segment of economic activity, increased by 3.9%, displaying great overall improvement throughout the entire year and indicating mining and quarrying as the fastest growth areas in value added (by 46.1%)². As noted, construction became the largest contributor to GDP growth with a 17.8% growth of value added, and this segment contributed almost a fifth (0.9%) of the country's total GDP growth³. Keeping this overview consistent with the 2017-bound data, *Table 3* offers a more

¹ Estonia, Country profile. *The World Bank Group*. Available from [https://databank.worldbank.org/views/reports/reportwidget.aspx?Report_Name=CountryProfile&Id=b450fd57&tbar=y&dd=y&inf=n&zm=n&country=EST].

² 'Eesti Statistika Kvartalikirj. 2/18' in *Statistics Estonia*. 29 June 2018. Available from [https://www.stat.ee/publication-2018_quarterly-bulletin-of-statistics-estonia-2-18].

³ 'Eesti Statistika Kvartalikirj. 2/18'.

comprehensive breakdown on where the Republic of Estonia's economic capacity is actually 'residing'.

Table 3 Output approach at current prices, million EUR, Estonia

| Item/Year | 2017 |
|--|----------------------------------|
| Total gross value added at basic prices | 20,479 |
| <i>Agriculture, forestry and fishing</i> | 549 |
| <i>Industry, including energy (including manufacturing, million EUR 3,205)</i> | 4,321 |
| <i>Construction</i> | 1,451 |
| <i>Distrib. trade, repairs; transp.; accommodation; food serv. activities</i> | 4,465 |
| <i>Information and communication</i> | 1,202 |
| <i>Financial and insurance activities</i> | 782 |
| <i>Real estate activities</i> | 2,055 |
| <i>Prof., scientific, technical activities; admin., support service activities</i> | 1,942 |
| <i>Public administration; education; human health</i> | 3,209 |
| <i>Other service activities</i> | 503 |
| Taxes less subsidies on products | 3,137 |
| <i>Taxes on products</i> | 3,216 |
| <i>Subsidies on products</i> | 79 |
| Residual item | 0 |
| Gross domestic product at market prices | <u>23,615</u>¹ |

Source: OECD based on Statistics Estonia²

As jointly summarised by the Estonian Ministry of Economic Affairs and Communications and Ministry of Finance, the Estonian manufacturing industry

¹ In the OECD-generated grid, this figure appeared to be rounded EUR 1 million down.

² National Accounts of OECD Countries, Volume 2019 Issue 1. *OECD*. 16 April 2019. Available from [https://www.oecd-ilibrary.org/economics/national-accounts-of-oecd-countries_2221433x].

involves over 7,000 active enterprises, with most of those being small and medium-sized¹. There are, however, large companies operating in the market, namely Ericsson Eesti AS (mobile communications equipment), ABB AS (electrical appliances), PKC Eesti AS (cable ties), BLRT Grupp AS (shipbuilding and metal processing), Stora Enso Eesti AS (wood processor), AS Wendre (comforter, pillow, bed and mattress), AS Norma (car safety system/seat belts), and AS HKScan Estonia (meat products). It is statistically indicated that, the share of the industrial segment in the country’s economy is about **15%** (similar to the EU average)². However, the manufacturing industry is “Estonia’s biggest employer – nearly every fifth employed person is working in that field”, while the segment “is heavily dependent on foreign markets where over 60% of the output is sold³. *Table 4* will be more specific in regards of the actual digits.

Table 4 Share of manufacturing in the Estonian economy, 2017

| Item | Percentage |
|---------------------------|------------|
| Share in value added | 15.4 |
| Share of exports in sales | 62.6 |
| Share in employment | 19.0 |
| Ratio to average wage | 96.1 |

Source: ‘Overview of economy 2017’ using Statistics Estonia

As a final bit of information on the subject, *Table 5* gets into specifics on sales of what the country’s manufacturing industry makes on offer. Interestingly enough, as underscored by the report, “[e]ven though producer prices rose, the sale of the manufacturing industry increased at the same speed as manufacture”⁴.

¹ ‘Overview of economy 2017’. *Ministry of Economic Affairs and Communications and Ministry of Finance*. 2018. Available from [https://www.mkm.ee/sites/default/files/overview_of_economy_2017.pdf].

² ‘Overview of economy 2017’.

³ ‘Overview of economy 2017’.

⁴ ‘Overview of economy 2017’.

Table 5 Share of sub-sectors in sales of manufacturing industry, 2017

| Sub-sector | Percentage |
|-------------------------------|-------------------|
| Rubber and plastic industry | 3 |
| Building materials industry | 4 |
| Metal industry | 11 |
| Equipment industry | 17 |
| Furniture industry | 5 |
| Food industry | 14 |
| Textile and clothing industry | 4 |
| Wood industry | 19 |
| Chemical industry | 7 |
| Other sub-sectors | 16 |

Source: 'Overview of economy 2017' using Statistics Estonia

State and Development of Bulgarian Industrial Production

Evgeniy Kandilarov

The overall structure of the Bulgarian economy according to the statistical data of the National Statistical Institute shows the following: 67% are services, 28% are industry and only 5% are agriculture. These ratios are quite persistent. Over the last 5 years (2013-2017), industry added a total of just one percentage point to its account, which came equally from a slight decline both in services and in agriculture.

What, however, is the profile of the different areas and which are the industrial and agricultural regions in the country? To highlight them, we will use the share of key industries in value added at regional level. Separately, we will look at the added value per sectors for the specific areas - the latter shows whether this sector is really strong or simply has a high share due to the poor development of the other major spheres of economic life. It is important to clarify once again that we are weighing the data against the population of the districts.

The main Industrial districts in the country are Stara Zagora, Sofia area, Vratsa and Gabrovo. The data for the industrial areas in the country are quite categorical. The four listed are the only areas where the industry is responsible for at least half of the gross added value of the whole region - 66% in Stara Zagora, 61% in the Sofia region and about 50% in Vratsa and Gabrovo. Each of these areas marks an increase in the industry's share of value added by 5-6 percentage points in total over the last five years. If we look at not only the share but also the value added of the industry per capita, it is exactly the same areas in the first four places, in the same order. The explanation for the industrial profile of these areas is not a surprise. They include significant industrial enterprises such as the large energy complexes in Radnevo and Galabovo on the territory of Stara Zagora Region, Kozloduy NPP on the territory of Vratsa region, as well as some of the big extraction enterprises from Srednogorie (for example in Chelopech and Pirdop) on the territory of Sofia district. Gabrovo is the only example of an industrial area without a large energy or mining enterprise, but the

district center has long-standing industrial traditions (notably called the "Bulgarian Manchester"), and large enterprises in Sevlievo are also included in the area.

Determining Agricultural areas is perhaps the most difficult, as they are more and relatively poor. Accordingly, the poor development of other sectors sometimes makes the development of agriculture seem decisive. However, the following areas have the highest shares of agriculture compared to all other regions in the country - Silistra (23%), Vidin (18%), Montana (16%), Razgrad (16%), Dobrich (16% Kardzhali (15%), Targovishte (14%), Shumen (13%) and Yambol (13%). In these areas, the added value of agriculture per capita is highest - within EUR 500-650 per person.

What immediately impresses is that areas where agriculture accounts for more than 10% of added value rank among the bottom of wealth - have the lowest GDP per capita. This is because the value added in agriculture remains very low - the highest added value per capita in agriculture (EUR 650 in Silistra) is almost 3 times lower than the average value added of the industry in the country (EUR 1750) and 6 times lower than the average value added of services in the country (EUR 4150). Silistra and Vidin are also the only areas in the country where the added value of a person in the industry is so low that it is below the added value of agriculture in the area.

The overall regional dynamics over the past five years shows that the growth of the industry's share of value added is driven precisely by those areas which have a stronger industrial profile. The areas of services except the capital also slightly increase the share of the industry - more visible in Burgas and more modestly in Varna, where services also bring more added value. Relatively more agrarian areas, with the exception of the north-west Vidin and Montana, shrink the share of agriculture.

The lack of Plovdiv District in the profiled areas is due to the diversity of the economy in the area, which combines a strong industry and services that we have already seen are inevitably leading in the areas of the largest cities. According to the value added of industry and services, Plovdiv ranked immediately after the cited areas in the two categories – EUR 3000 per person in services and EUR 2150 per person in the industry. After a more pronounced growth of the industry in recent years, the ratio in Plovdiv has reached 56-57%

of services and 40% of the industry in total value added. Similar are the processes in the Rousse district, which is close to Plovdiv in terms of added value of a person in the industry and services, and there is a very similar branch structure.

The share of main industrial sectors in the total Industrial production, the GDP, the employees, as well as the exports.

| Industrial Sector | Products | % of Total Industrial Production | % of GDP | % of the Employees in Industry | % of Total Export |
|-------------------------------------|---|----------------------------------|----------|--------------------------------|----------------------------------|
| Food & Beverage sector | Manufacture of food products, Manufacture; of beverages; Manufacture of tobacco products | 17% | 15 % | 19% | Food - 7.9% Beverages - 0.6%. |
| Pulp & Paper sector | Manufacture of pulp, paper and paperboard; Manufacture of articles of paper. | 1.7% | 2.0 % | 1.7% | 1.5%. |
| Chemical sector | Manufacture of chemicals and chemical products | 4.5% | 4.7 % | 2.6% | 5,6% |
| Non-metallic minerals sector | | 6-7% | 7% | | 2.8% |
| Ceramic & Cement sector | Refractory products; Clay building material; Porcelain and Ceramic products; Cement, lime and plaster; Articles of concrete, cement and plaster; Cutting, shaping and finishing of stone; Abrasive products and non-metallic mineral products | 6-7% | 7% | | 2.8% |

| | | | | | |
|--|--|-------|------|-------|-------|
| The Iron & Steel sector | Manufacture of basic iron and steel and of ferro-alloys; Manufacture of tubes, pipes, hollow profiles and related fittings; Manufacture of other products of first processing of steel; Casting of iron; Casting of steel. | 14.9% | 9% | 2.2% | 17.8% |
| Machinery sector | Fabricated metal products, except machinery and equipment; computer, electronic and optical products; electrical equipment; machinery and equipment. | 5.1% | 8.5% | 10,2% | 2.7% |
| <i>The “Manufacture of fabricated metal products, except for machinery and equipment” sector</i> | | | % | | |
| | “Manufacture of computer, electronic and optical products” | 1.2% | 2.4% | 1.6% | 3,6%. |
| | | | % | | |
| <i>“Manufacture of electrical equipment” sector</i> | | 4.1% | 4.3% | 3.8% | 7.1%. |
| | | | % | | |
| <i>“Manufacture of machinery and equipment” sector</i> | | 4.5% | 6.8% | 5.8% | 7.7%. |
| | | | % | | |

The industry's most prominent developments since 2000 include metal products, electrical equipment, furniture, rubber and plastics, car parts, machinery, equipment and weapons, computer and communication equipment, wheels, paper and board, metals and others. In these industries, the increase in the production since the beginning of 2000 to 2019 is far above the average for the manufacturing industry and in some cases it reaches 3-4 times. The reason for the expansion is usually high competitiveness in the foreign markets and significant export output, which is also confirmed by the export data.

The only sector with a decline in production since 2000 has been tobacco products - because of health policies, rising prices due to the growth of taxes, the illegal market and, in general, the decline of consumption of such products across Europe and developed countries. Among sub-sectors with relatively low performance (growth below the average for the whole sector) are leather, textiles, shoes, wood, beverages, food, etc.

All these industries traditionally belong to ones with a relatively low processing rate and relatively low added value respectively. By contrast, most of the sectors that have grown sharply since 2000 are with high added value - machinery, electrical equipment, computer and communication equipment, car components, bicycles, etc.

This restructuring of production to sectors with higher added value is also seen in foreign trade data, and in particular in export data. It is obvious that the great "winner" of the restructuring of the economy, industry and exports is precisely the investment goods, which belong to the goods with high added value. They have increased their share of exports more than double since the year of 2000 - from 11 to nearly 26%.

Share of main product groups in exports in 2017 and 2000 in %

| | 2000 | 2017 |
|------------------|-------------|-------------|
| Consumer goods | 29,8 | 25,1 |
| Raw materials | 44,2 | 39,5 |
| Investment goods | 11,4 | 25,8 |
| Energy resources | 14,6 | 9,3 |

Source: BNB

These include machines, devices, electric machines, vehicles, parts and other investment goods. It is remarkable that all sub-sectors of investment goods increase their share in the country's exports without exception. This restructuring towards commodities with higher added value occurs at the expense of all other

major product groups - energy resources, consumer goods, raw materials and materials. This does not mean that their export is declining, on the contrary - its growth is relatively slower than that of investment goods.

However, it is important to note that in the three groups mentioned above, whose share of total exports is shrinking, there are products that enjoy increasing weight in external sales. For example, in consumer goods the proportion of food is rising; the same is valid for the food raw materials which also have a significantly higher share in the last two years.

Leading role in the Bulgarian industry plays processing industry where almost 80% of the production is produced. The largest share of the added value production is in the high-tech activities. From the medium and high-tech economic activities can be distinguished the production of medical substances, computer and communication equipment, machines and equipment and metal products where the share of value added in the production is between 30-39%.

Bulgaria's industrial production increased 2.4 percent year-on-year in April 2019, easing from a 2.8 percent gain in the previous month. It was the weakest expansion in industrial activity since December 2018, as manufacturing output increased at a softer pace (4.3 percent vs 5.5 percent in March), dragged down by manufacture of basic metals (-7.4 percent vs 0.3 percent) while production fell for mining & quarrying (-2.0 percent vs 2.0 percent) and electricity, gas, steam and air conditioning supply (-5.0 percent vs -7.6 percent). On a seasonally adjusted monthly basis, industrial output dropped 1.9 percent, following a downwardly revised 0.8 percent fall in March. Industrial Production in Bulgaria averaged 3.24 percent from 2001 until 2019, reaching an all time high of 19.50 percent in May of 2004 and a record low of -22.60 percent in May of 2009.

It is very much visible that Bulgarian industry relies on the manufacturing industry to compensate the decline in mining and energy industry. In the mining industry, the trend is downward, as is indeed the case for the energy production and transmission sector.

In the industrial production, it is seen that there are several sectors that move the growth upwards. One is the tobacco production. The other is the production and sales of medicines. The sector reports an annual growth of 17%, with the positive trend remaining lasting.

In January 2019, the industrial production index rose 3.2% month-on-month and 2.8% compared with the first month of 2018, according to the National Statistical Institute (NSI). On annual basis, the mining and quarrying industry registered a 16.4% growth, followed by a 2.9% rise in manufacturing, while power, gas, steam and air conditioning supply shrank by 1.1%.

In January 2019, turnover in retail trade, except motor vehicles and motorcycles, grew 0.4% month-on-month and 3.2% year-on-year. On annual basis, the rise reflects growth in retail sale of audio and video equipment, hardware, paints and glass, electrical household appliances (by 19%), retail sale via mail, phone order or internet (by 13.7%) and in nonspecialized stores (by 10.6%). In the same month the index of construction rose 1.5% compared to December 2018 and was 0.9% higher than a year earlier.

A big share in the export of the country are mineral oils, fuels and similar products, mainly produced by the refinery of the Russian company "Lukoil" in Burgas.

Another major item in Bulgarian exports is copper and products made of metal, such as copper cathodes. However, the driving force behind export growth is the production of machinery and components for them. Most of the machines and components are exported to businesses in the European Union.

Apart from this, Bulgaria is also an exporter of iron and steel and products made of them, as well as medicines and other pharmaceutical products. The country produces and exports glass products as well for hundreds of millions.

On a long-term basis (between 1995 and 2019), the data of the National Statistical Institute shows that the share of raw materials in the country export decreased from 53.1% to 39.0%. At the same time the share of the investment goods (including certain types of machines, accessories, equipment, transport vehicles and spares for them) increased from 13.9% to 25.2%.

The most problematic is the fact that the availability of factories that are mainly part of someone's foreign production chain brings relatively little economic benefits to Bulgarian economy.

Recent NSI data show that the processes of change in the structure of the Bulgarian manufacturing industry continued in the last year. Some "traditional" Bulgarian industries such as textiles, apparel and leather production continue to lose positions in the number of employees at the expense of economic sectors

traditionally perceived as having higher added value. Along with the continued development of the automotive industry, there is still growth in the number of employees in the production of computer and communication equipment, electronics and optical products; electrical equipment, as well as all types of machinery and equipment of general and special purpose.

The shortage of labor remains one of the most serious problems for Bulgarian industrial enterprises, according to NSI preliminary data, reaching a new record of 37% in March 2019. With the slowing of the Bulgarian and European economies, however, it appears that the focus of the enterprises is gradually moving towards other problems. For the first time since 2015, more businesses expect their staff to decline - a seeming contradiction, which actually speaks about hunger for skilled labor force in the economy.

