

A close-up photograph of a white industrial robotic arm with black cables and sensors, positioned over a white worktable in a factory. The background shows other industrial machinery and a clean, well-lit environment.

THE MANUFACTURING INDUSTRY IN SOFIA

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THE MANUFACTURING INDUSTRY IN SOFIA

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I. Introduction

Economically developed countries, including the EU member-states, are increasingly restructuring towards service-prevailing economies at the expense of manufacturing and agriculture. However, manufacturing and key manufacturing sub-sectors, especially those of regional importance, continue to play an important role in the economy of Europe. The present analysis is aimed at examining and outlining the trends in the manufacturing industry in Sofia the capital city of Bulgaria. Despite its share of less than 20% of the local economy, in recent years manufacturing has been increasing its weight in both the total output and the export of the city.

The data review established that manufacturing of food, base metals and electrical equipment are the leading manufacturing sectors in Sofia. The industry employs more than 70 000 people, and salaries, although growing significantly in the last few years, still remain below the average for the city.

There is a positive trend of restructuring in the manufacturing industry with the growth of high value-added sectors like electrical equipment, computer and communication equipment, machinery and metal products, which are growing at a fast pace, at the expense of traditional manufacturing. The industry attracts considerable investment and is turning into an increasingly important sector for Sofia's economy in terms of exports.

II. Definition and scope of the study

Before proceeding with the analysis of the manufacturing industry in Sofia, we should first clearly define its scope. In the Classification of Economic Activities (CEA)¹, which is used by the National Statistical Institute (NSI), the manufacturing industry is a separate unit at the highest level, which in the present study we are going to look at in both its integrity and its individual sub-activities. The full list of economic activities and their respective CEA-2008 code are presented in Table 1.

Table 1:

Economic activities in the manufacturing sector according to CEA-2008

<i>Code</i>	<i>Name of economic activity</i>
C	Manufacturing
10	Manufacturing of food products
11	Manufacturing of beverages
12	Manufacturing of tobacco products
13	Manufacturing of textiles and textile articles, except clothing
14	Manufacturing of clothing
15	Leather processing; manufacturing of footwear and other articles of leather
16	Manufacturing of wood and of products of wood and cork, except furniture; Manufacturing of articles of straw and knitting materials
17	Manufacturing of paper, cardboard and articles of paper and cardboard
18	Printing and reproduction of recorded media
19	Manufacturing of metallurgical coke and refined petroleum products
20	Manufacturing of chemical products
21	Manufacturing of medical substances and products
22	Manufacturing of rubber and plastic products
23	Manufacturing of other non-metal mineral products
24	Manufacturing of base metals
25	Manufacturing of fabricated metal products, except machinery and equipment
26	Manufacturing of computer, communication, electronic and optical products
27	Manufacturing of electrical equipment
28	Manufacturing of machinery and equipment for general and special purposes
29	Manufacturing of motor vehicles, trailers and semi-trailers
30	Manufacturing of non-motorised vehicles
31	Manufacturing of furniture
32	Manufacturing not elsewhere classified
33	Repair and installation of machinery and equipment

Source: NSI, CEA-2008

¹ Full CEA-2008 at <http://www.nsi.bg/sites/default/files/files/publications/KID-2008.pdf>

Table 1 clearly demonstrates the large and diverse set of economic activities that are within the scope of the manufacturing industry. For this reason, the current analysis will focus only on the leading and most quickly developing areas in each of the indicators.

III. Leading companies in the industry

The manufacturing industry in Bulgaria had its origins in the First Wave of Industrial Production in Bulgaria at the end of the 19th century. The period is defined by a rapid industrialisation, especially in the area of food manufacturing², with beer and textile factories playing an important role. After the regime change in 1946, the focus of the new socialist government moved towards heavy industry. The construction of Kremikovtzi, Bulgaria's largest metalworking company and the biggest industrial project in the city, began in 1960.

Today, the leading manufacturing companies in Sofia are engaged in a wide range of industries – from electrical equipment to pharmaceuticals and food.

Table 2:

Top 10 manufacturing companies in Sofia by number of employees

	COMPANY NAME	Main production
1	SOPHARMA AD	Pharmaceuticals
2	CHIPITA BULGARIA AD	Food
3	NESTLE BULGARIA AD	Food and soft drinks
4	BOTTLING COMPANY GORNA BANYA LTD	Water and soft drinks
5	DEMAX AD	Printing
6	HYUNDAI HEAVY INDUSTRIES CO. BULGARIA AD	Transformers and tap changers
7	ABB BULGARIA LTD*	Electrical equipment
8	BA GLASS BULGARIA AD	Glass packaging
9	LUFTHANSA TECHNIK SOFIA LTD	Aircraft maintenance
10	SIMID SOFIA LTD	Bread and bakery products

Source: NSI

**The headquarters of the Bulgarian company are located in Sofia, but the production facilities are outside the city*

In general, the leading companies in the sector are either enterprises existing since the Socialist period of the country and successfully privatised after 1989 or are the result of a private initiative in the early years of the transition period.

² More details at [Stancheva, Magdalena](#). Sofia - from antiquity to new times. Sofia, New Bulgarian University, 2010

IV. Structure of the manufacturing industry in Sofia

Over the period under review, the manufacturing industry increased its share in the economy of Sofia.