Another problem is that Bulgaria does not produce products with high added value but it relies mainly on processing and production with materials supplied by the client/customer. This is quite problematic since the production of finally finished products brings great added value.

Overall, GDP, industrial output and exports data show the following:

- 1) Bulgarian industry has developed well since 2000 and has increased its weight in the economy, largely due to the expansion of the manufacturing industry;
- 2) there is a steady trend of restructuring in the manufacturing industry towards a higher share of high added value sub-sectors at the expense of those with a lower level of processing;
- 3) This restructuring process is mainly dictated by foreign markets and reflects the competitiveness of Bulgarian producers of commodities with relatively high added value.

Finally, with regard to the future development of the Bulgarian industry one more thing has to be noted and it is the fact that in 2017 Bulgarian Government approved the "Concept of Digital Transformation of Bulgarian Industry (Industry 4.0)" as the basis for developing a Strategy for the Participation of Bulgaria in the Fourth Industrial Revolution.

The purpose of this Concept is to create prerequisites for the modernization, automation and competitive positioning of the Bulgarian economy in the medium to long term (2017 - 2030). The vision outlined in the Concept is by

2030 Bulgaria to be recognized as the regional center of the digital economy through the introduction of products, technologies, business models and processes from Industry 4.0.

The Bulgarian government stated that the adoption of the Concept will allow the launch of specific policies and measures to digitize the real economy and the manufacturing sector, and will help to coordinate the policies, tools and mechanisms in the various ministries in line with the European Union's policies in this field.

The areas of intervention that are covered in the Concept of Business Digitization, Export Orientation and Competitiveness are as follows:

- Strengthening the relationship between science and industry in the country and accelerated integration of Bulgaria in European and international programs, initiatives and networks related to the development and implementation of Industry 4.0.
- Technological renewal of the Bulgarian economy through: introduction of standards, building of infrastructure, development of specific mechanisms for stimulating the development and market introduction of technological innovations (new products, services and production processes) through the technologies of Industry 4.0.
- Building human, scientific, organizational and institutional capacity for development of Industry 4.0 in Bulgaria.

In the answer of the question whether this concept and strategy will be fulfilled and its goals will be finally achieved lays the chance for the future successful rebirth and successful development of the Bulgarian Industry as a key factor of the economic growth and social development of the country.

Industries and Industrial Production in North Macedonia

Anastas Vangeli

Introduction

Industrial production plays an important role for the economy of the Republic of North Macedonia (hereinafter Macedonia). It matters for the overall economic development and growth, but also the general economic and social landscape of Macedonian society. At the same time, industry is one area where the government is trying to play a more-proactive role in shaping the conditions for the development of industrial production; thus, since 2009 the government of Macedonia has also pursued a national industrial policy. This paper provides a general overview of industries and industrial production in Macedonia, while briefly referring to the emergence of Macedonia's industrial policy (which will be extensively covered in another paper).

Industrial Output

Macedonia is among the lesser developed economies in Europe, and one of the reasons for this is the insufficiently developed industrial sector of the economy. In the period after the dissolution of Yugoslavia – and up to the recent years – Macedonia had been undergoing what many influential voices in the country called a process of de-industrialization – that is the scaling back of industrial production and declining of the share of industry in the economy. The dismantling of the Yugoslav common market, the graying of a number of publicly owned industrial capacities during the process of privatization, the lack of pro-active role of the state, and the general instability in the country in the region had contributed to this process. In recent years, the numerous crises in Europe – and the political crisis in Macedonia had further advanced de-industrialization and hampered the efforts to re-industrialize the country (which mainly consisted of attracting greenfield foreign direct investments). In an oped published in 2018, the head of the Macedonian Chamber of Commerce, Branko Azeski, has argued that after all most three decades of independence and pursuit

of neoliberal development path, Macedonia's industrial output still amounts to less than 2/3 of the industrial output the country had in the year 1990.

The industrial output, however, despite still not being at the desired level (both in terms of volume and competitiveness), has been slowly increasing in the last two years. The latest data show that after a prolonged period of decline in the aftermath of the protracted domestic political crisis 2015-2017, in 2019 Macedonia's industrial production has been slowly getting back on the track of growth. It is still way below the rate needed for Macedonia to be able to start closing the developmental gaps with the more advanced economies, but nevertheless, the rise of the industrial production is being frequently presented as a particularly great achievement by the incumbent government.

Macedonian policymakers have been well aware that the national economy cannot prosper without developing a robust industrial sector. One milestone in this respect was the inauguration of Macedonia's first national industrial policy in 2009, and the launching of special economic zones, as well as the other measures of courting (potential) foreign investors (described at length in the previous economy paper). In 2018-2019, the Ministry of Economy has launched an amended document, which is called National Industrial Strategy with a focus on the manufacturing sector, which rests of five pillars: 1) strengthening of the manufacturing foundations; 2) improving productivity and facilitating innovation and technology transfer; 3) stimulating green industries and green manufacturing; 4) boosting export-oriented manufacturing; and 5) building up a “learning manufacturing sector.” One of the main goals of the new strategy is to reduce state subsidies for the industry, and focus on creating the right conditions that would increase the productivity and competitiveness of Macedonia's manufacturing. It is yet to be seen what kind of results will this strategy yield.

Industrial Production: General Overview

In the taxonomy of the State Statistics Bureau which collects and disseminates data on the industrial production, all of Macedonia's industrial capacities are classified in terms of their belonging to three core sectors: a) mining and quarrying; b) manufacturing (broadly defined); and c) utilities and energy supply (i.e. supply of. electric power, gas, steam and air conditioning). Within this framework, the largest industrial divisions in the country are energy

supply, as well as oil and gas supply; food processing and manufacturing of beverages; and the manufacturing of textiles, chemicals, iron, steel, cement, pharmaceuticals, and automotive parts. Sometimes, however, construction is also considered part of the industrial production and accounted for in the official data. According to the latest available data of the State Statistical Bureau (May 2019), industrial production (including construction) accounts for 24.1% of the national GDP (whereas services account for 54.6%), while industrial products contribute to almost 96% of Macedonia's two-way trade in goods, of which more than 70% are intermediary goods. There is a small number of companies operating in the areas of mining and quarrying (205), as well as in the utilities supply (186), and a much higher number in manufacturing (8033) and construction (4938). Similarly, about 6.500 workers are employed in the mining and quarrying sector and about 10.000 in the utilities sector, while almost 160.000 work in the manufacturing sector and about 56.000 in construction. However, the average salaries in the mining and quarrying and the utilities provision sector are much higher than in manufacturing and construction.

All of Macedonia's industries have distinct historical trajectory, although some similarities between them exist. The processing of food, beverage and tobacco has been historically considered an important industry in Macedonia since the era of the former Yugoslavia. The food, beverage and tobacco processing industry is considered to be complementary with Macedonia's agricultural sector, as Macedonian agricultural production is considered to be of high quality; to fit well the Macedonian social conditions, as the country still has a significant rural population that works on farmlands; and to benefit from Macedonia's mild Mediterranean climate which helps in increasing the quality and quantity of agricultural output. There are various companies in the food, beverages and tobacco industry, including formerly publicly owned, later privatized food processing capacities; domestically owned breweries as well as breweries embedded in transnational supply chains and owned by foreign companies; a number of wineries (Macedonian wine is being advertised as high quality one and wine-producers are becoming increasingly export-oriented); dairy producers, and so on. Employing a significant number of people, the food, beverages and tobacco industry is oriented both towards domestic consumption

and exports (primarily in the Western Balkans countries, but in the case of some goods such as wine, as mentioned above, they aim for the global markets).

The energy and fuel supply is one of the most profitable industrial divisions in the country. Some of the largest companies in the industrial sector in Macedonia are the electric energy supplier EVN (Austrian owned), the oil refinery Okta (Greek owned), as well as the oil and gas suppliers Makpetrol (Macedonian owned) and Lukoil (Russian owned). These companies operate on the national level. There are also a number of companies that operate in particular regions but still manage to have significant profits. Even smaller energy and gas companies are more profitable than some of the large national brands in other industries (e.g. food or beverage processing). However, the energy and fuel supply industry is dependent on imports from abroad – Macedonian power plants still produce insufficient amount of electric power (and only part of it is from sustainable and renewable sources); and the country has no oil or gas reserves. This is also an industry that does not innovate; it is an industry that greatly depends on policy-making and regulation; and also has negative environmental impact.

The production of iron, steel and other ferrous and non-ferrous metallurgical products such as nickel, zinc, and (semi)precious metals is another highly profitable industry; the major companies in this division are formerly socialist companies that have been privatized – many of them sold to foreign owners. Macedonia's metallurgical industry has greatly benefited from the country's relative richness in terms of various ores, while the labor costs as in other areas have remained comparatively lower than in other countries (although it is generally considered that salaries in the metallurgical division are comparatively higher than in other industries, e.g. food processing). Some of the metallurgical companies such as ArcerlorMittal Skopje (now a subsidiary of the large multinational corporation ArcerlorMittal) and MakSteel (owned by the large multinational Duferco) are among Macedonia's largest and most profitable companies; other companies, such as Feni Industry (now known as Euronickel Industry, after being sold to a Swiss company), have faced difficulties in recent years, although have retained their position as some of the largest companies in the country. The manufacturing of metallurgical products is also an industry that has been a subject to political power plays, especially during the early transition

years and the process of privatization. This industry is also a topic of debates on sustainability and its negative environmental impact.

The textile industry, while not as profitable, matters greatly for Macedonia's exports. Many apparel and garment manufacturing capacities have been built during the Yugoslav days; in the period after the independence, they have been gradually privatized; after the failures of some of the significant local textile companies, the production capacities became embedded in transnational supply chains and now produce clothes for the European markets. Today, foreign companies produce clothes or intermediary textile goods in Macedonia, primarily due to the low labor costs (as textile manufacturing is a labor intensive industry). They not only use the existing capacities; sometimes they open new capacities and create new jobs. The textile industry employs a significant amount of workers, and in particular female workers; however these workers face unfavorable working conditions and low wages, while textile manufacturing offers limited opportunities for upgrading and moving up the value chain.

The chemicals and pharmaceuticals manufacturing is another industrial division inherited from the Yugoslav days. Macedonian companies produce fertilizers, rubbers, detergents, as well as cosmetics and medicines. One of the most successful Macedonian companies (which has not been acquired by a foreign company during the privatization process) is Alkaloid Skopje, which also happens to be one of the oldest Macedonian companies, established in 1936. Today, Alkaloid has 13 subsidiaries in Europe, Russia and the United States, and produces some of the internationally best-known Macedonian brands, such as the painkiller Caffetin and the baby skin cream and wet wipes Becutan. At the same time, one of the largest foreign direct investments in the recent history of Macedonia, the British multinational Johnson Matthey, which currently runs two factories in the country which produce emission control catalysts. Despite this, the chemical industry has been also a topic of debates on sustainability and environmental impact.

The production of automotive components is a relatively new industrial division in Macedonia, which has only taken off in the last decade. German manufacturers here play a central role. In the last ten years, companies such as Draexlmaier, Kromberg & Schubert, Adient, Gentherm and others have made greenfield investments, opening new production capacities in various parts of the

countries, employing thousands of workers. Their output is integrated in the transnational supply chains of the German automobile manufacturing industry, and accounts greatly for Macedonia's exports (i.e. as a direct outcome of this, Macedonia has a substantial trade surplus with Germany, discussed at length in previous papers). The emergence of the manufacturing of automotive parts as one of the key industries in the country is considered to be one of the outcomes of the optimization of the Macedonian economy for attracting foreign investors, a process that involved deregulation, provision of subsidies and giving voice to foreign companies in the policy process. One particular downside of this process, however, has been the deterioration of labor rights, as one of the major advantages of Macedonia for foreign producers in labor intensive industries has been the low cost and the low level of organization of labor. From a political economic standpoint, moreover, there is the challenge of the relatively low ceiling for upgrade and innovation in the automotive parts manufacturing, while at the same time it is an industry that is also troubling in terms of its environmental impact.

In conclusion, despite all its shortcomings, Macedonia has a solid industrial base, including a developing manufacturing sector; while the government also has an Industrial Strategy that aims to strengthen and expand the manufacturing base. Nevertheless, the main challenge seems to be the reliance on labor intensive production and the lack of investment in advanced technologies, which in turn puts a firm ceiling on the capacity for innovation and improving productivity, as well as on Macedonia's position in the global economy.

Industry Overview of BiH and Its Contribution

Ivica Bakota

Historical overview

During the Yugoslav period, Bosnia and Herzegovina was one of the most underdeveloped republics in the federation. As a heritage of pre-WWII era, BiH was mostly agricultural economy relying on small and private holdings, without ability to meet internal demands and the food was mostly imported. Big transformation of BiH economy happened in the 1950s, when Yugoslav federal government promoted heavy metal and military industry to be developed in centrally located BiH, resulting in “big industrial transformation of BiH” with fast growth of metal industry, building of power plants, steel mills, large number of industrial firms, and development of metal-processing and electro-energetic sector. Strategic position of BiH was also conducive for making BiH as a major hub for development of Yugoslav military industry. In the same period, agriculture, forestry, livestock farming was also boosted and BiH grew to net exporter of food, especially meat, dairy products, fruits, vegetables, etc. Centrally planned and insufficiently diversified economic structure of Bosnia and Herzegovina had shown its setbacks along first economic crises that struck Yugoslavia in 1960s and 1980s. Main problems were overreliance on Yugoslav market, which for consequence had relatively limited access to foreign markets and low level of economic decentralization, making BiH one of the republics with striking development gaps. Other problems, to certain extent shared among all Yugoslav federal units, can be attributed to central economic planning, lack of market coordination, strong state diktat in a few flagship SOEs, overwhelming number of workers in the industry, insufficient horizontal diversification of industry, etc.

The Bosnian war (1992-1995) devastated Bosnian economy and industry and is widely considered to be the main source of all current economic problems. During the three years of warfare, only few places were spared from direct

conflict, war destruction was ubiquitous and grounded industrial and economic infrastructure of Bosnia and Herzegovina. Production fell by 80% and illegal economic activities (smuggling, black economy) were thriving. After 1995, growth expectedly recovered at high percentage rates from 1996 to 1998, but slowed down considerably in 1999. Growth registered a lump in the pre-recession period, from 4.2% in 2004 to 6% in 2007, but plummeted to -0.8% in 2009 and continued with sluggish growth until 2015 when it reached 3% target and remains on that level since. However, Bosnian GDP is still far below the level it had in 1990.

During the last ten years, BiH managed to incite industrial growth by recovering pre-war industrial infrastructure in metallurgy, metal and wood-processing industry and expanded its output into machinery and auto-parts industry. Unemployment rate, which continues to be red-flagged throughout post-war period (peaked in 2002 up to 40%), has only recently fell below 20%. Growth of industrial output is one of factors contributing to employment, but both increasing curves are not correlated on satisfactorily level. Trend of decreasing unemployment is more attached to changes in service sector. On the other hand, the industrial growth was followed by stable increase of export rate, as well as the import rate so strong decrease of export deficit didn't occur.

Additional analytical problem when studying BiH industry and economy in general is lack of comprehensive national data since both entities are performing only their own statistics, available data covering the entire country are limited. This report will combine the data obtained from the relevant federal and central institutions such as BiH Foreign Trade Chamber, Federal Agency for Statistics and the data available from central government institutions.

Current situation

The key challenges for industrial development of Bosnia and Herzegovina are to be found in main problems of BiH economic model in general: public and economic policies are skewed toward the public rather than the private sector, which as a result have stronger emphasis on restructuring of current state-owned industries than creating conditions for stable growth of small private industry. Also, BiH is more consumption rather than investment-oriented economy, imports by far overshadow exports, and overall business environment is not

conducive to foreign investment. The country faced dual economic transition of introducing market reforms towards liberal market economy and rebuilding a war-torn economy and infrastructure. During these processes, in order to protect employment and social safety net the government prioritized rebuilding efforts and created mixed economy with heavily subsidized SOEs, relatively unsuccessful privatization and few green field investment opportunities.

In these circumstances, socialist strongholds of BiH industry, i.e. metallurgy, metal and applied industry consolidated itself as the most important sectors of BiH's industry. According to BiH Foreign Trade Chamber, metal (metal-processing) and auto-parts manufacture are the two main pillars of Bosnian economy. Both sectors show significant growth, particularly after 2014, when it obtained a two-digit number.

A good indicator of overall industrial capacity is BiH export. Despite the increase that followed the growth from 2015 on, BiH export is still inadequate compared to developed economies as well as below the levels of CEE countries where production meets a good share of domestic consumption. BiH export is limited to low value-added products (coke, semi coke, unwrought aluminum, semi-processed wood) which are mainly marketed in the EU and intermediary industrial products (electric current) to neighboring Serbia and Croatia.

Intensification and diversification of foreign trade in 2018 resulted in slightly decreased foreign trade deficit of BAM 7.33 billion. Most of economists agree, the increase is achieved thanks to the increased growth of export demand and the growth of world prices, rather than a significant structural change within the BiH economy. The highest growth in industrial sector was registered in applied industry (production of machines, devices, parts and mechanical tools). Widely cited example is growth in automotive (auto parts) exports, with increase of 11.8% in 2018. Unis Ginex producer of car seats for VW from Gorazde is leading company in the field with profit in the first three months in 2019 amounting to BAM 10.4 million. This was sustained primarily with increased demand on the world market, as well as improved business conditions in the domestic market. Energy sector (export of electricity) also increased but was shadowed with proportionate increase in import. Relatively small increase of export was registered in processing industry, i.e. production of durable and non-durable consumer products.

In the structure of foreign trade by sectors, traditionally, the largest volume of export is realized in the wood and metal industry. Wood-processing, furniture companies are contributing to BiH only sector with net surplus in export. By 2018, BiH exported BAM 2.255 billions of wood-processed products, twice as much as it imported.

As BiH Foreign Trade Chamber notes, BiH has insufficiently developed processing industry due to the modest production base and labor intensity of this industrial branch.

Survey of main industries

1. Heavy industry, metallurgy

The metallurgy centers are located in Zenica, Mostar, Jajce, Banja Luka and Tuzla. These industrial centers were developed close to mining areas in Austro-Hungarian or Yugoslav period. The basic resources that are extracted are iron, aluminum, manganese, chrome, lead, zinc, bauxite, antimony and nickel. Larger quantities of steel, drawn wire, ferrous alloy, crude (unwrought) aluminum& aluminum alloys, iron bedding products, rolled products etc. are produced in the main steel plants (mills). Zenica Steel Plant is the largest in Bosnia and Herzegovina and among the largest in the WB region. It is also the largest exporter in Bosnia and Herzegovina (2014), with annual income rounding BAM 660 million (2015). It is acquired by ArcelorMittal in 2007 and employs 2400 people (additional 750 are employed by state-owned cutout Zeljezara Zenica, while thousands lost jobs during the privatization). Main markets are EU, WB and North African countries. Another significant metallurgical plant is partially state-owned Aluminij Mostar from Mostar, producing aluminum alloys and employing 840 workers.

2. Metal industry

Metal industry in Yugoslav period employed a large number of workers, hence suffered significant setbacks following the war, privatization and economic adjustments. Today it contributes to BiH export with share of 5-7% (engine parts, other vehicle parts, locksmith wares) and is dominated by privatized or semi-privatized SOEs with increasing number of SMEs

specializing in particular products. The main metal-processing industrial centers today are Sarajevo, Zenica and Banja Luka as well as Siroki Brijeg (FEAL).

3. Chemical industry

Chemical industry is largely based on salt processing and petrochemical products with main production sites in Tuzla (Solana Tuzla, Dita, Violeta), Lukavac, Mostar, Sarajevo (Bosnalijek), Jajce, Visegrad and Vitez. Soda, acids, artificial fertilizers, paints and varnishes, explosives, washing and cleaning agents, plastic masses, medicines, etc. that were being produced for Yugoslav market are mostly phased out. However, in the last years, chemical industry in Tuzla Canton is making slow comeback.

4. Textile industry

This labor-intensive industry once employed a large number of workers. Today the main centers are located in Olovo (Alma Ras Co – largest exporter and the biggest company), Tesanj (Koteks doo, Napredak doo, Socksmaker), Teslic (Fortitudo), Tuzla (Rentex), Doboј (Kismet) etc. Most of the textile companies are offshoots of foreign companies with established supply and distribution chains, which together with reliance on imported cotton is the main challenge for sustainable development of this sector in BiH.

5. Food industry

In lowland areas of northern Bosnia and central river valleys are traditionally grown cereals, fruits and vegetables, and in the area of 'lower' Herzegovina vine, mandarin, apricot, peach and tobacco. Small sized meat producing facilities (poultry, beef) are assuming industrial production, export of agricultural products (fruits) is on stable rise. Significant companies in the sector include: Fabrika duvana Sarajevo (tobacco), Vispak (conditionery), Klas (bread), Sarajevska pivara (brewery), etc.

6. Wood industry

Only sector in BiH with net surplus in export is represented by diversified producers in terms of size and market outreach. There are large wood processing companies on the market (Sipad, Konjuh) as well as small sawmills, low added

value wood processing and furniture producing companies. Main exports are realized to Croatia and Serbia (from fuel wood, paper to furniture)

7. Military related industry

Lack of comprehensive data for BiH industry is more pronounced in military related production. According to some BiH media, this sector continues to thrive in post-war period, making BiH largest exporter of military-related products. State-owned company Igman from Konjic plans to earn as much as BAM 135.9 million by the end of this year, which will make company as the biggest producer and exporter of weapons (mostly bullets, rifles, and pistols) in BiH. Pretis from Sarajevo, Binas from Bugojno and several others are also expanding their foreign markets. It is estimated that this industry employs over 10000 workers and is significant contributor to federal budget.

Industry Overview of Poland

Joanna Ciesielska-Klikowska

Poland is currently enjoying the best economic situation in its history. Never in Poland has the industry developed as dynamically as now, many sectors are becoming more and more competitive and unemployment remains low. Poland is a traditional agricultural country, but in recent years an evident change has been visible in favour of industrial development and the services sector. Though Polish companies are increasingly a supplier of components for the production of goods in Western Europe, but more and more they are beginning to participate in the direct development of the new technologies.

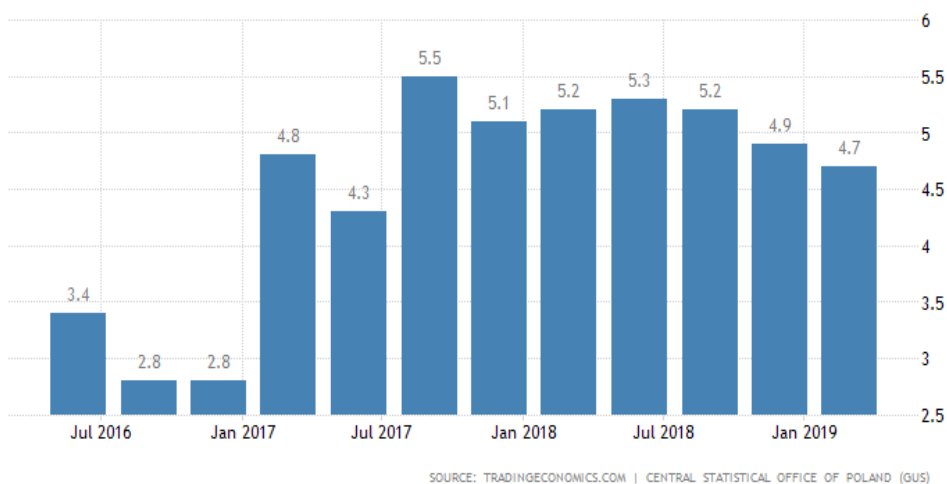
Overview of the Polish economy

According to the classification adopted in Polish science, the national economy defines the entire of interrelated economic entities operating on the territory of the country. Depending on the subject of activity, these entities are assigned to specific sectors, branches and industries. The national economy of Poland is divided into the following sectors: agriculture, forestry (first sector), mining, processing industries and construction, trade, transport and communication, construction trade, municipal economy, housing (second sector), science, education, culture, tourism, health and social services, state administration, justice, protection of public order and defence (third sector).

The national economy of Poland is defined as a mixed economy. Today it is the 7th largest economy in the European Union and the largest among the members of the European Union from the countries of the former Soviet Bloc. From the beginning of the 1990s, Polish economy underwent a difficult and demanding transformation from a centrally managed economy to a market economy. Since 1990, Poland has been pursuing a policy of economic

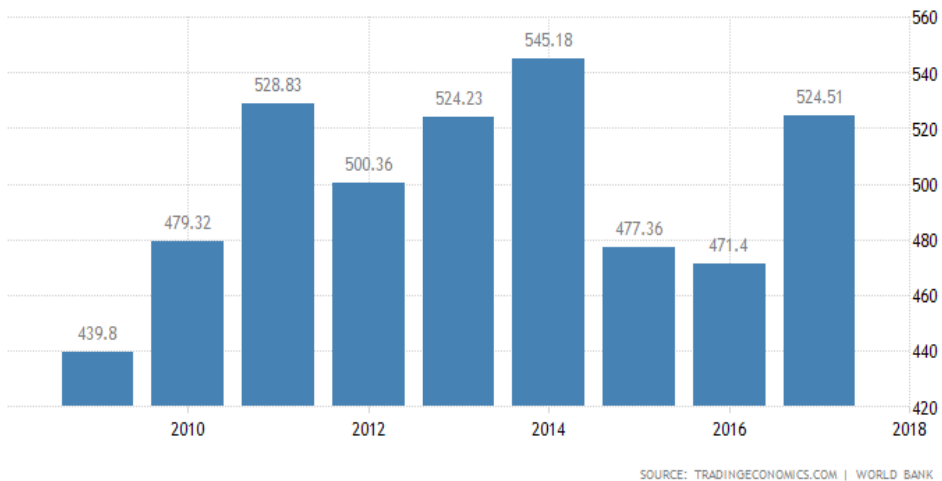
liberalization under the “Balcerowicz Plan” (named after the Finance Minister, Leszek Balcerowicz), developing in the following years slowly but steadily. Thanks to this, Poland avoided major turbulence during the economic crisis that took place in autumn 2008 and is currently developing at a very high rate – 4,7% in the first quarter of 2019, altogether 5,1% in 2018. In the period from 1989 to 2018, Poland’s GDP increased by 826.96% and it was the best result in Europe.

Figure 1 Growth rate in Poland



Poland is recognized by the United Nations as a “highly developed” country in terms of the human development index (HDI), which takes into account factors such as life expectancy, the average length of education attended by 25-year-olds and the expected education time of school-age children, as well as real GDP per capita. The HDI ratio for Poland for 2018 amounted to 0.865, giving it the 33 position in the world for 189 included countries. Poland’s public debt in 2017 amounted to approximately 50,6% of GDP, which was below the EU average (85%). Taxes, together with social insurance, account for 34% of Polish GDP.

Figure 2 GDP in Poland



The Polish economy has grown over the last 30 years at a rate of 1.6% - and it is a very good result, distinguishing Poland from the other countries of the region, in particular when it comes to the last economic success of the country. Over the past decades, three key economic sectors have evolved in Poland, which shape its development and prosperity - agriculture, energy and manufacturing as well as service sector.

Importance of individual sectors

Agriculture is one of the biggest sectors of economy in Poland (the country has the third largest area of agricultural crops in the EU) and is employing 12.7% of the workforce (1.462.000 employees). However, according to Eurostat data, agriculture, forestry and fisheries in 2018 created only 2.4% of Polish GDP. The agricultural sector is predominantly in private hands (about 90%), yet, it should be remembered that the larger part of farmers are holders of small farms (up to 5 hectares, 57% of all farms in Poland) and only 7% of private farms surpass 15 hectares in size.

Second major industry in Poland is the sector of energy, trade and manufacturing. Poland is the world's 9th largest producer of hard coal. It produces about 57 megatons of brown coal and 78 megatons of hard coal per year. Most of the locally sourced coal in Poland is consumed domestically, as

the country is Europe's second-largest consumer of coal (after Germany). Renewable energy is also an essential aspect of the energy industry, with renewable energy sources such as solar power, wind power and hydroelectric power - all with significant recording growth in recent years. In addition to the energy sector, the most developed fields of the second sector are trade and manufacturing (especially automotive, food, metallurgy, machinery and electromechanical industry, including precise, electronic and electrotechnical, means of transport, textile and clothing) – all in all they employ almost 31,2% of all employees in Poland (5.255.000 employees). Mining and processing of mineral resources plays a significant role as well (with 82.700 employees). However crucial branch in Poland is nowadays automotive production, which accounts for 11% of total industrial output and about 4% of the country's GDP. The country is the world's 23rd largest vehicle manufacturer and largest producer of light vehicles in the CEE region. The automotive sector in Poland flourished after the country became part of the European Union in 2004. Annual exports from the automotive sector are valued at over EUR 15.7 billion (16% of the country's total exports). This second sector can be characterised as a mixed one in terms of ownership - the share of the public sector in gross value added is 19.8%, and private - 80.2% (including foreign - 16.6%). The largest companies such as: Polish State Railways PKP, copper producer KGHM (partly in the hands of the state), producer and operator on the fuel market PKN Orlen, gas company PGNiG, PKO BP bank and many smaller enterprises remain in the hands of the state.

However, the biggest sector of Polish economy is the third one – the service sector. With 9.461.000 employees it gives work to 55,8% of all workers in Poland - this large group includes, among others, civil servants, judges, police officers, doctors and teachers. Interestingly, in addition to traditional service industries, tourism has recently been gaining in Poland. Tourism is still an underestimated, although an important branch of the economy. Poland has always been a tourist attraction after 1990 but experienced a big flow in tourists after accession to the European Union. Poland was regarded as the world's 16th most popular tourist destination in 2017 with 18,3 million tourists, who visited the country, and over 19 million in 2018 - every year, the increase takes place in

the range of 6-7% and thus it is a very future-oriented industry for Poland. The share of tourism in the creation of Polish GDP has been stable for several years, and according to the data of the Polish Chamber of Tourism at the beginning of 2005-2018 it was around 6%.

Characteristics of Polish exports

In 2018, once again, the foreign trade turnover reached a record high value. Exports amounted to EUR 221 billion and were higher by 7% than in 2017, and imports amounted to nearly EUR 226.1 billion (a higher level by 9.7%). Considering the significant factors of the unpredictability of Poland's economic environment, including a slowdown of foreign trade and of partners demand, delay of global trade as well as uncertainty in the field of customs policies and the exit of Great Britain from the European Union, turnover results achieved in 2018 should be considered as very good.

Though, higher growth of imports resulting from strong consumption demand, recovery in investments and higher prices of energy carriers, including crude oil, resulted in a worsening of sustainability exchange of goods. The surplus in the amount of EUR 0.56 billion recorded for 2017 has decreased and transformed into a deficit of EUR 5 billion. In 2018, the list of the five most important export and import markets developed in the same way as last year. In both cases, Germany was the crucial trade partner for Poland. Exports to the entire European Union increased by 7.4% (to EUR 177.6 billion). In the context of negative signals coming from the German economy, the high growth in sales to this market (9.6%) is particularly satisfying. Among the major EU countries, exports to the Netherlands also increased rapidly (by approx. 10%), Hungary (by 8%), Slovakia (by about 9.5%) and Belgium (by 13.3%). Exports to other developed economies (outside the EU) increased by 7.6% (to EUR 14.6 billion), including to the USA by about 12.5%, Norway by about 10%, South Africa by about 15%, Israel by about 8% and Japan by about 14%.

Sales to the Commonwealth of Independent States (CIS) increased by 8.2% (to EUR 13.6 billion), including to Russia by 9.6%, to Ukraine by 4.6% and Belarus by about 9%. A slight change in the volume of exports was noted on the remaining (except CIS) markets less developed and developing (increase by 0.5%, to approx. EUR 15.1 billion).

Figure 3 Structure of export goods in Poland (in million EUR)

| | | |
|----|---|----------|
| 1 | Parts and accessories for cars | 10,227.2 |
| 2 | Passenger cars | 6,925.0 |
| 3 | Seats, including sofa beds, and their parts | 5,091.8 |
| 4 | TV sets, video-projectors | 3,797.1 |
| 5 | Furniture (excluding medical ones) | 3,761.0 |
| 6 | Automatic data processing machines and equipment | 3,445.4 |
| 7 | Telecommunications equipment | 2,441.9 |
| 8 | Insulated wire, cable and other insulated electric conductors | 2,353.2 |
| 9 | Compound medicaments for retail sale | 2,157.7 |
| 10 | Gas oils, fuel oils, spirits, kerosene | 2,026.1 |
| 11 | Turbo-jets, turbo-propellers and other gas turbines | 1,926.3 |
| 12 | Diesel engines | 1,923.2 |
| 13 | Passenger ships, cargo ships, ferry-boats | 1,858.1 |
| 14 | Structures and parts of cast iron or steel structures | 1,800.6 |
| 15 | Meat and edible poultry offal | 1,787.5 |
| 16 | New natural rubber pneumatic tyres | 1,787.0 |
| 17 | Cigars, cigarillos and cigarettes | 1,732.7 |
| 18 | Trucks | 1,685.8 |
| 19 | Articles from synthetic materials | 1,476.6 |
| 20 | Magnetic tapes and discs | 1,441.6 |

Source: Department of Development Strategy of the Ministry of Economic Development

Among the most important items, the dynamic growth of exports in last two years (2017-2018) is experienced in: boilers, machines and mechanical devices and their parts (by approx. 10.5%), plastics and articles made from them (by approx. 12.5%), cast iron and steel products (by approx. 11%) and mineral fuels (by 13%).