The share of manufacturing³ in the economy of Sofia increased from 12.7% of the total output in 2012, to 14% in 2017.

The city's share of the total manufacturing production of the country also grew, from 12.1% in 2012 to 13.6% in 2017. This is mainly due to the fact that the economy of Sofia is growing at a faster rate than the growth in the rest of the country.

It is worth noting that compared to other economic activities like Trade or ICT, for example, that are heavily concentrated in Sofia, **the manufacturing industry is geographically more evenly distributed throughout the country.** This is mainly due to the need for large spaces for the deployment of production capacities, as well as to the historical factors in the development of the Bulgarian economy.

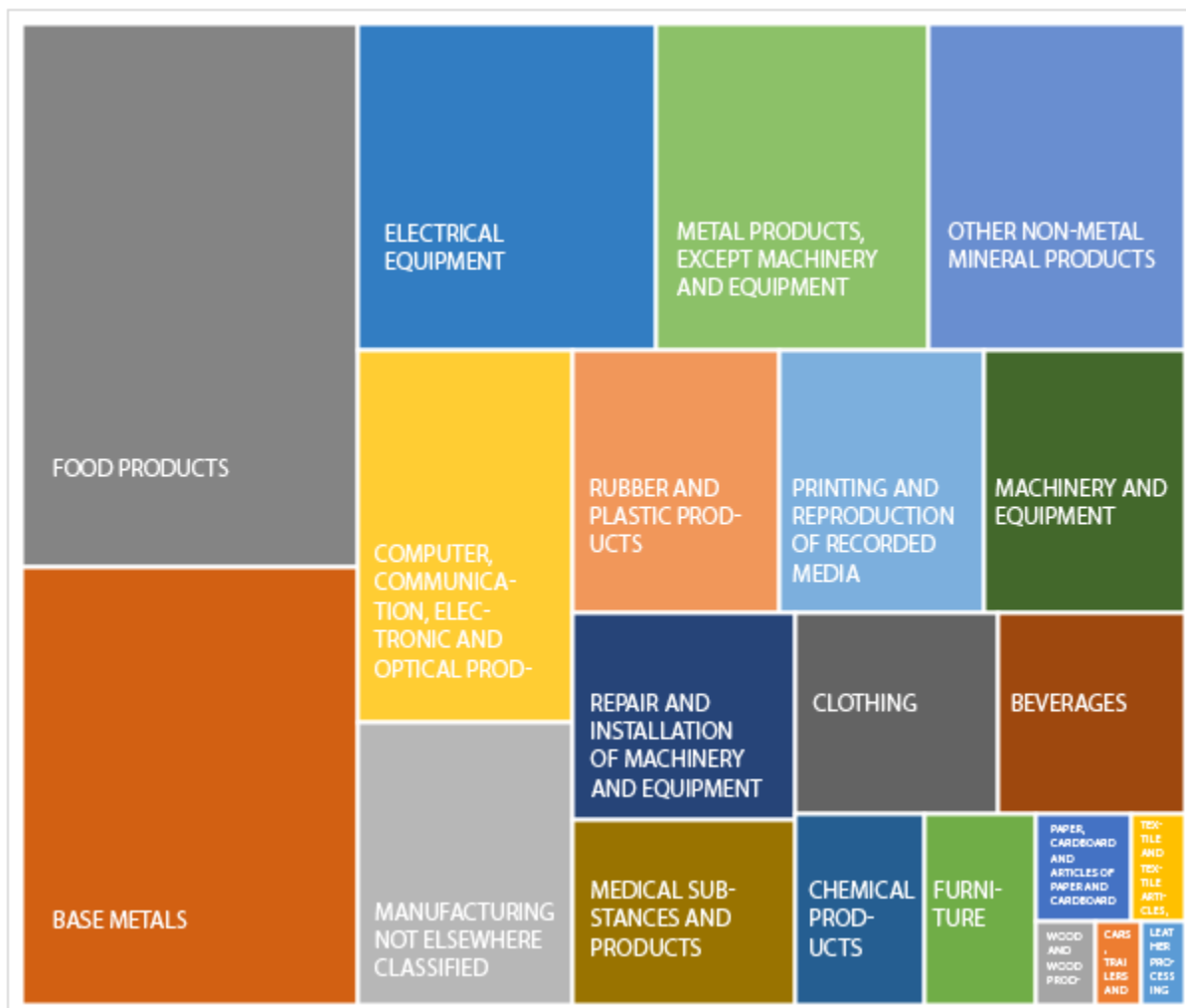
Sofia's manufacturing industry is distributed relatively evenly among most sectors.

Graph 1

³ Due to the large number of industrial enterprises registered in Sofia but with production facilities not in Sofia it is necessary to add the methodological clarification that (as far as possible) the NSI takes into account the indicators of the business statistics in the geographic unit in which the activity develops in practice, rather than where the registered address is. A full description of how to identify local units in Regulation 295/2008 of the European Parliament and the Council and subsequent on its implementation as well as NSI metadata for business statistics (for example here

<http://www.nsi.bg/bg/content/7663/%D0%B3%D0%BE%D0%B4%D0%B8%D1%88%D0%BD%D0%B8-%D0%B4%D0%B0%D0%BD%D0%BD%D0%B8-%E2%80%93-%D0%BA%D0%B8%D0%B4-2008>)

Distribution of different segments of the manufacturing industry of Sofia based on their output, 2017



Source: NSI, IME calculations

* "Manufacturing of" is removed from the names of economic activities for clarity.

For 2017, the total production volume in the sector of *Manufacturing* in Sofia was slightly over BGN 8.5 billion.

***Food production* had the biggest share - accounting for a little over 1/7th of the whole industry or BGN 1.4 billion produced.** The second largest share was that of base metals with BGN 1.1 billion for 2017), followed by the production of electrical equipment with BGN 730 million, and metal products manufacturing with BGN 661 million. From the segments for which data are available, the smallest share of the total manufacturing output of Sofia was of the leather processing and the production of leather goods (BGN 27 million) and the production of automobiles and automotive parts (BGN 28 million). The distribution among the manufacturing sub-sectors output remained unchanged during the period between 2012 and 2017.

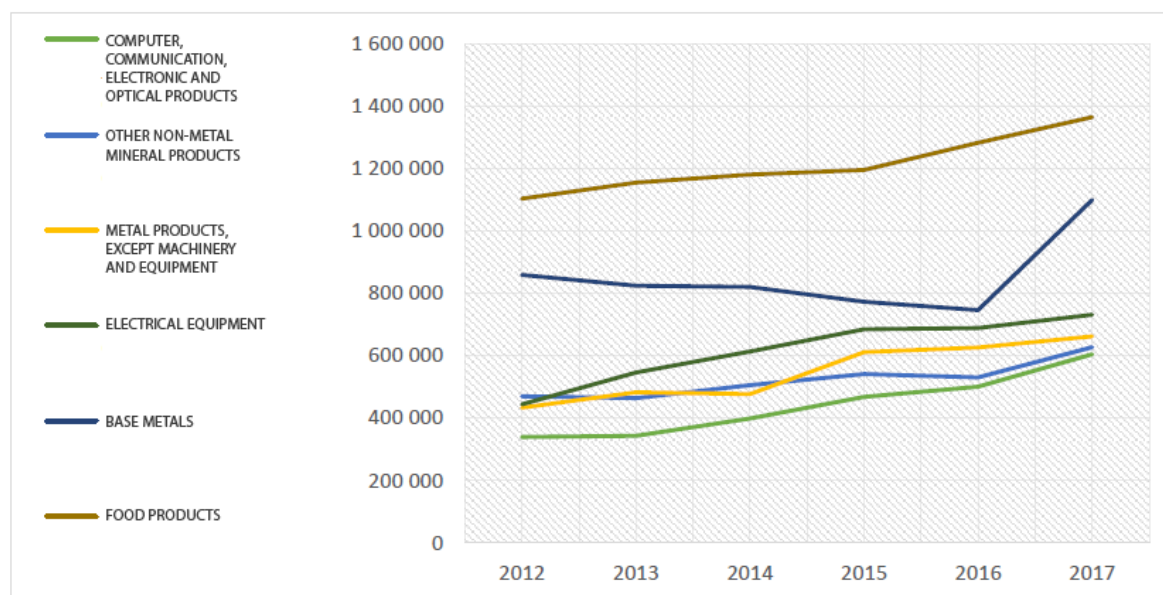
The Manufacturing industry in Sofia

The period under review is characterized by significant economic growth and it is no surprise that the output in all segments of manufacturing production is increasing. The most significant growth is in the sub-sector of the *non-classified industries* (+ 180%). Unlike other sub-sectors, the *non-classified activities*⁴ have a very large share - BGN 458 million in 2017 or 5.4% of the total industrial production.

Graph 2 presents the dynamics of the five largest segments within the manufacturing industry in Sofia. All five leading sub-sectors demonstrate growth in production in 2017, compared to the base year of 2012. The period surveyed is characterized by a rise in production, the most visible in *food production* and *computer and communication technology*. The only exception - *metal products*, showed a decline in the value of their production by 2016 (probably due to the fall in international copper and other metals prices in this period). The sharp rise in the production of base metals in 2017, however, has managed to offset the decrease from previous years.

Graph 2

Dynamics of the main segments of the manufacturing industry in Sofia, 2012-2017, BGN thousand



Source: NSI

⁴These include toys, jewellery, musical instruments, sports goods and medical instruments.

V. Company segmentation and distribution in the manufacturing industry

The company distribution in the processing industry of Sofia corresponds roughly to the output by sectors.

Most companies are engaged in:

- *food production* - 858 companies in 2017;
- *manufacturing of metal products* - 658 companies
- *repair and installation of machinery and equipment* - 689 companies.

The lowest number of companies are involved in manufacturing of pharmaceuticals - 19 companies, and the production of automobiles, trailers and parts for them - 24 companies.⁵

The companies engaged in the production of base metals have the largest average size based on output⁶. The 36 enterprises in the sub-sector produce an average of BGN 26 million per year, followed by the sub-sector of pharmaceuticals with BGN 16 million per company. Companies in the *woodworking* and *furniture production* had the smallest average output of BGN 280 000 and BGN 293 000 per enterprise.