On the contrary, in import - in terms of the growth rate - the following were distinguished: boilers, machinery and equipment mechanical parts and their parts (increase by approx. 8.5%), non-rail vehicles and their parts and accessories (11.2% increase) as well as mineral fuels and oils (nearly 40% increase). The largest deterioration in balance was recorded in the trade of fuels and mineral oils (by EUR 4.8 billion), pharmaceutical products (by almost EUR 1.3 billion) and non-rail vehicles and their parts (by EUR 1.2 billion).

Employment in Poland

In the last 30 years it is easy to notice that the trend characterizing the majority of developed economies also changes the Polish employee market: here,

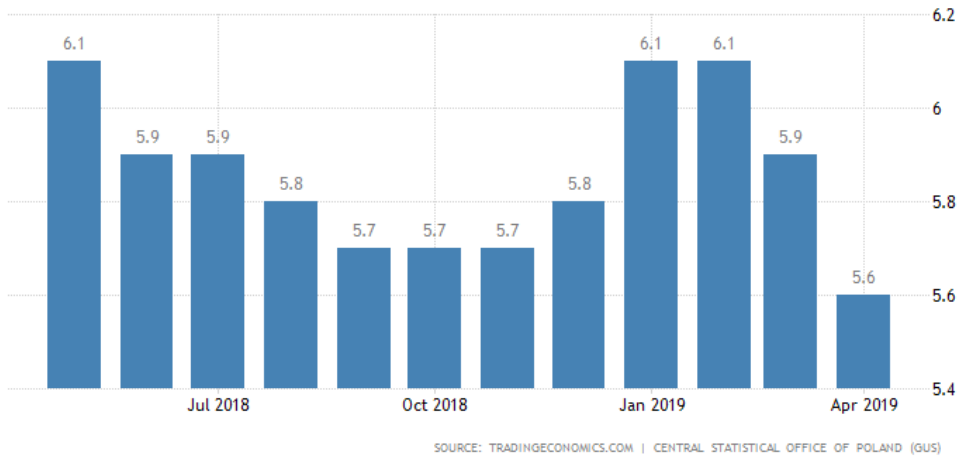
in fact, employment in agriculture is constantly decreasing, but it is growing in services. Employment in industry oscillates - as mentioned - around 5.2 million people.

In the mid-1990s, up to 3.5 million Poles worked in agriculture, which constituted 22% of all employees. In the new century, it was only 2.5 million, and in 2017 the number approached 1.5 million. This is done in the absence of a decline in agricultural production, which means that the process of consolidation of small farms into large-scale enterprises, mechanization of field works and the escape of farmers' children to cities is a relatively unchanging phenomenon that should not transform the sectoral employment structure in Poland for the next decade.

In 1995, in the service sector, 46% of all workforce in Poland were employed - it was 6.7 million people. Twelve years later, it was already 8 million, and in 2019 – already 9.5 million employees. In 2000, the share of services in employment exceeded 50% and has been growing ever since. The increase in the importance of services in employment is characteristic for a country that has reached a certain level of income of citizens and whose economy has already reached a definite degree of modernity and a steady relation between business and consumer.

Trends on the Polish labour market from 2017 and 2018 are still ongoing. Companies still need employees and are able to pay them more (the average wage in the economy is PLN 4.951 - EUR 1.151). Currently, 16.62 million people are employed in Poland, and unemployment is the lowest in the last 30 years, reaching 5.6% (as of April 2019).

Figure 4 Unemployment rate in Poland



Conclusion

Eurostat data published last year shows that Poland is becoming a heavily industrialized country - with a 26.3% share of industry, the country was ranked as one of the top EU countries. The latest data from the Central Statistical Office (Główny Urząd Statystyczny, GUS) confirms that a good streak in industry is still going on. Indeed, the year 2018 was marked by Polish industry, and Poland did not have such good results since 2011. Important factor stimulating the growth of Polish manufacturing was primarily the very good situation of the industry in the euro area countries, which are the most important recipients of Polish products and semi-finished products. The PMI index in January 2019 amounted to 48.2 points and was higher compared to December 2018 when it amounted to 47.6 points. It certainly increased the European demand for production components provided by Polish companies. As a result, not only sold production of industry increased, but the export as well.

Prospects for the future in the economy in Poland are very promising - industry can count on a good situation on the EU market and globally; construction sector can count for EU funds that are still within reach.

Of course, there are plenty dangers - the biggest problems of the Polish economy are difficulties in running a business resulting from excessive bureaucracy and unclear law, as well as high administrative costs imposed on citizens or insufficiently developed infrastructure, all of which is still not well-developed road network. Companies feel more often the lack of employees, but their investments are still too small as well. In order for these barriers not to hinder economic growth, regulatory risks must be reduced. If not, the companies will continue to invest in a rather restrained manner. Poland should significantly simplify the procedures for employing foreigners as well. Otherwise, it will not take advantage of the opportunities that Polish, European and global economy proposes.

Industry Overview of Montenegro

Milika Mirkovic

In recent years, the industry has recorded a decline in GDP, so the industry now accounts for less than 10% of GDP. Industrial production in Montenegro is primarily characterized by a significant share of products with low level of processing, but also the technological obsolescence, which affects the competitiveness of industrial companies at domestic and international markets. Export of industrial products is characterized by non-diversification. The structure of exports is dominated by products of a lower level of processing or semi-products, which is reflected in the lower added value of this sector. The most important sector in industrial production is the manufacturing industry.

In order to develop the industrial sector, Montenegro adopted the Industrial Policy by 2020, which sets out the priorities of industry development. The priorities defined by this policy, are related to encouraging the growth and development of an enterprises based on efficiency, productivity and innovation, and establishing preconditions for more efficient use of available resources, as well as the development of the necessary infrastructure. Therefore, the industry development priorities are related to competitiveness and innovation in order to increase the added value of this sector.

Contribution of industrial production to GDP

Changing the structure of the Montenegrin economy and orienting growth to the service sector, share of the industry sector to total value of production has decreased during last period. The opening of the Montenegrin economy, globalization and unreadiness to respond to the demands of the international market, but the deindustrialization of the economy has influenced the decline in the share of industrial production to GDP. Thus, industrial production in 2010 amounted to 12.2% of GDP, while the share of industrial production gradually decreased in the observed period and in 2017 it was at the level of 9.1%

(MONSTAT, 2018). Compared to the period two and three decades ago, the differences in these percentages are significantly higher.

The most prominent category of industrial production is the manufacturing industry, which accounts for about 40% of industrial production. However, the manufacturing industry accounts for only 3.8% of GDP. Reduction in production in some of the major industrial companies, such as Aluminum Plant and Steel Company, has contributed to the reduction of manufacturing and its contribution to the total added value. A quarter of industrial production (24.6% in 2017) refers to electricity, gas steam and air conditioning supply, while the least share in industrial production has a mining and quarrying sector (15% in 2017) and it accounts 1.1% of GDP.

However, significant problem of industry sector in Montenegro is the low level of competitiveness and efficiency of using the available resources. Industrial production is characterized by technological underdevelopment and obsolescence, which is further linked to a low level of production, but also to the reduction of product range. In addition, very important characteristics of industrial production is low level of processing and lower phase of production of the final products.

The low level of processing is very pronounced in the metal industry. There are large companies which produce metal as a final product which in fact represents raw material for the next phase of production of other companies, most often from abroad. On the other side, there is a smaller number of companies in Montenegro engaged in metal processing and production of products with higher degree of processing. In addition, these group is consisted by small companies with smaller volume of production.

Indices of industrial production

In the first four months of 2019, industrial production fell by 17.6% in comparison to the same period of the last year. The decline is due to reduced production in the sector of electricity, gas, steam and air conditioning supply, where production fell by 34.7%. Decrease in production, but in a significantly lower percentage is recorded in manufacturing industry (-1.5%). Positive growth was recorded in certain industries of the manufacturing industry, such as Manufacture of leather and related products, wood and furniture, pharmaceutical

products, beverages and food products. However, a larger fall, in both nominal and relative terms, was recorded in other activities (e.g. Manufacture of metal products) which also caused a negative growth rate of manufacturing. On the other side, the negative growth rates achieved in these sectors are slightly offset by the growth of mining and quarrying by 11.6%. Mining of metal ores recorded growth for 13.3% and mining of coal and lignite for 6.8%.

Industrial production and export: The export of industrial products is not diversified

In general, Montenegrin export of goods is not diversified and it is based on few dominant industrial products. Export is generated through great traditional production systems, such as Aluminum Plant, Still Company and Mine of bauxite. An important characteristic of export of industrial products is its non-diversification. More than 50% of exports relate to three types of products. Actually, more than half of the exports of goods are non-ferrous metals, electric energy and mineral and metalliferous ores and metal scrap (51.9%, the first four month of 2019). This structure of exports of industrial products as well as the industry in general, indicates that changes in the domestic and international market in the sectors that has highest share to exports, cause significant changes in the structure of exports of the industrial products.

In the first four months of 2019, the largest share in total exports had electric energy, whose total exports amounted to 27.2 million EUR or 21.8% of total export of goods. Almost one fifth of exports, or 17.3%, were made by non-ferrous metals that are one of the most important export products. Also, significant share to total exports, compared to other industrial products, have metalliferous ores and metal scrap, whose total exports in the observed period amounted to 16.1 million EUR or 12.8% of total export of goods. These three groups of products also accounted for the largest exports in 2018. However, total exports of goods fell by 3.3% in the period January-April 2019 compared to the same period of 2018. Exports of electricity fell by 2.7%, while exports of non-ferrous metals and ore were reduced by more than 15%. As industrial production is chipped, the recorded growth of over 100% in some industry activities that individually makes under 1% of total exports did not have a significant impact on the overall growth rate of exports of industrial products.

The analysis of the structure of exports and imports of goods indicates a low level of competitiveness of Montenegrin products at international market. As can be seen through the structure of export of goods, products with lower level of processing have dominant share in export of industrial products, i.e. raw materials and semi-finalized products (metals, ore, electricity). On the other side, Montenegro imports products of higher level of processing such as products and materials used in construction, produced by materials which are previously exported from Montenegro (primarily metal). Similar trends are also observed in the food and wood industry.

Employment and wages in Industry sector

In the first four months of 2019, the total number of employees in the industrial sector was close to 22,000, representing 11% of the total number of employees (MONSTAT, 2019). Compared to the same period of the previous year, the number of employees grew by 4.6%. In the period since 2010, the number of employees in the industry has decreased due to the reduction of activity in this sector. For example, in 2010, the number of employed in the industry accounted for more than 15% of total employment, while in 2019 this indicator was 11%. The highest number of employees in the industry are in the manufacturing industry or 57% of the total number of employees in the industry sector and 6.5% of the total number of employees in Montenegro. Trends in industry sector have affected the reduction of number of employees in mining and quarrying. Analysis of the trends during previous ten-year period shows that total employment in mining and quarrying represented 1.3% of total employment in Montenegro in 2010, while it decreased to 0.7% in 2019.

An important segment of industry sector is wages. Net wages in the industry range from 404 EUR in manufacturing industry to 876 EUR in electricity, gas steam and air conditioning supply sector (average wage for the first four months of 2019, MONSTAT). It can be noticed that the largest number of workers in the industry are in manufacturing, but at the same time they have the lowest earnings. On the other hand, 13% of employees in industry are employed in electricity, gas steam and air conditioning supply sector (MONSTAT, 2019). Compared to the average wages in Montenegro, wages in the sector of electricity, gas steam and air conditioning supply represent 217% of average wage in Montenegro. Higher

wage in comparison with the Montenegrin average are recorded in the mining and quarrying sector (129.5% of the average net salary), while the lowest in the Water supply, sewerage, waste management and remediation activities sector representing 53.1% of average wage and manufacturing (60.9% of average net wage).

Croatia's New Industrial Strategy and Reindustrialization

Rolando Andrade Matamoro

Summary

The Croatian industry, after the entrance of the country in the European Union, is recovering and trying to finally carry out a process of reindustrialization. However, apart from the external shocks to which the country is subjected, there still exist several internal problems and challenges that come from its past. Therefore, a brand new comprehensive industrial strategy is required to understand the real needs and possibilities of the country: technological research, innovation and quality-based production are some of its keys.

Introduction: The evolution of the Croatian industry

Since the last century, the Croatian economy has been in constant change. First, after the Second World War, it experienced a huge transformation abandoning the traditional agricultural economy due to a rapid industrialization carried out under socialist influence. However, this process came too late in comparison to other European countries such as the United Kingdom or Germany. Secondly, after the disintegration of Yugoslavia, Croatia started another transition: from a socialist semi-market economy to a system based on private ownership and an open economy. But it wasn't easy. The Croatian Homeland War (1991-1995) that followed the independence hindered the possibilities of growth, not only because of the direct or indirect war damages, but also because of the monetary needs of defence. As a result, the Croatian companies and factories, devastated from the war and with no access to the export markets, suffered a fall in the level of competitiveness. Furthermore, the process of privatization was undertaken with the collaboration of the political and business elites, resulting in several negative social and economic effects such as the impoverishment of the population or the rise of corruption.

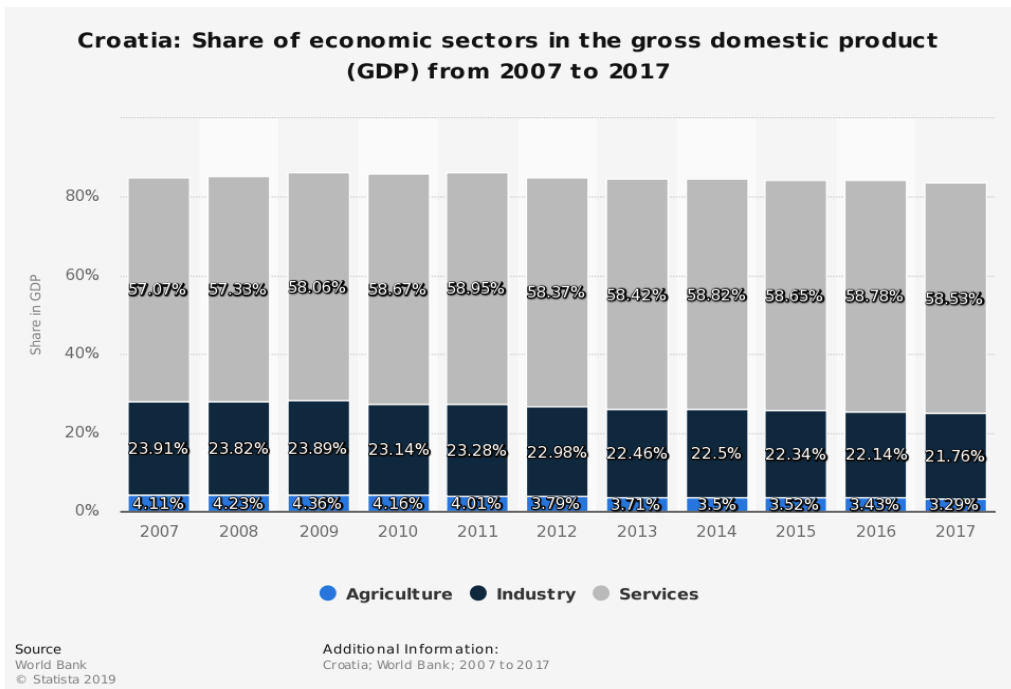
At the beginning of the 21st century, there was a recovery of the industrial production that, before the recession caused by the global financial crisis in 2008, represented a significant part of the total production. It is true that several companies closed down during the transition or suffered directly the effects of the war, but that was the case mainly of textile, leather, metal and timber industries. On the other hand, the manufacturing, petrochemical and shipbuilding industries were prominent (in some cases, however, heavily subsidized) and, at a lower scale, the construction and energy sectors represented also a relevant part of the production.

The entrance in the European Union in 2013, which represented one of the greatest achievements of the country in the last years together with joining the NATO in 2009, allowed the country to overcome six years of recession. The European Single Market and the EU grant funds are two key tools that helped to develop and increase the competitiveness of the Croatian economy, seeing the first signs of recovery in 2015. However, the Croatian industry is facing, apart from the consequences of the problems of the past, other challenges such as outdated technologies, concentration of economic resources, knowledge and activities in the North-west of the country, lack of financial resources to invest in research and innovation and, most important, a lack of a Croatian industrial vision and strategy.

Relevance of Croatian industry for its economy

Despite the recovery that the Croatian economy is experiencing, in some occasions it has been classified as a bad economic performer. The main reason is that during the crisis period the public debt raised considerably and the current growth rates are not sufficient to pay interest on debt. In 2019, it is expected that the Croatian economy will continue to grow at a moderate pace, mainly because of the strong household consumption, the growth of employment (primarily in tourism) and wages and the low inflation environment. However, the European Commission has revised its GDP growth forecast for the Croatian economy, reducing the 2.7% and 2.6% given in February for 2019 and 2020 respectively, to a 2.6% and a 2.5%. Furthermore, if we look at the contribution of industry to the Croatian GDP in the following figure, we observe that there has been a very

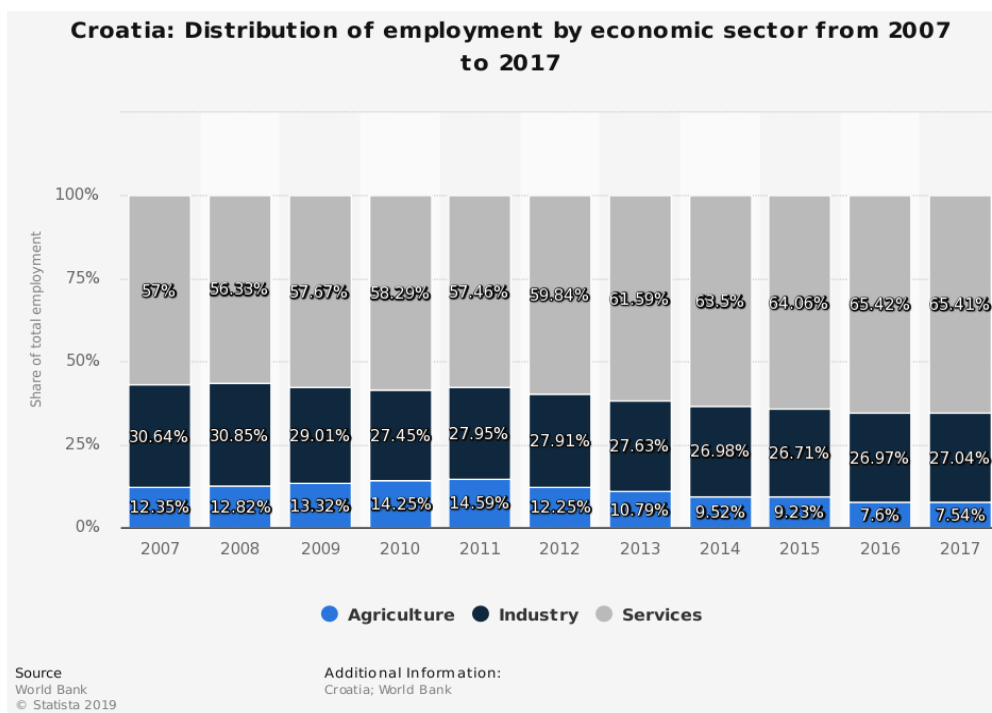
slight constant decrease throughout the last years: from a 23.91% in 2007 to a 21.76% in 2017.



According to the Eurostat, Croatia's industry finished 2018 with its industrial output as one of the lowest in the European Union. It is true that there was a general drop in the whole EU of a 2.7%, but Croatia was one of the biggest losers in December 2018 (6.6% drop) with only Spain and Ireland experiencing bigger falls. Therefore, we can see how the Croatian industry is not really contributing to the growth of the country, which is sustained mainly by the flourishing tourism. Analysing the different industrial branches according to their total revenues, we observe that the leading ones are the production of food, drinks and tobacco followed by chemical and oil industries. Besides, within other industries with also significant contribution we find machine tools and fabricated metal, electronics, construction materials, textiles and shipbuilding.

When it comes to analyse the importance of a sector to the economy of a country, it is also interesting to look at the contribution it makes to employment. In 2017, Croatia had around 4 124 531 inhabitants with 3 529 000 in working-age. One year later, approximately 1 689 000 were employed, out of which 443 54

000 people found a job in industry (26.22%), 110 000 in agriculture (6.51%) and 1 134 000 in the services sector (67.14%). Looking at the data from 2007 to 2017 (see the graph below), we observe that the contribution of industry to Croatian employment has been constant, with numbers around 27-30%. However, that's not the case of agriculture and the services sector. The first has clearly lost to the benefit of the second, boosted, again, by tourism.



Another important tool to analyze the contribution of industry to the Croatian economy is the nature of the exports. The main export activities are related to the processing of oil products (11.8%), motor vehicles (11.2%), chemical products (8.3%), food production (8.1%), electrical equipment (7.8%), machinery (6.2%) and finished metal products (6.1%). However, we have to understand these data with the current context of Croatia's trade: the value of the imports is almost twice the value of what it exports. For example, in 2011 the value of the products imported was of about € 16.2 billion, while the value of the products exported was of around € 9.6 billion. Croatia exports mainly to Bosnia and Herzegovina, Austria, Italy, Germany and Slovenia, while imports primarily

from Italy, Germany, China and Russia. As we can see, Italy and Germany are the two main trading partners, whose current economic situations might pose a threat to the Croatian economy, as they represent almost the 28% of Croatian exports. Italy in the Q4 2018 went into recession while Germany lowered its economic growth forecast for 2019 (as happened with Croatia).

The need of an active Croatian industrial policy

There has been a tendency over the past decade in all Central and Eastern European countries of decreasing work-intensive activities within the manufacturing industry. The result was not uniform across countries. The ones that had an active industrial policy, such as the Czech Republic or Poland, were able to carry out this process together with technological advancement, adding value to the industry, increasing competitiveness and, thus, achieving a successful reindustrialization. However, on the other side of the coin we have Croatia, that has become the second poorest new member of the European Union, deepening the process of de-industrialization.

Croatia increased the share of low tech-intensive activities and reduced the share of the high-tech products, reducing the industry's share in the total added value. In 1990, it was of about a 24%, whilst in 2015 it was hardly of around a 12%. It also affects the exports: in the Czech Republic and Poland there has been an evolution from price to quality competitiveness thanks to the increase of the sophistication of their industries. However, Croatia, which wasn't able to carry out this process, has suffered a loss of price competitiveness because, after all, it cannot compete with the massive production of the powerful economies of the East. That's why in 2018 the Croatian government has announced its three main reform goals trying to solve its main economic problems: improve economic competitiveness, an education system tied to labour market needs, and sustainable public finances.

Conclusion

Croatia's industry has been affected by the changes that have taken place in the country. In the end, Croatia has experienced a huge transition from a semi-market socialist economy before 1991 to a member of the EU and its Single Market since 2013. Other shocks, such as the Homeland War or the Global

financial crisis have limited its opportunities to grow. Despite the beneficial effects of joining the EU, there still exist challenges for Croatian industry, such as the pessimistic news coming from its main trading partners. It is true that industry still provides a significant amount of the national employment and that some sectors are working well, but we have seen that it is not enough to impulse a re-industrialization process. And one of the main problems is internal: the lack of a proper industrial policy.

Globalization is bringing several changes to industry and, recognizing that the role of Croatia will not be a leading one, it can still profit from the opportunities that emerge. There will be no revitalization of its industry through massive production, but with innovation and research as other countries as Poland did. If Croatia is able to create a new industrial strategy based on increasing brand awareness, on investing in scientific and technological research, and on creating a favourable environment for Foreign Direct Investment (in which entering the EU has been crucial); maybe it will finally revive an industry that could contribute to the national economy as much as tourism does.

Lithuania's Convergence to the EU-15 and Secondary Industries

Linas Eriksonas

In May the 15th anniversary of accessing to the European Union was celebrated among the Member States, mostly those coming from the Central and Eastern Europe (CEE), which had joined the EU with the first large wave of enlargement of the Union eastwards in 2004, which included Lithuania. The topic of the convergence of the CEE countries to the EU-15 economies which formed the EU prior to this enlargement has been reopened and policy studies have been conducted to see whether progress could be noted both in terms of the real and the nominal convergence.

Mario Draghi, President of the European Central Bank, in his address to the 8th ECB conference on Central, Eastern and South-Eastern European (CESEE) countries stated that “there are many differences between the 18 economies in the CESEE region, but one thing they have in common is that they have all experienced real economic convergence towards the EU average since the 1990s”. He noted further that the countries that had joined the EU, referring to them as the CEE economies, reached GDP per capita levels of 70% of the EU average and that within this group the countries that joined the euro area have grown even faster, reaching almost 80% of the EU average.

He stated that the membership in the EU has created the preconditions for stronger growth by promoting the deep integration of CEE countries into European value chains, as attested by the threefold increase of trade flows in intermediate inputs in the period 1990-2015 and the inflows of foreign investment which amounted to 6% in the pre-crisis period as compared with 3,4% in the EU.

More importantly, Draghi stressed the CEE countries with a high level of institutional quality and governance and which adopted the euro benefited from the further reduction of trade costs and, according to the ECB, their participation in value chains has been consistently higher than that of other EU countries and,

as is argued, they have made most progress in catching up with the average level of GDP per capita in the EU.

Accordingly, CEE countries, in particular, have been able to accelerate the process of technology absorption from firms at the productivity frontier, which has proved to be a key ingredient in the process of convergence, according to Draghi. ECB research shows that technology transfers have contributed to strong productivity spillovers within European value chains. A 10% increase in total factor productivity (TFP) growth of western EU firms at the value chain frontier contributed to 4.8% TFP growth for CEE firms participating in value chains.

Below is an overview of the economic structure of Lithuania as it is reflected in the statistical data at the time of the 15th anniversary of the EU membership, identifying some aspects of the Lithuanian economic activities from the perspective of the country's convergence to the EU-15, based on the assumptions put forward by ECB's president.

Until recently the main discussion about the convergence was driven by the neoclassical growth models (also referred to as endogenous growth model) based on the assumption that since the rate of return on capital is constantly diminishing, thus capital will seek higher rates of return in the countries with low capital intensity (according to Solow's law of diminishing returns). And Draghi's latest comments as quoted above attest to this assumption. Yet since the endogenous model did not help to explain the difference in convergence the endogenous growth theory was sought after to provide additional explanations. This theory argued that productivity is not exogenous and is dependent upon public governance (policy and institutions) and more effective human capital. In this interpretation, capital followed human capital (labour) and not vice versa.

However, both models did not help to fully explain the differences between the real convergence (the standards of living and societal welfare as measured in GDP per capita in Purchasing Power Parity or in Purchasing Power Standards) and the nominal convergence (based on various macroeconomic indicators).

Only recently a realization came to fore that the economic structure of the country might be one of the key factors that can influence the efficiency with which labour and capital inputs are used in the production process, which is a key driver of sustainable convergence and which, according to ECB, can have a tangible impact on a total factor productivity in the CEE countries. Accordingly,

one can hypothesize that the changes in the economic structure if noted in terms of the growth of production output in individual economic activities or sectors can potentially show the sources which could be attributed to the convergence process.

Lithuania's economic structure has been remarkably stable with retail, transport and industrial production sectors dominating the economy and providing the intermediate inputs into the European value chains.

According to the latest available data (from the first quarter of this year), the largest number labour force in Lithuania was employed in the wholesale and retail trade, transport, accommodation and food service (26,23%), followed by the public sector (public administration, defence, education, human health and social work) where 22,41% of employees worked. The industry jobs comprised 18,54%. Other sectors were less pronounced: 8,22% worked in professional, scientific and technical activities, including administrative support service activities, 7,33% - in agriculture, forestry and fishing, 7,28% - in construction and 4,53% - in arts, entertainment, and recreation, including repair of household goods and other services. The number of employees in higher value-added sectors such as information and communication sector and financial and insurance activities was rather low (2,64% and 1,49% respectively), while real estate activities provided the employment for 1,06% of the overall employed population.

Those figures have not changed remarkably over the last few years (which were characterized by a stable GDP growth within the range of 3.6-3.8% in 2017-2018 while the unemployment rate remained stable at ca. 6%). A small growth (ca. 0,5%) has been registered only in the creation of new jobs in manufacturing and information and communication sectors while a roughly similar number of jobs decreased in public administration due to the optimization of the public governance over the last two years.

In terms of the gross value added (calculated at current prices, seasonally and working day unadjusted), the major contributor to the national economy is wholesale and retail trade, transport, accommodation, and food service (32,4%), of which about 18% are attributed to wholesale and retail trade, 12% to transportation and storage and 2% to accommodation and food services. In 2017 the Ministry of Finance made estimations that until 2020 the value added of

wholesale and retail could grow on average 2.5-3%, of transportation and storage – 2-2,5%, while the value added of accommodation and food services could reach 4.5-5%.

The manufacturing sector contributes with 20,4% of the national GDP. Comparing to the figures from 2017, the GDP share contributed by manufacturing has grown by almost 3%, which is the most notable change among the sectors. It is estimated that in the medium term the growth of the value added of manufacturing might reach on average 3.5–4 % per year. However, as is noted in the report by the Ministry of Finance, the perspectives of this activity may be worsened by a lower external sector demand than projected while drafting the economic development scenario few years ago. It is reported that under predominating greater economic uncertainty, increasing labour costs, for the companies involved in manufacturing activities trying to stay competitive it will be extremely important to invest in the instruments increasing labour productivity.

Public administration, defence, education, human health, and social work activities are the third largest sector having a 15,3% share of GDP and the figure has been stable over the years. Professional, scientific and technical activities; administrative and support service activities have a share of 7,3%, while real estate activities – 6,4%.

The construction sector creates 6,1% of GDP and its share has been slightly decreasing over the last few years. But it is estimated that in the medium term the value added created in construction activities might grow about 6% on average per year. Information and communication is contributing to 3,9% of GDP, Arts, entertainment and recreation, repair of household goods and other services – 2,4%, while financial and insurance services – 2,3%.

Notably, the GDP share of agriculture is only 1,8%. Over a period of two years, the GDP contribution of this sector has decreased by almost 1%. Though it is estimated that in the medium term the growth of the value added of agricultural activities might reach about 1% on average per year.

The productivity levels have been rather low in Lithuania. The figures for the year 2017 show that in the manufacture of basic pharmaceutical products and pharmaceutical preparations 113800 EUR per employee was reported, in manufacture of chemicals and chemical products - 110800 EUR, in

telecommunications -106400 EUR, in real estate activities - 68900 EUR employee, in manufacture of computer, electronic and optical products - 54200 EUR, information and communication - 50500 EUR, in transportation and storage - 45200 EUR, in mining and quarrying - 42200 EUR, in the manufacturer of rubber and plastics products - 40700 EUR, in IT services, including computer programming, consultancy and information service activities) – only 40000 EUR.

The level of productivity is directly related to the production output figures. According to the latest statistical data (made available at the end of April), in April 2019, industrial production was EUR 1.9 billion at current prices. Comparing with the data in April 2018 (at constant prices of 2015 adjusted by 4.6%), the main growth of industrial production was registered in the following economic activities: energy products (40,3%), in capital goods (17,1%), manufacturing, including the manufacturing of refined oil (14%), electricity, gas, steam and air conditioning supply (12,3%), intermediate goods (9%). A minor decrease was registered only as regarding consumer durables (-2,1%).

The growth pattern in the production output according to individual economic activities shows that the highest numbers of the production growth comes from the intermediate inputs of the secondary industries with the main focus on energy products and energy utilities, while the growth of the production output of the tertiary industry (such as consumer durables) is negative. This indicates that the convergence follows the growth of production output in the intermediate inputs, to which all the three major sectors – wholesale and retail, transportation and storage and manufacturing – contribute with the largest number of the workforce.

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Industry Overview of Romania

Oana Cristina Popovici

Romania has one of the largest shares of industry in GDP among the EU member states, of 23.6% in 2018, while the labour force in industry reached 22.1%, significantly higher than the EU average. The manufacturing sector is the main employer in Romania and there is a strong dependency of the automotive sector. The sector of motor vehicle and motor machinery and equipment influences the evolution of the added value in industry, it provides the largest number of employment contracts and it assigns over 47% of exports.

Contribution to the economic growth

The weight of industry in GDP, measured as the share of the total gross added value in GDP, reached 23.6% in 2018, well above the EU-28 average of 17.4%, following computations based on Eurostat data. Except for the period 2009-2011, during the economic crisis, the general tendency is that of continuous moderate reduction of the share in GDP (see Figure1), as services gain a higher contribution, a path that is usually followed in developed countries. Scholars point to the tendency of the new EU member states to adjust their economic structure to that of EU-15 countries. Usually, the last entrants in the EU had a large-scale agricultural and a strong industrial sector in the early 1990s, accompanied by a small-scale services sector, which entered a process of reducing the importance of agriculture and industry, while increasing that of the tertiary sector.