The share of micro-enterprise in the manufacturing industry in Sofia is 82%, significantly smaller than the overall share of micro-enterprises in the city - 92.5%. This means that the manufacturing sector is characterized by relatively larger enterprises than other industries, which in turn can be explained by traditionally high fixed costs and the realization of economies of scale.

The distribution of the manufacturing industry by enterprise size is presented below.

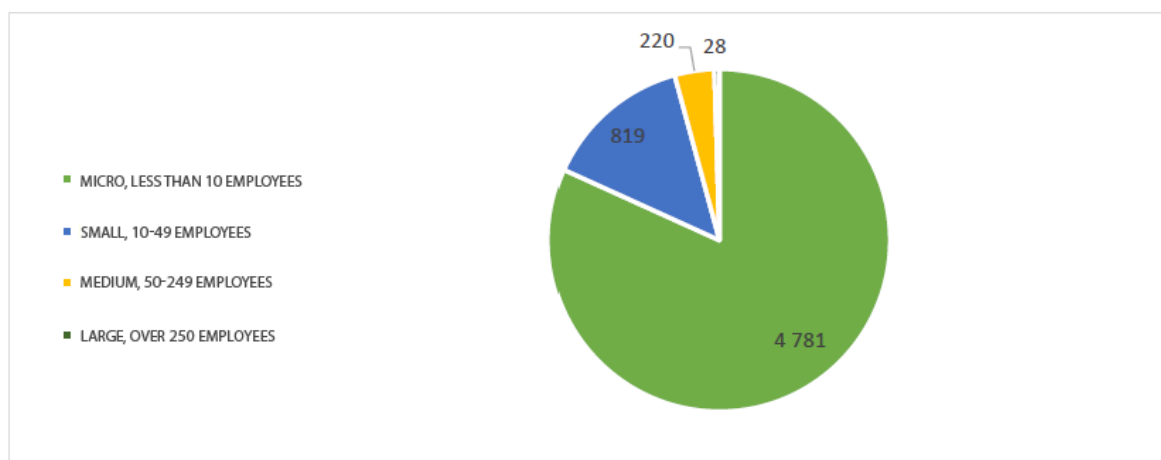
Micro-enterprises (up to 9 employees) represent 82% of the 5 900 manufacturing companies in Sofia. Small companies (10-49 employed) comprise 13.7%, medium ones (50-249 employed) - 3.7% and large ones (249 and more employed) - 0.5%.

Graph 3

⁵The data on the production of coke and petroleum products and the production of tobacco products are confidential, but there are probably even fewer companies there.

⁶The large breakdown by economic activity does not allow for a breakdown by enterprise size for the different types of production; for this reason, we only comment on the average size of the companies in them according to the output of an enterprise.

Distribution of the companies in the manufacturing industry in Sofia by size of enterprise, 2017



Source: NSI

During the period of economic growth in the last several years (2013-2017), the number of enterprises in the manufacturing industry in Sofia increased by 9.5%. Only the group of large enterprises experienced a slight decrease in number and are now 28, down from 30 at the beginning of the period.

The separate segments of the sector show different dynamics. Although the number of companies in almost all segments grew by 20-30%, the manufacturing of pharmaceuticals decreased by -30%. The largest increase was seen in non-motorised (+ 117%) and leather processing (+ 72%), but there the number of enterprises in both activities is very small as a whole.

Sopharma and the pharmaceutical industry of Sofia

Sopharma is the oldest Bulgarian pharmaceutical company. Its predecessor was established in 1933 as a successor of the Bulgarian Pharmaceutical Cooperative Society. In 1942, Galenus Pharmaceutical Factory was established, often named to as the first modern pharmaceutical on the Balkan Peninsula. After 1944, the socialist government of Bulgaria decided to concentrate all pharmaceutical plants in Sofia. The Government nationalised the production plant in Sofia and renamed it to "Chemical-Pharmaceutical Plant".

After the political changes of 1989, the company was privatized in 2000 and then restructured to include six separate companies: Sopharma AD, Unipharm AD, Vramed AD, Pharmahim Holding AD, NIFFI AD, "Rostbalkanfarm." In 2003 Sopharma opened a drug factory in Vrabevo, and in 2007 it acquired "Bulgarian Rose - Seuthopolis" JSC.

Nowadays, the company has over 200 products, mainly generics, but also a number of own brands, that are mostly plant-based. The company's total revenue for 2017 was over BGN 1 billion.

Sopharma is traded on the Bulgarian and Warsaw Stock Exchanges and is among the companies that form SOFIX, the oldest index of the Stock Exchange.

VI. Employment in the manufacturing industry of Sofia

The manufacturing industry in Sofia employed 70 000 people in 2017, or 13% of all employed in the capital – roughly corresponding to the sector's share of the city's economy.