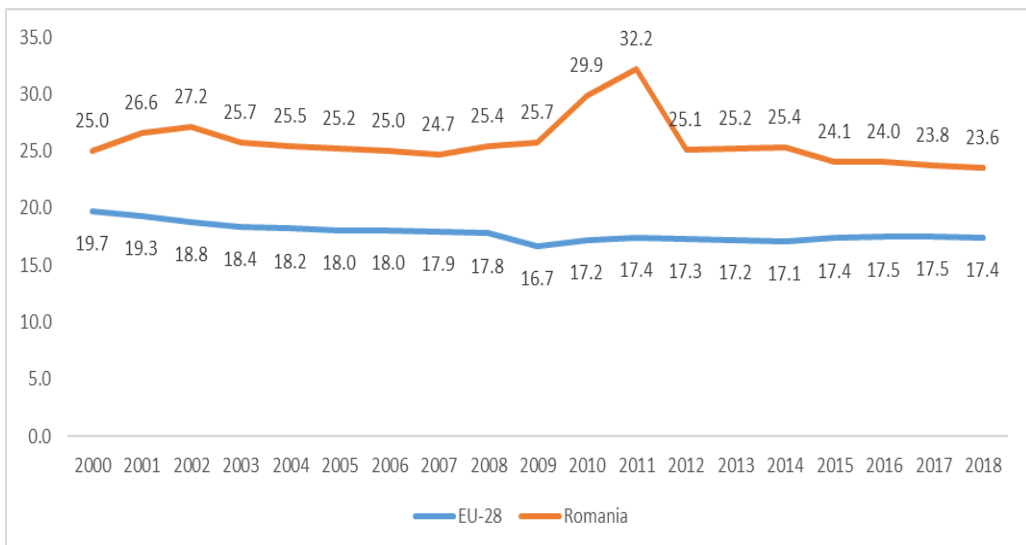
However, Romania still has one of the largest shares of industry in GDP in the EU, ranking in the top four countries with the highest contribution to economic growth, after Ireland, the Czech Republic (in 2016 and 2017), and Slovenia (in 2018). The National Forecasting Commission estimates that the share of industry in GDP will keep a similar trend in the following years, with only a slight decrease until 23.2% in 2022. In addition, gross value added in

industry usually had a larger annual increase in Romania than in the EU since 2000, except with some punctual situations (years 2003, 2009, 2012 and 2015, usually those involving a crisis, when the drop was more significant than the average evolution of the European industry).

However, the evolution of Romanian industry as a share of GDP is more volatile than the EU average, the most noticeable advancement being that of the period 2009-2011, when industry had the most important contribution to the real growth of GDP. This situation could be explained, on one hand, by the significant fall of GDP in 2009, which was the largest in the region and in the EU. On the other hand, it was the result of the good capacity production of Dacia-Renault’s motor vehicle plant and the consequent exports, at lower costs for the population affected by crisis in Western Europe. Therefore, analysts tend to consider that the evolution of the added value in industry is following the progress of the production of motor vehicle plants and motor machinery and equipment factories in Romania. However, such a dependency of the car production points to high vulnerability of the industry to the economic cycles.

Industry had a contribution of 2 percentage points at the real GDP increase of 7% in 2017 and 1 percentage point to the GDP growth of 4.1% in 2018, the second largest after that of total services.

Figure 1 The contribution of industry to GDP, %



Source: computations based on Eurostat’s data

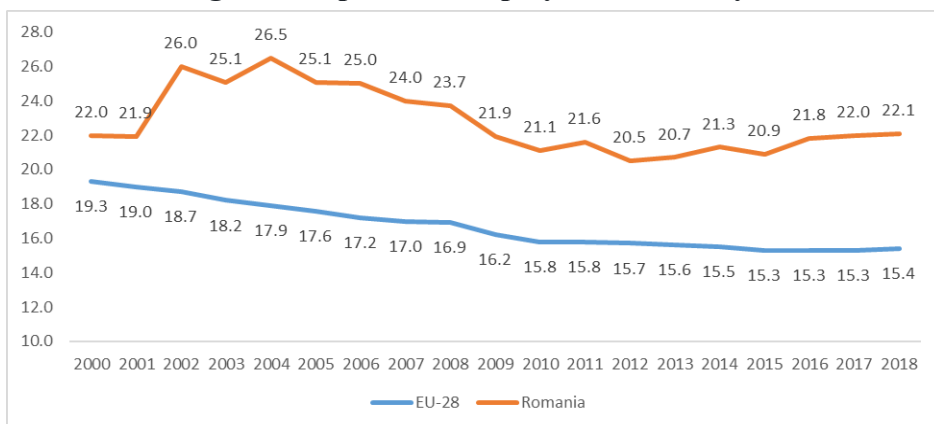
The industrial production saw an annual increase in the last years with 3.5% in 2018 and 8.2% in 2017 (gross series). Out of the three major divisions, manufacturing is responsible for the largest increase, with a decisive contribution (4.3% in 2018 and 8.9% in 2017 on a year-on-year comparison). The contribution of the mining and quarrying sector is more volatile, while that of electricity, gas, steam and air conditioning supply is usually constant, at least in the last two years. By major industrial groups, production increased in the capital goods industry (with 7.9%) and in the intermediate goods industry (5.6%), but decreased in the consumer goods industry (-2%), the goods industry (-1.1%) and energy (-0.2%).

There were over 50,000 companies with activity in industry, in all the three sectors (mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply) in 2016, summing almost 11% of the total number of enterprises in business economy in Romania, but the largest part are focused in manufacturing (95.2%), according to the latest Eurostat data. These companies are responsible for over 36% of the total value added at factor costs.

Industry impact on employment

The labour force in industry encompasses more than a fifth of total population, hitting 22.1%, almost 7 percentage points more than the EU average (15.4%) in 2018, according to Eurostat data. Although the general trend of persons employed in industry is decreasing since 2001, the last three years saw a slight improvement, as compared to the EU average where the downtrend is more amplified (see Figure 2).

Figure 2 Population employed in industry, %



Source: Eurostat database

In fact, the manufacturing sector is the main employer in Romania. The activities with the largest number of employment contracts in 2017 were the manufacture of motor vehicles and trailers, followed by the manufacture of food products; manufacture of wearing apparel; manufacture of fabricated metal products, except machinery and equipment; manufacture of rubber and plastic products; manufacture of furniture, according to a study of the Local Investors Union – PIAROM.

The sectors providing large employment have an important contribution in establishing the average value of the main labour market parameters, such as the labour productivity or the added value. Therefore, following these aspects, the description of the industry suggest that Romania is on the 20th place in the EU if we look at the added value generated by the enterprises in the manufacturing industry, as the employees are generally distributed to industrial sectors with low productivity, low staff costs and profitability slightly above average. Thus, among the top 10 employers, there are only 3 industries with relatively high productivity levels (motor vehicles manufacturing, manufacturing of machinery and equipment and the manufacture of electrical equipment) and 4 out of 5 sectors with the lowest levels of productivity and labour costs in the EU (manufacture of wearing apparel, of furniture, of leather and related products, of wood), according to PIAROM. A similar conclusion is indicated by the Eurostat data, which presents the structure of employees in manufacturing based on the type of predominant technology. Almost half of the Romanian manufacturing workers (48%) were employed in low-tech industries, 13 percentage points above the average of EU workers (35%) in 2016. Another 21% are employed in medium low-tech industry, while the European average is higher (27%). 27% of the Romanians are working in the medium high-tech industry, compared with 31% of Europeans. Finally, the percentage of Europeans in high-tech industries is 7%, compared to 4% in Romania. Therefore, one third of Romanians work in medium and high-tech industries, compared to almost 40% of Europeans.

Industry impact on exports

The total value of Romanian exports in 2018 summed up 67.7 billion euro, an increase of 8.1% as compared to the previous year. The contribution of

industry to exports is significant. The largest share belongs to the group of machinery and mechanical appliances, electrical equipment, sound and image (28.7%), followed by vehicles and associated transport equipment (18.8%), base metals and articles of base metals (8.9%), textiles and textiles articles (6%) and plastics, rubber and articles thereof (5.7%), according to the groups of goods in the Combined Nomenclature. The automotive sector, mainly represented by the Dacia-Renault, Ford and car components manufacturers, were responsible for 18.8% of the exports volume, almost 13% more than in the previous year. One of the weaknesses is that the largest share of international trade is developed with EU member states, therefore there is a high dependency of the European demand.

The export results were rather solid in last years, as the market share increased four times during 2000 until 2016, especially due to good results in traditional industries, according to an analysis of the European Commission in 2018. The mechanical engineering, machinery and equipment manufacturing is the main exporting industry, who registered almost half of the increase in the market share of goods exports in 2016. Substantial increases were also due to the automotive industry, which is the third largest industry in Romania as a share of the export market.

For this year, Romania could hit a record history of exports, exceeding the threshold of EUR 70 billion on exports. The main sectors driving such an evolution are the automotive construction and manufacturing (in industry), agriculture and software industry, according to the Moneycorp analysis. The same analysis reflects a change in the structure of exports, from raw materials at the beginning of 2000s to a constant improvement recently towards finite products, with a higher added value, as the share of the manufactured products is over 75% in total exports, while the automotive and transport equipment industry represent over 47%. This enhances a horizontal economic development involving more and more companies. However, efforts are still needed for further supporting the transition to products with higher added value and improving the range of export competitive sectors.

Industry Overview of Serbia and its Contribution

Ivona Ladjevac

Abstract

Industrialization is the most efficient method of economic development. Although statistical data shows that industrial production is growing, Serbia is still far from the period of three decades ago, when transition from market socialism to liberal capitalism has just started. The Serbian industry was significantly destroyed during the UN sanctions in the early 1990s, then by the wars and later by NATO bombing and, finally, by privatization. Today, around 25 percent of the total number of employees in Serbia is working in the industry; the level of industrial production is less than 50 percent of the 1990 levels, while the industry participation in GDP is around 22 percent (was 44,5% in 1990). Fiscal Strategy, a document made by Serbian Ministry of Finance, predicts the GDP growth around 3,5 percent for 2019. According to Strategy, the industry's contribution to GDP growth is 1% for this year, and 1,1% for the next year and the same percent is expected for 2021 (expected GDP growth in 2020 is 4%, same in 2021).

According to the Statistical Office of the Republic of Serbia, real year-on-year GDP growth in the first quarter of 2019 was 2.5%, which is higher than the preliminary 2.3%. As it was announced by Serbian central bank, a key contribution to GDP growth on the expenditure side came from the increase in investment and final consumption. On the production side, GDP growth came from the service sectors, and positive trends in construction, which grew 12,3% in period January-March.

Industrial production in April was 0,8% lower year-on-year. Relative to March 2019 manufacturing was bigger for 1,8%. Within manufacturing, 14 of

the 24 branches had production growth in April compared to the same month 2018.

Official statistics data shows that exports of goods went up by 7,3% in the period January–April (regarding the same period last year), led by the rise in manufacturing exports (5.2%), recorded in 16 of the 23 branches. Agricultural exports also recorded rise – 42,4%. At the same time, imports expanded by 9%, because of the higher imports of raw material and equipment.

In the first quarter of 2019, compared to the same quarter of 2018, significant real growth in the gross value added was recorded in the section of construction (12.3%), the section of wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage and accommodation and food service activities (5%) and the section of information and communication (4.9%) (Statistical Office of the Republic of Serbia).

GDP for the 2017 was 4.754 billion dinars. Related to the previous year, GDP increased by 5,2% in nominal terms. In 2017 the major share in the GDP creation was manufacturing 15,1%, the section of wholesale and retail trade and repair of motor vehicles 11,4%, the section of real estate activities 7,3%, the section of agriculture, forestry and fishing 6%, and the section of information and communication, 5% (by official statistic data).

This data for GDP in 2018 will be known on October 1st 2019 (that is publication date by Serbian Statistical Office).

Fiscal strategy project that GDP for 2018. is 5.074,1 billion dinars, for 2019 - 5.424,5 billion dinars, for 2020 - 5.832,1 billion dinars, and for 2021 -6.269,0 billion dinars. According to the projection of the basic macroeconomic indicators in Fiscal Strategy, the growth rates of industry by years (2018-2019) would look like this: 2,7%, 4,7%, 4,9%, 5%.

According to the Serbian Statistic Office, in 2017 GDP growth was 2%. Bad weather conditions significantly disturbed production in mining and electricity, and had negative impact on the construction activities. Agricultural production fell by 11,2%. In the second half of the year these activities recovered, so construction recorded annual increase of 5,7%, and total industrial production was really increased by 2,8%. Manufacturing contributed this growth by rising 4,8%, especially in rubber, machinery and chemical industry.

Export

Manufacturing (processing industry) the most impacts to the growth of export. The projection of the basic macroeconomic indicators from the Fiscal Strategy Ministry of Finance is counting with a growth rate of exports of 9,2% in 2018, and for the following years rates will be: 9,5% in 2019; 9,5% in 2020; 9,2% in 2021.

According to the last “Presentation of macroeconomic trends in Serbia” by National Bank of Serbia (Makroekonomska kretanja u Srbiji NBS, May 2019) in last six years “Serbia has transformed to a low inflation and stable growing economy, with fiscal surplus, declining public debt, significantly reduced external imbalances and labour market recovery”.

GDP growth in 2018 was the highest in the decade, and determined by the growth of investment and exports, as well as the recovery of the labor market. The growth trend continued in 2019. Export of goods and services kept the trend of growth at the beginning of 2019 (10.4% in the first quartal of 2019), driven by the growth in exports of services, manufacturing and agriculture.

During 2013 – 2018 an increasing share of FDIs has been directed to export-oriented sectors. Within manufacturing (processing industry), most FDI inflows are directed to the automobile, base metals, food and chemical industries. This resulted in strong growth of employment, production and exports of the manufacturing industries.

Export of goods and services in period of January-March 2019 grew 10,4%, driven by export of services (17,5%), manufacturing industry (4,4%) and agriculture. The slowdown in demand in the euro zone was largely compensated by the increasing exports to the markets of Central and Eastern Europe. Imports of goods and services grew 11,9% in the same period (higher imports of capital and intermediate goods).

Official statistic data shows that the overall external trade in Serbia for the period January - April 2019 was 12,96 billion euro - which was an increase of 8,3% compared to the same period 2018. The value of exports amounted to EUR 5,5 billion euros, which was 7,3% increase compared to the same period last year. The value of imports was 7,4 billion euros, which was 9% increase in comparing the same period last year. The deficit was up to 1,9 billion euros (14,2% increase).

According to the divisions of the Standard International Trade Classification the first five sections in exports accounted for 32,6% of the overall exports: Electrical machines and apparatus 661,6 million euros, Road vehicles 313,3 million euros, Road vehicles 313,3 million euros, Iron and steel 282 million euros, Rubber products 278,3 million euros, Cereals and produces 259 million euros.

But, on the other hand, on import side, there is two of these five sections, with significant import value – Road vehicles (440,2 million euros import) and Electrical machines and apparatus 435,7 million euros import.

Beside these two sections, in top five on import side is Oil and oil derivatives (358 million euros import), Medical and pharmaceutical products (279,5 million euros) and Gas, natural and industrial (271,8 million euros import). These first five section accounted for 24% of total imports.

Statistical Office of the Republic of Serbia shows that the overall external trade in Serbia for the period January - December 2018 amounted to 38,189 billion euros, which was an increase of 10.9% compared to the same period 2017. The value of exports was 16,27 billion euros, which was the increase of 8,1%, compared to the same period last year. The value of imports was 21,9 billion euros, which was 13% increase compering to the same period 2017. The deficit was 5,64 billion (30% increase).

Top five sections in the export side in 2018 were: Electrical machines and apparatus (1.720,9 million euros), Road vehicles (1.068,2 million euros), Iron and steel (894,9 million euros), Rubber products (759,4 million euros), Non-ferrous metals (751,1 million euros).

On import side, top five sections in 2018 were: Oil and oil derivatives (1.651,7 million euros), Road vehicles (1.504,4 million euros), Electrical machines and apparatus (1.277,4 million euros), Industrial general purpose machinery (862,7 million euros), Iron and steel (738,8 million euros).

Labour Market

Favourable trends in the formal labour market come from the private sector, where employment increased by 15,1% (March 2019/December 2014) - mainly in manufacturing, private sector services and construction (National bank of Serbia, Presentation of macroeconomic trends in Serbia, May 2019)

Official statistic data shows that in the first quarter 2019 the total number of employed was 2.147.948 persons. Of the total number, 1.702.897 persons were employed with legal entities, 370.640 were entrepreneurs and their employees and persons individually running business, and 74.411 persons were registered individual farmers. The total number of employed increased by 2,7% regarding to the first quarter 2018.

In Manufacturing there are 452.474 employed persons. The largest part (88.674 persons) works in Manufacture of food products, than in Manufacture of fabricated metal products, except machinery (52.402 persons), Manufacture of motor vehicles, trailers and semi-trailers (42.790), Manufacture of wearing apparel (37.044).

In section of Agriculture, forestry and fishing work 30.612 persons, in Mining and quarrying – 25.590, and in Electricity, gas, steam and air conditioning supply – 26.122.

Industry - now and then

After the World war II, Serbia has 275.000 industrial workers. From 1960-1990 the annual rate of industry growth was around 7%. Number of industrial workers grew up to 1,1 million; 95% of total exports (of almost 6 billion dollars) came from industry. Participation of industry in GDP creation was 44,5%.

Later on, from 1991-2000, during UN sanctions, breakdown of federal state SFRY, wars, and then NATO bombing in 1999, industry growth rate was negative: -6,6%.

The recovery has begun since 2000. Export increased to 1,6 billion dollars, and 765.000 persons has worked in industry. Industry share in GDP was 29% (2001). But the company's production giants (in former industrial centres) have failed.

The new phase of transition and industrialization after 2001 brought the rate of industrial production of only 0,3%. The number of industrial workers was on the level as in 1955 (275.000).

Industry participation in GDP creation in 2014 was 17,5%. Export increased to 11,2 billion euros, and almost 90% was from the industry. It reached the level of only 42% of industrial production in 1990.

During privatization, profitable businesses, such as breweries and cement producers, easily found their buyers. The fate of the some less profitable and smaller companies that investors had bought wasn't so good – many of them has been closed, all workers fired, ending in bankruptcy. That was the most common case in the metal industry... There are also some companies, that used to employ several thousand workers, exporting products to the whole world (such as IMR – Industry of engine Raskovic) – the only investors interested in those companies just want to build – shopping malls, instead of factories.

Conclusion

In modern period of the 4th Industrial revolution, the main questions for every economy are automation and digitization of operations. Unfortunately, Serbia still has the other main task, and that is re-industrialization, the best way to “push” economic development. Because it has been proven that economic growth based only on the service sector and the financial sector is not sustainable in the long run, and often is - unrealistic.

Industries Overview of Slovakia

Martin Grešš

Overview

This article uses the statistical classification of economic activities in the EU – NACE (Nomenclature statistique des activités économiques dans la Communauté européenne) Revision 2. Broad structure of NACE Rev. 2 is available in NACE (2008, p. 57), detailed structure in NACE (2008, pp. 61-90). All the data in this article were taken from the Eurostat database (EUROSTAT, 2019d).

Table 1 Overview of NACE activities

| | |
|------------|--|
| A | Agriculture, forestry and fishing |
| B-E | Industry (except construction) |
| C | Manufacturing |
| F | Construction |
| G-I | Wholesale and retail trade, transport, accommodation and food service activities |
| J | Information and communication |
| K | Financial and insurance activities |
| L | Real estate activities |
| M-N | Professional, scientific and technical activities; administrative and support service activities |
| O-Q | Public administration, defense, education, human health and social work activities |
| R-U | Arts, entertainment and recreation; other service activities; activities of household and extra-territorial organizations and bodies |

Source: EUROSTAT, 2019d; NACE, 2008.

Industries and their contribution to GDP and gross value added

Table 2 presents the development of Slovak GDP at market prices and gross value added for all NACE activities. In 2018, GDP reached 90.2 billion EUR with gross value added of 89.8% of total GDP. During the past four years, the share of gross value added from all NACE activities reached approximately 90% of the total GDP.

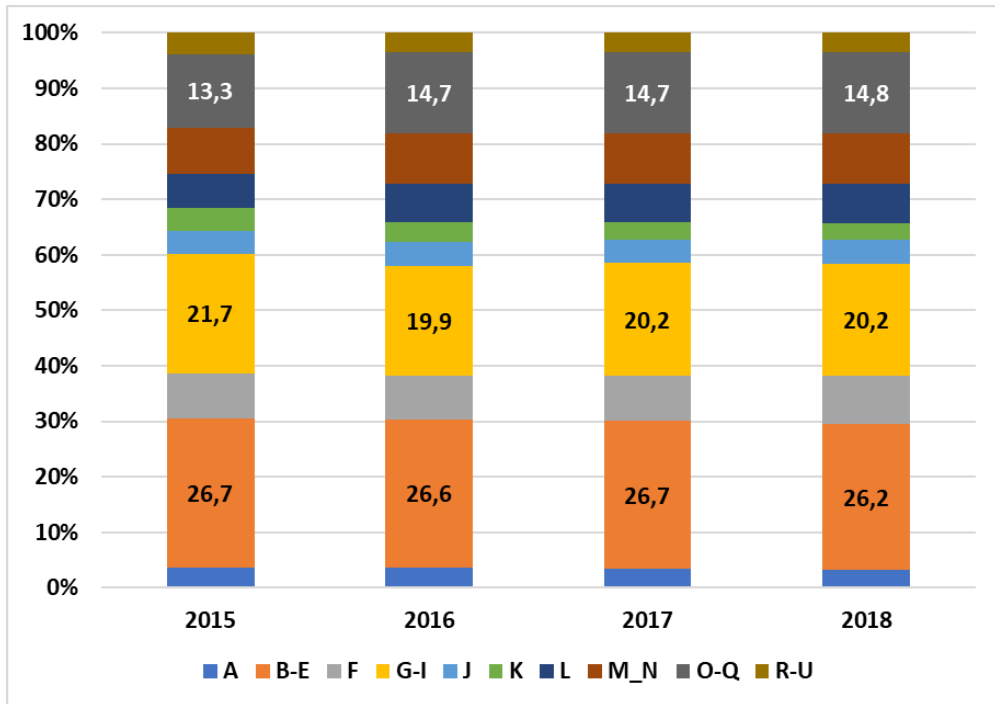
Table 2 GDP and gross value added

| | 2015 | 2016 | 2017 | 2018 |
|--|-------------|-------------|-------------|-------------|
| GDP at market prices (billion EUR) | 79.1 | 81.2 | 84.9 | 90.2 |
| Gross value added - all NACE activities (billion EUR) | 71.4 | 73.4 | 76.4 | 81.0 |
| Gross value added - share on GDP (%) | 90.3 | 90.4 | 90.1 | 89.8 |

Source: EUROSTAT, 2019a; EUROSTAT, 2019b.

Figure 1 shows the share of NACE activities on the gross value added in 2015-2018. We note that the greatest share of all activities is in sections B-E (industry except construction) with more than 26% in all observed years. Further decomposition shows, that section C, as part of secondary sector, compose more than 22% of total gross value added itself. It is because of the structure of industrial sectors in Slovakia with a significant share of automotive industry. Second section that compose around 20% of total gross value added is sections G-I followed by sections O-Q with almost 15%. Concerning the growth in all NACE activities, the highest growth rate between 2018 and 2017 was recorded in section F – construction with 12.6% followed by L – real estate activities with 10.3% and J – information and communication with 7.7%. on the other hand, not all the activities were growing during the last year. Section K – financial and insurance activities recorded a decline by -1.8%.

Figure 1 Share of NACE activities on total gross value added, %



Source: EUROSTAT, 2019b.

To conclude this part, all NACE activities represent around 90% of total GDP with rest going to subventions and taxes. The highest share on GDP is for secondary sector sections B-E with approximately 24% (more than 26% on total gross value added) with section C alone having a share of 20% (more than 22% on total gross value added). Also, the highest growth rate in the previous year goes for secondary sector of the economy for section F – construction with growth of 12.6%.

Industries and their contribution to exports

Final data for this part were available only for years 2012-2016 as presented in Table 3. As shown, the exports of products and services for all NACE activities was continually increasing in the observed period from 62.74 billion

EUR in 2012 to 70.07 billion EUR in 2016. Since the Slovak economy experienced continuous growth also in 2017 and 2018, it is reasonable to assume that similar development will be seen also in these two years once the data become available. Table 3 shows rather high economic interdependence of the Slovak economy on the EU market. Since joining the EU in 2004 and even before joining, the Slovak economy was strongly dependent on the Member States of the EU. In the second decade of the 21st century, the share of intra-EU trade reached over 80% with a highest share in 2016 of 85.45%.

Table 3 Exports from Slovakia, all NACE activities

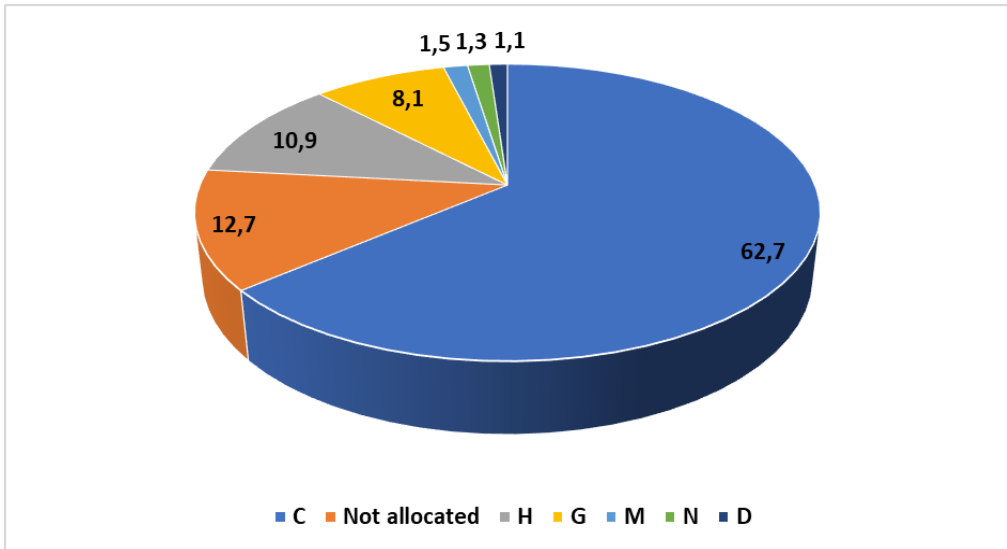
| | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|-------------|-------------|-------------|-------------|-------------|
| Total - all NACE activities, EUR billion | 62.74 | 64.57 | 65.08 | 67.85 | 70.07 |
| Share Intra-EU, % of total | 83.76 | 82.95 | 84.37 | 85.47 | 85.45 |
| Share RoW, % of total | 16.24 | 17.05 | 15.63 | 14.53 | 14.55 |

Source: EUROSTAT, 2019e.

Decomposition of Slovak exports in 2016 into individual NACE activities is shown in Figure 2. It is clear that the greatest share of Slovak exports is composed by section C – manufacturing with a share of almost 63%. The second most important section is H – transportation and storage with a share of almost 11% followed by section G - wholesale and retail trade; repair of motor vehicles and motorcycles with 8.1%. Other sections with a share of more than 1% include M – wholesale and retail trade; repair of motor vehicles and motorcycles, N – administrative and support service activities and D – electricity, gas, steam and air conditioning supply.

Further decomposition to NACE Rev. 2 divisions show that the highest share on Slovak exports is composed of division C29 – manufacture of motor vehicles, trailers and semi-trailers with a share of 27.4% (or 19.2 billion EUR) on total exports. The second largest division was G46 - wholesale trade, except of motor vehicles and motorcycles with a share of 5.6% (3.99 billion EUR) followed by division C28 – manufacture of machinery and equipment n.e.c. (for example engines and turbines, pumps, taps and valves, ovens, furnaces, and others) with a share of 4.7% (3.31 billion EUR).

Figure 2 Exports by NACE activities, 2016, %



Source: EUROSTAT, 2019e.

It is obvious, from the shares of individual sections in 2016, that Slovak exports are oriented towards the goods with lower value added and much less towards the services where value added is higher. Another conclusion that may be made is the relative concentration of Slovak exports when products in one division (C29) composed almost one third of all exports in 2016 while six divisions (C29, G46, C28, C24, C22 and C27) composed 50%.

Industries and their contribution to employment

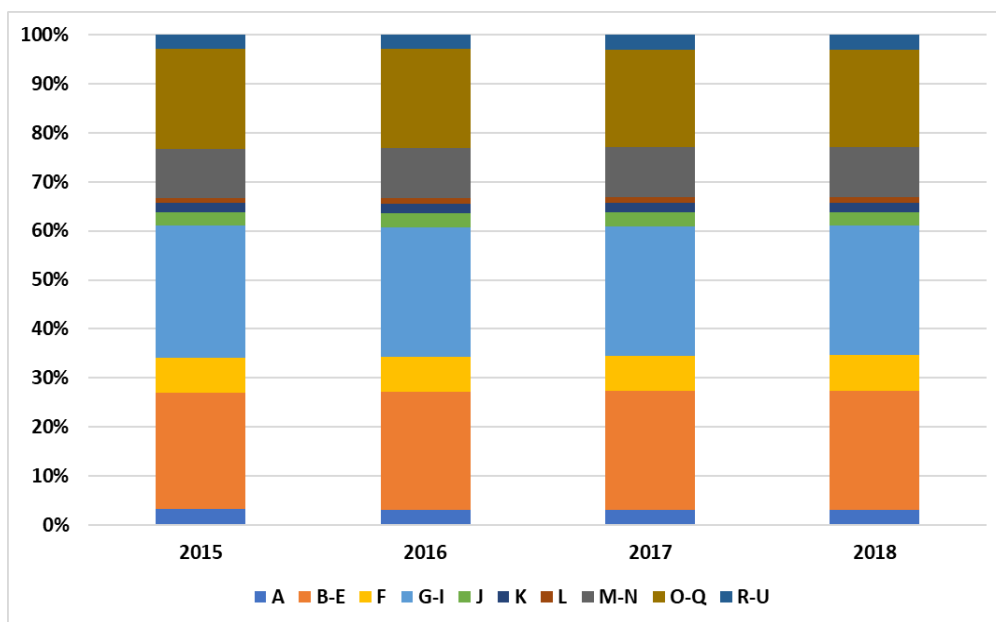
Total employment in all NACE activities is presented in the table 4. In 2015, 2.27 million economically active persons were employed in all NACE activities. Together with falling unemployment rate in the past years, the employment in all NACE activities increased gradually up to 2.42 million persons employed in 2018.

Table 4 Total employment – all NACE activities, thousands persons

| 2015 | 2016 | 2017 | 2018 |
|----------|----------|----------|----------|
| 2 267.10 | 2 321.05 | 2 372.26 | 2 419.90 |

Source: EUROSTAT, 2019c.

Figure 3 Share of NACE activities in employment



Source: EUROSTAT, 2019c.

Regarding the share of individual NACE activities in total employment, figure 3 presents this breakdown and its development since 2015. As shown, the greatest share is for sections G-I which accounted for more than 26% since 2015 and employed 639.45 thousand persons in 2018 with a share of 26.4%. The second greatest share is for sections B-E which in 2018 employed 24.4% (or 589.55 thousand) of all economically active persons. From this, the manufacturing (section C) employed 540.04 thousand persons. The third type of activities include sections O-Q with a share of 19.9% (480.74 thousand persons) in 2018. Agriculture, forestry and fishing employed only 3% (71.85 thousand

persons) of total employed persons in 2018. In general, synthesizing all the NACE activities, primary sector (section A) in Slovakia employed 3%, secondary sector (sections B-F) employed 31.7% and tertiary sector (sections G-U) employed 65.4% of all economically active persons.

In 2018, the greatest year-on-year positive (growth) change was seen in sections F, M-N and J with a growth over previous period of 3.9%, 3% and 2.9% respectively. On the other hand, there was also a decline in the employment in sections L (-2.6%) and A (-0.6%).

Conclusion

All NACE activities represent around 90% of total GDP with rest going to subventions and taxes. The highest share on GDP is for secondary sector sections B-E with approximately 24% (more than 26% on total gross value added) with section C alone having a share of 20% (more than 22% on total gross value added). Also, the highest growth rate in the previous year goes for secondary sector of the economy for section F – construction with growth of 12.6%.

Regarding exports, the highest share on Slovak exports in 2016 was composed of division C29 – manufacture of motor vehicles, trailers and semi-trailers with a share of 27.4% (or 19.2 billion EUR) on total exports. We note the relative concentration of Slovak exports when products in six divisions (C29, G46, C28, C24, C22 and C27) composed 50% of total exports in 2016.

As for the share of fundamental sectors of the Slovak economy, primary sector (section A) in Slovakia employed 3%, secondary sector (sections B-F) employed 31.7% and tertiary sector (sections G-U) employed 65.4% of all economically active persons in 2018 of a total of 2.42 million persons.

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Industry Overview of Slovenia

Helena Motoh

Summary

In the period of recovery after the 2008/9 financial crisis, Slovenian economy underwent many structural changes. The important industries currently are still the car industry, transport and pharmaceutical industry, along with a fast growth of energy, ICT and tourism and hospitality industry.