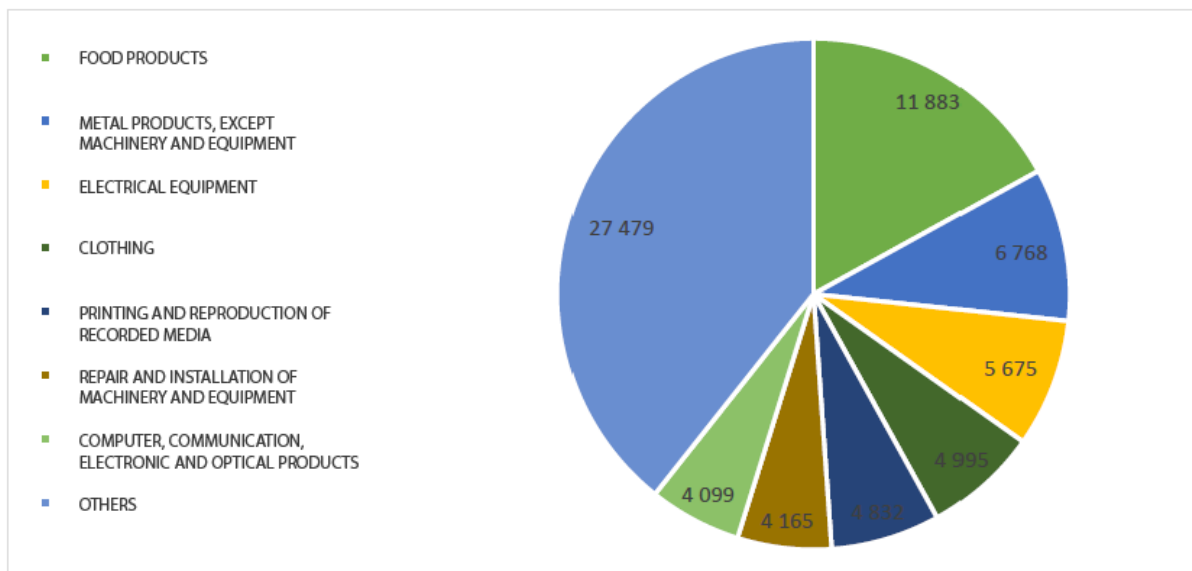
It is worth noting that while in the manufacturing industry in the country as a whole the largest number of people are employed in large companies with over 250 employees, in Sofia medium companies employ the biggest number of people - 21 600 people are employed in medium-sized manufacturing companies, compared to 19 500 in large companies.

Out of these 70 000 people in the manufacturing industry, slightly over 1/7 or 11 900 people work in the food industry, and another 7 000 in metal products manufacturing. The lowest number of employed was registered in manufacturing of non-motorised (181 people) and in manufacturing of automobiles and automotive parts (291 people).

The Manufacturing industry in Sofia

Graph 4

Distribution of the employed in the manufacturing industry of Sofia, 2017, thousands of people



Source: NSI

In the period between 2012 and 2017 employment in Sofia's manufacturing industry grew by 7.7%, from 65 000 to 70 000 people.

The growth was at a slower pace than the average overall employment growth in the city. In individual segments, the employment growth was quite different – while the number of workers in *leather processing* increased by 53% and in *manufacturing of electrical equipment* - by 52%, **in most sub-sectors the growth was between 5 and 10%.**

Nestle Bulgaria

Nestlé's Sofia production plant is the successor to the "Shtastie" chocolate factory, founded in 1939.

Nestlé was one of the first investors to enter the Bulgarian market after the political changes of 1989. In 1994 the multinational bought the chocolate and sugar manufacturing company WZS Sofia, which in turn is the successor of the State Industrial Enterprise "Malchika" and popular local brands like "Piyani Vishni", "Kapriz", etc.

Nestlé's Bulgarian branch today produces a number of popular brands in the Bulgarian market, including KitKat, Mura waffles, LZ chocolates and "Taralezhki" sweets, as well as the international brands Maggi, Nescafe, Nido and others.

The company claims revenues reaching BGN 300 million per year. The number of employees is over 1100. Nestlé Bulgaria is leading a number of campaigns to improve nutrition and lifestyle, especially for children. The most popular among them is "Zhivei Aktivno" (Live Actively), which organizes sports events and competitions.

VII. Salaries in the manufacturing industry of Sofia

The pay levels across vary significantly across the different sub-sectors of the manufacturing industry in Sofia.

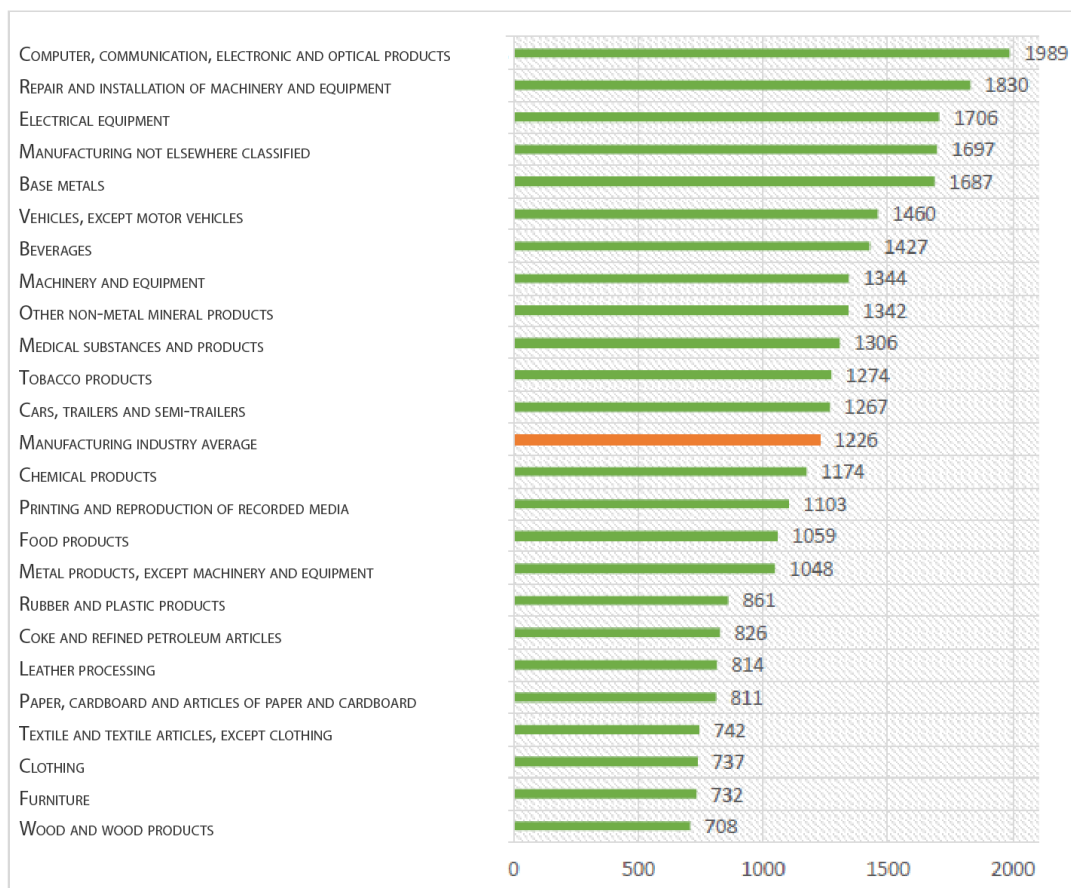
The gross monthly salary in the highest-paid sector in 2017 - *manufacturing of computer equipment, electronics and optics* - was almost three times higher than the lowest-paid one – *woodworking* or BGN 1 989 per month compared to BGN 708 per month.

Most manufacturing sub-sectors paid less than the average salary in Sofia except for the top five ones.

The Manufacturing industry in Sofia

Graph 5

Gross monthly salary in manufacturing in Sofia for 2017, BGN



Source: NSI

The key differentiating factor for the different payment levels in the sector is the different level of education and specialization required. The highest-paid segments are those that require higher level of education, or at least secondary vocational education.

The payment level is also related to the size of the company and the geographical distribution of its activities. Some of the lowest-paid positions are concentrated in relatively small firms and are generally peripheral for Sofia's economy. This becomes clear when we compare salaries in Sofia with the country as a whole.

Although the average salary in Sofia is significantly higher than in other areas of the country, in activities such as the production of coke and refined petroleum products the average wage in the country in 2017 is about 4 times higher than in Sofia. In paper and cardboard

production, as well as in tobacco and tobacco production, the salary level outside Sofia are over 2 times higher than in other parts of the country.

Between 2012 and 2017, wages increased in almost all segments of the manufacturing industry in Sofia, by 7.4% on average. The highest growth occurred in the sub-sector of *paper and cardboard production* where the average gross wages doubled over the period. A significant increase was also registered in *leather processing* (+ 65%). However, the segments with the highest growth have a relatively small weight in the economy of the city, hence their base is lower. One reason for concern is that **in the largest segment, that of food production, the average gross salary decreased by 8%** over the same period.

VIII. Investments in the manufacturing industry in Sofia

By the end of 2017, **cumulative foreign direct investment⁷ in the manufacturing sector in Sofia, including mining, manufacturing and utilities, amounted to EUR 1.7 billion.** The volume of foreign direct investment in the sub-sectors considered as manufacturing industry by the present study (see Table 1) is EUR 722 million⁸. However, due to data confidentiality in some sectors it is possible that the actual amount of foreign direct investment is higher. **The share of manufacturing in the overall investment structure of Sofia is similar to the sector's weight in the city's economy – 16%.**

Sofia Med

The Sofia Med plant for non-ferrous metals processing and production was created in 1937 and survived the Socialist period. The plant first operated under the name of “KOCM” or Non-ferrous Metal Processing Plant and in 1947 it was nationalized. In 2000, the plant was privatized by the Greek company Halcor, which invested over EUR 150 million in improving and expanding production capacities and product range.

⁷Data on investments in the manufacturing industry in Sofia are generally scarce. The reason for this is that large parts of them are confidential at a low level. Furthermore, at a higher level the statistics on foreign direct investment represent accumulated data from the processing industry, utilities and extraction. Therefore, the data presented here do not provide a correct image of the sector, but they still give an idea of the state of investment in the sector.

⁸The reason for this substantial difference is the much broader scope of the industry and the fact that data on the manufacturing of medical substances and products, base metals, metal products, and vehicles that form a significant part of the manufacturing industry are not included due to confidentiality reasons.