Car Industry

Car industry has been traditionally the leading industry in Slovenia after independence. Around 20% of Slovenian exports and 10% of GDP come from this industry. More than 60 companies and research institutions of the industry together organise in Automotive cluster of Slovenia (ACS). The ACS cluster forms a strategic research innovation partnership (SRIP ACS+) with the Transport Association at the Chamber of Commerce and Industry of Slovenia. According to the data provided by the SRIP ACS+, there are more than 100 Tier 1 and Tier 2 suppliers and more than 600 sub suppliers of supply chain. More than 25% of all the award-winning innovations in Slovenia also originate in this industry. Companies in SRIP ACS+ partnership together employ more than 25,000 people and indirectly guarantee around 150,000 jobs. Most of the annual 3.7 billion sales is export based (80%). Companies in this industry are members of research centres, such as SiEVA, ERTRAC etc.

The biggest company in this industry is Revoz from Novo mesto, a manufacturing subsidiary of Renault and in full ownership of Renault. The most important suppliers are Akrapovič (exhaust systems), Cimos, Hidria, Kolektor, Riko, Letrika, Iskra Mehanizmi, LTH Castings, Unior, Kovinoplastika Lož, Kolektor Liv, Hella Saturnus, Impol, Domel, Talum and Magna Steyr.

Transport

The main factor in this industry is the Port of Koper (Luka Koper), a growing cargo and passenger port. The port of Koper is a state owned company (51% share) and provides an important link to the international maritime transport connections for Slovenian companies. It also provides a crucial link for the hinterland economies of Austria, Hungary, Czech Republic etc. The port is part of the North Adriatic Ports' association NAPA. Among the four NAPA ports it is the most important port for container and intermodal transport – where the planned improvement of railway connection with the inland will be extremely important. Important part of the transport conducted through the Port of Koper are the logistic companies which then organize the inland transport of the cargo.

Slovenian Railways (Slovenske železnice) are another important part of the transport industry with a 13.4 million passengers and 20.9 million ton of cargo yearly. The system of railroads (including all buildings and equipment) is state-owned.

Slovenia also has three international airports in Ljubljana, Maribor and Portorož. Ljubljana Airport was privatized in 2014/5 when a German transport company Fraport gradually took over 100% of the shares. Airport of Ljubljana is also the home airport of the main airline in Slovenia, Adria Airways.

Energy and Environment

Energy has been one of the fastest growing industries in Slovenia in the past decade, mostly due to the large-scale investments in this field. Three biggest projects in the recent period are the building of the Block VI of the thermoelectric plant Šoštanj, the building of a chain of hydroelectricity plants on lower Sava River. In addition to this the previous Cerar government was determined to start the project of building another chain of hydroelectric plants on the middle course of Sava river, but due to many concerns on the side of the investor, the Holding Slovenske elektrarne d. o. o., the future of the project is currently unclear. The biggest trader in energy products is the company Petrol, also one of the strongest companies in Slovenia. A fast growing part of this industry started exploring the possibilities of renewable energy sources, especially the wind and solar energy.

Recycling and waste management are an important part industry within this same framework. Despite the public image of the companies who work in this field was partially marred by a number of ecologically problematic accidents (mostly due to fire) in the last years, this field still makes an important link in the system of the circular economy, which Slovenia is aspiring towards. The main companies in this field are Snaga, Dinos, Gorenje Surovina etc.

ICT

Some of the biggest Slovenian companies operate in this industry. Most importantly these are the phone, cable and internet providers and operators: Telekom, Telemach, T-2. These companies also are among the largest ICT companies in general. An important segment of this industry are also the broadcasting companies, most notably, the national Radio and TV station, Radiotelevizija Slovenija, and the biggest commercial broadcaster PRO Plus, also the provider of high-rating TV programs, such as PopTV and KanalA.

The field of ICT has been growing fast after the end of financial crisis, partly due to the fact that a number of highly qualified professionals entered the industry in the period. A subfield of this industry, the new blockchain technologies are becoming stronger in the past few years, especially with the companies Viberate, Iconomi platform etc.

Pharmaceutical and Chemical Industry

Traditionally, two main large companies operate in this industry in Slovenia, Krka and Lek (part of the Sandoz group, the generic division of Novartis). Two main wholesale distributors of pharmaceutical products are Salus and Kemofarmacija. This industry is export oriented, makes total around 2 billion Euros income and around 200 million profit.

Chemical industry is represented mostly by successful company Cinkarna Celje, a chemical processing company (especially the the production and marketing of titanium dioxide pigment), which is one of the largest chemical processing companies in Slovenia. Other companies are Helios (paints and coatings producer, part of the Kansai Paint) and Jub Group, also a large producer of paints and coatings.

Wood Industry

Slovenia being among the European countries with highest forest coverage (around 60% of land is covered with forest), the wood industry is one of the oldest and traditionally among the most important industries in Slovenia. For almost twenty years, the industry has been in stagnation. Many of the key companies in the wood processing industry collapsed and so did the largest furniture producers. The recent period, however, has brought a revival of this industry, especially due to the reorientation towards sustainable and low carbon footprint materials and building techniques. Several successful companies are experiencing the benefits of this turn. Among them, there are manufacturers of wooden window and door frames (e.g. Inles, Jelovica), pre-fabricated wooden houses (e.g. Riko) etc.

Tourism and Hospitality Industry

Tourism and hospitality industry has been growing steadily for the last two decades. With a special emphasis on the main tourist hubs, such as the capital Ljubljana, the alpine resort Bled, the karst caves in Postojna and the coastal towns, the growth of accommodation capacities and various forms of activities and attractions have resulted in over 15 million overnight stays. Comparatively large part of jobs is tourism related, approximately one eighth, while tourism contributes 12 % of GDP. Different regions develop different types of tourism. Alpine and Karts destinations such as Postojna, Škocjan, Bohinj, Bled and the Triglav National Park are developing nature-focused tourism. Culture and history are the focus of destinations such as Ljubljana and other historical towns, e.g. Piran, Ptuj, Celje etc. Wellness and spa tourism is developing on the coast and in the east of Slovenia, and the growing sports tourism on lakes, rivers and in the Alps. Culinary tourism is also developing, partly due to the popularity of Ana Roš, one of the best chefs in the world. Wine tourism are also growing rapidly in all of the Slovenian several wine growing regions.

Financial Industry

In the period after the crisis, Slovenian financial industry has undergone a radical change. Many of the formerly main banks were liquidated (e.g. Factor

Banka and Probanka), several merges and takeovers happened and in general the financial system is estimated to be more robust and resistant than it was before the financial crisis. A recent political debate on the last state help for the New Bank of Ljubljana has, however, shed some doubt on the finance sector as a whole.

Strategic Development-Investment Partnerships

As part of the strategy for smart specialization, several hundred Slovenian companies and a hundred institutions in 2016 organized in nine strategic development and innovation partnerships. They focused on: (1) Smart cities and communities, (2) Smart buildings/home and, (3) Networks for the transfer into circular economy, (4) Sustainable food production, (5) Sustainable tourism, (6) Factories of the future, (7) Health and medicine, (8) Mobility and (9) Development of Materials as products. Some of these clusters still work well, while others have ceased to cooperate.

Conclusion

Slovenian economy has undergone many changes in the past two decades, mostly due to the changes in global economy and the effects of the financial crisis. Some traditionally strong industries are still doing well (car industry, pharmaceutical etc.), some have experienced rapid growth (tourism and hospitality, ICT), while others (like wood industry) have suffered a downward turn. Some industries are recently experiencing a revived growth due to the global changes, such as is the case with wood industry, where the new emphasis on the sustainable building has brought many new possibilities.

Development of the Economic Sectors in Hungary

Csaba Moldicz

This weekly briefing tries to make a general and short overview of the Hungarian economic sectors while putting emphasis on the long-term trends. At the same time, the main focus is to shortly delineate the current features and the future challenges that the Hungarian economic policy facing at the present. The analysis investigates the period between 1995 and 2017 for two reasons, on the one hand by 1995 the main economic transition was almost complemented and secondly this is the year from which on we can rely on comparative data, thus in the following part the briefing focuses the three main sectors one by one and the part also discusses the future development prospects.

| Table 1 Value added and employment share of the main economic sectors in Hungary | | |
|---|---------------------------------------|---------------------------------|
| | Value added to the GDP (2017 data) | Employment share (2018 data) |
| Primary sector | 4.4 | 4.8 |
| Secondary sector | 30.4 | 32.4 |
| Tertiary sector | 65.2 | 62.8 |
| Source: Central Statistical Bureau (KSH) | | |

The Primary Sector

The gross added value (see the detailed table at the end of the briefing) data of the different sectors clearly show that agriculture, forestry, and fishery have been the main losers of the economic changes since the mid-90s, at the same time we can add that this process must have stopped around ten years ago, since then no significant changes could be observed. In 1995, the share of the sector was 8.4 percent while it just reached 4.4 percent in 2017. Along with that, the sector's share in the employment shrank significantly too. That can be explained that in the Hungarian agriculture the structure of farms (ownership relations) became

stabilized and technological advancements could be achieved while substantial EU transfers have contributed to financial stability from 2004 on.

As for the future, it is significant to underline that Hungary has implemented a GMO-free policy banning the cultivation and sales of genetically modified agriculture products. In our understanding this feature gives the Hungarian agriculture a significant market advantage over other competitors. The Hungarian agriculture goods make up 7 percent of the country's export, the value (in Euro) of these products grew by 278 percent between 2001 and 2018. Though this figure is impressive, the growth of this sector's export is well below the average export growth of the economy (309 percent between 2001 and 2018).

The Secondary Sector

The share of the sector¹ has basically not changed, it has been around 30 percent between 1995 and 2017, however, significant changes took place within the sector. As a result of the foreign direct investments, after 1990, a new subsector, the automotive industry was created in Hungary. This sector is almost entirely based on foreign-ownership, and the contribution of the sector to export is significant. As we pointed out in our earlier briefings, around 20 percent of the export is made up by car makers, while they generate 3-4 percent of the GDP, 30 percent of the manufacturing industry and employ 175.800 workers.

At his point, not the past but the future raises more questions, since along with the digitalization process taking place everywhere in the world, the demand for the number of workers can substantially decline, though even in this context, the Hungarian wages and salaries are very competitive in the European context. The second way how the crisis is likely to be channeled into this subsector could be the spread of car sharing-services. Still, it is very likely that this competitive advantage over other competitors can be maintained as on KPMG analysis pointed out, the car production in Hungary is estimated to rise with an annual growth rate of roughly 8 percent between 2017 and 2024, while the estimated growth is only 3 percent for China and less than 1 percent for Western Europe. As for the future, the investment of foreign firms can be assessed as a good sign,

¹ The data include mining, quarrying, manufacturing, electricity, gas, steam and air conditioning supply, water supply; sewerage, waste management and remediation activities.

since they also target sub-sectors such as the production of batteries for electric cars and other related sub-sectors.

As for the employment share, the automotive industry was again the most successful subsector since the number of employees increased by 87 thousand people between 2008 and 2018. At the same time, construction also underwent rapid development because the number of employed people in this sector rose by 24 thousand people, and a similar development could be observed in all manufacturing sub-sectors. On average, the sector expanded the employment by 161 thousand new jobs over the course of the last 18 years.

The economy policies for manufacturing have been changing over the course of the last years, since the Irinyi-plan (the broader economic policy plan when it was published in 2016) mainly targeted the re-industrialization of the country by 2016, however, these clear guidelines have been shifted to digitalization and 4.0 industrial revolution recently. The plan originally targeted seven key sectors: the so-called commercial vehicle industry, the specialized machine- and vehicle industry, the health industry, the food industry, the “green industry”, the ICT sector (in particular shared services centers), and the defense industry. Despite the slight changes, these main areas are still focused by the Hungarian economy development policies.

As mentioned above, the average export growth in goods was 309 percent between 2001 and 2018, there is only one sub-sector in the secondary sector (machinery and transport equipment) that doesn't overperform the average export growth. (See table 2!) The sub-sector – machinery and transport equipment – including the car making industry reveals the strongest performance and export capability.

| Sectors | Food, beverages, tobacco | Crude materials | Fuels, electric energy | Manufactured goods | Machinery and transport equipment | Total |
|---|--------------------------|-----------------|------------------------|--------------------|-----------------------------------|-------|
| Export growth between 2001 and 2018 (%) | 278 | 350 | 449 | 323 | 299 | 309 |
| Share in export in 2018 (%) | 7 | 2 | 3 | 32 | 56 | 100 |
| Source: own compilation based on data of the Central Statistical Bureau (KSH) | | | | | | |

The Tertiary Sector

If looking at the main picture, the share of services did not shrink significantly over the discussed period, however, the following sectors underwent a faster development than other subsectors: wholesale and retail trade; repair of motor vehicles and motorcycles; information and communication, professional, scientific and technical activities, and administrative and support service activities.

Between 2008 and 2018, the aggregate number of employees increased by 621 thousand people, which means 16 percent improvement in term of the labor market. If investigating the details, the fastest growth could be observed in the sector public administration and defense; compulsory social security, where the number of employees grew by 138 thousand people. In the sector human health and social work activities, the number of employees increased by 63 thousand. In general, it should be noted that in almost all service sectors the employment expanded (exceptions are retail trade and financial and insurance services), however, the main push came from the public sector.

The Summary

As we could see in the briefing, there are three main trends to be highlighted from the analyzed period, that at the same time they also serve as indicators for future development and investment.

1. The decline of agriculture in terms of GDP and employment has stopped, which is traceable to financial stability, stable ownerships relations and productivity increases. In our assessment, Hungarian agriculture goods are competitive in the international due to their extremely high quality and the clean environment where they were produced.

2. The automotive industry and other parts of the manufacturing sector significantly contributed to the increase in output, employment, and export. Though in the near future, the sector continues to be exposed to significant changes due to technological advances, it seems to be well prepared for the new wave of the industrial revolution to come. At the same time, this is also the sub-sector that clearly reveals how fragile the economic development in Hungary

could be and why proper policies for the digitalization, the development of artificial intelligence are crucial.

3. There are some sectors, where the biggest push for development came from the state either in the form of indirect or direct intervention. In the case of the construction sector, the state subsidies and favorable credits provided to young couples created a boom in this sector. At the same time, some sub-sectors of the service sector could rapidly grow because the state is the biggest employer.

| Sector | 1995 | 2007 | 2017 | Differences between 1995 and 2017 | Differences between 2007 and 2017 |
|--|------|------|------|-----------------------------------|-----------------------------------|
| Agriculture, forestry and fishery | 8.4 | 4.0 | 4.4 | -3.9 | 0.5 |
| Mining, quarrying | 0.5 | 0.2 | 0.2 | -0.3 | 0.0 |
| Manufacturing | 21.4 | 22.1 | 23.2 | 1.8 | 1.0 |
| Electricity, gas, steam and air conditioning supply | 2.6 | 2.6 | 1.7 | -0.9 | -0.9 |
| Water supply; sewerage, waste management and remediation activities | 1.0 | 1.1 | 1.0 | 0.0 | -0.1 |
| Construction | 5.0 | 4.9 | 4.3 | -0.7 | -0.7 |
| Wholesale and retail trade; repair of motor vehicles and motorcycles | 8.6 | 10.6 | 10.3 | 1.6 | -0.4 |
| Transportation and storage | 6.4 | 5.9 | 6.3 | -0.1 | 0.4 |
| Accommodation and food service activities | 2.3 | 2.0 | 1.9 | -0.4 | -0.1 |
| Information and communication | 3.4 | 5.4 | 5.1 | 1.7 | -0.3 |
| Financial and insurance activities | 4.8 | 4.5 | 3.6 | -1.2 | -0.9 |
| Real estate activities | 7.1 | 8.1 | 8.0 | 1.0 | 0.0 |
| Professional, scientific and technical activities | 3.5 | 5.0 | 5.9 | 2.3 | 0.9 |
| Administrative and support service activities | 2.2 | 3.1 | 3.9 | 1.6 | 0.7 |

| | | | | | |
|---|-----|-----|-----|------|------|
| Public administration and defense; compulsory social security | 8.6 | 8.5 | 8.3 | -0.3 | -0.1 |
| Education | 5.6 | 4.9 | 4.7 | -0.9 | -0.2 |
| Human health and social work activities | 4.6 | 4.1 | 4.4 | -0.1 | 0.3 |
| Arts, entertainment and recreation | 1.7 | 1.2 | 1.4 | -0.3 | 0.2 |
| Other service activities | 2.5 | 1.7 | 1.5 | -1.0 | -0.2 |
| Activities of households | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Source: own compilation based on data of the Central Statistical Bureau (KSH) | | | | | |