The Manufacturing industry in Sofia

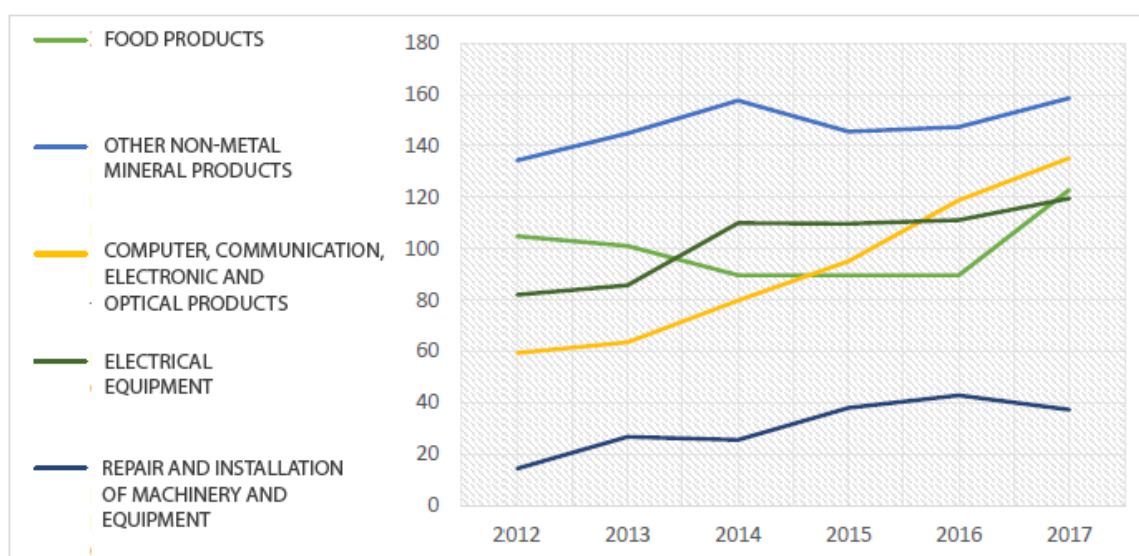
The main production of Sofia Med consists of semi-finished products of copper and brass - rods, circles, sheets and the like, most commonly used in construction, machine building and electrical engineering. The bulk of the company's output is exported, with less than 10% of the production headed for the Bulgarian market.

Of all economic activities for which data are available, most FDI is attracted to *non-metallic mineral products* (this includes glass, ceramics, gypsum) - EUR 159 million cumulatively by the end of 2017, *computer and communications equipment* (EUR 135 million) and *food production* (EUR 123 million). Foreign investments are completely absent only in the *production of tobacco and petroleum products* in Sofia.

Graph 6 shows the dynamics of foreign direct investment aggregated in the segments leading to this indicator. Despite some fluctuations over the years, the investment trend has been positive in all the sub-sectors concerned.

Graph 6

Dynamics of accumulated FDI in the leading segments of the manufacturing industry in Sofia, 2012-2017, million EUR



Source: NSI

The other key indicator of investment activity, **the cost of acquisition of tangible fixed assets (TFA)**, shows that in 2017, the industrial sector in Sofia, which includes the manufacturing industry and the mining and utilities industries, has acquired tangible fixed assets for just over BGN 1 billion. That is less than 1/5 of all investments in Sofia (for comparison, in Bulgaria this share is 1/3).

The volume of these costs is around \$ 1 billion annually over the whole period between 2012 and 2017.

The Manufacturing industry in Sofia

The manufacturing industry (the sum of those activities for which data are available, i.e. without the confidential data) is responsible for a total of BGN 495 million of investments in 2017.

The highest expenses for TFA were made by companies in *food industry* (BGN 69 million), *production of computer equipment and electronics* (BGN 65 million) and *manufacturing of metal products* (BGN 61 million).

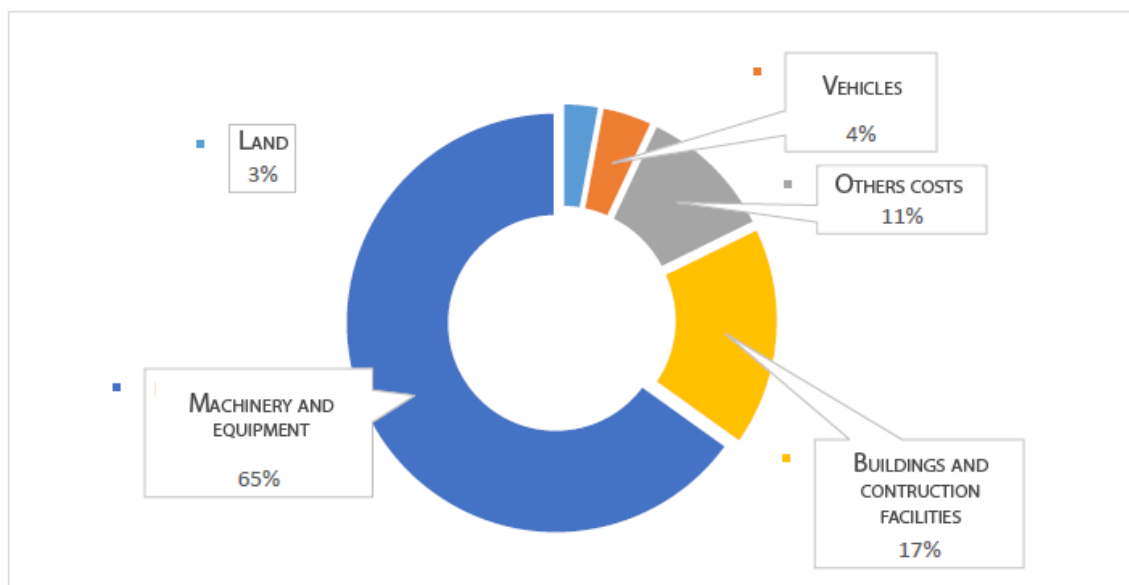
In many of the segments under consideration however the TFA expense for was limited. For example, in *manufacturing of non-motorised vehicles*, the TFA spending amounted to only BGN 289 000 in 2017.

Compared to 2012, the annual volume of tangible fixed assets costs in the manufacturing sector increased by 22%, but in some of the segments there was a decline. For example, TFA spending decreased by 82% in *woodworking*.

Given the specifics of the manufacturing industry, almost all the TFA costs are dedicated to the purchase of machinery and production equipment, as shown in Graph 7 below.

Graph 7

Distribution of the cost of acquisition of tangible fixed assets in the manufacturing sector in Sofia, 2017



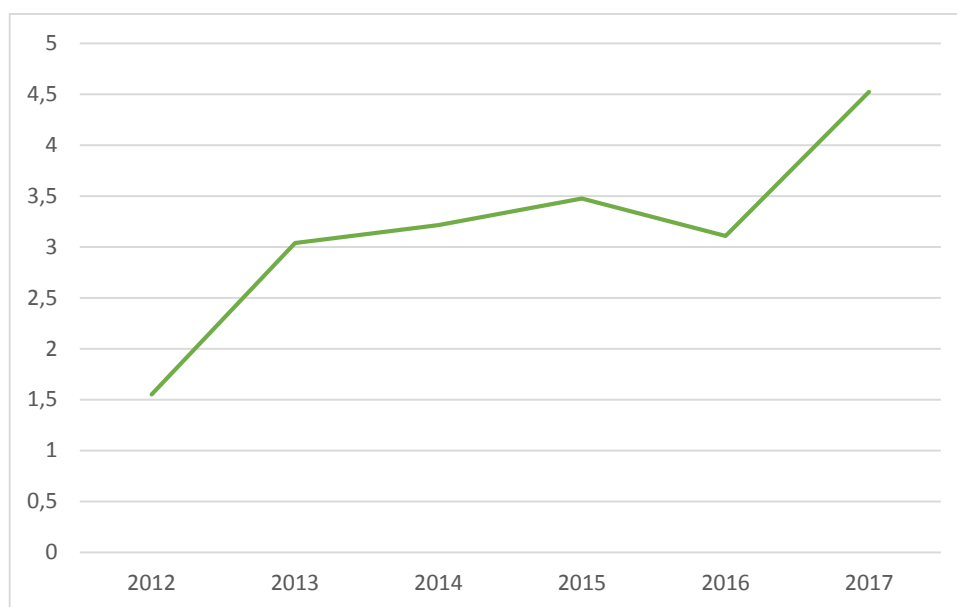
Source: NSI

IX. Exports of the manufacturing industry of Sofia

Manufacturing is traditionally one of the export-oriented industries in the country. This applies equally to production facilities based in Sofia. **Between 2012 and 2017, the exports of the manufacturing industry in Sofia increased more than threefold to a total of 4.5 billion leva equivalent of export earnings.** If this value is compared with the total output of the sector, then more than half of the sector's production is being exported. The importance of the manufacturing industry for Sofia's exports is also increasing, with its share in total export earnings increasing from 15.3% to 18.5% over the reviewed period of 2012-2017.

Graph 8

Total exports of the manufacturing industry of Sofia, 2012-2017, BGN billion



Source: NSI

The production of base metals has the largest share in the manufacturing industry. In 2017 this activity approached BGN 1 billion of export, followed by the manufacture of electrical equipment (BGN 623 million) and the production of computer and communication equipment (495 million BGN).

Most of the other sub-sectors, apart from food and automotive parts have relatively small export volumes.

In some smaller segments of the manufacturing industry there was a three-digit growth in the period under review. In woodworking, for example, the increase between 2012 and 2017 was 296%, while in the non-automotive sector it was 421%. Of the segments with a relatively

higher importance for Sofia's exports, exports of electrical equipment rose by 163%, and that of food by 59% over the period under review.

X. Main findings

The review of the state and development of Sofia's processing industry outlines several main conclusions:

- The manufacturing industry is increasing its weight in the city's economy. According to the latest figures for 2017, Sofia's manufacturing industry produces more than BGN 8.5 billion in output or 14% of the city's economy, up from 12.7% in 2012.
- However, Sofia is currently responsible for a relatively small share of the whole processing industry in Bulgaria - or 13.6% in 2017.
- The leading segments of the manufacturing industry in Sofia are food production (BGN 1.4 billion), base metals (BGN 1.1 billion) and electrical equipment (BGN 661 million).
- The production of highly technological sub-sectors with a relatively high added-value has been growing rapidly in recent years. For example, production of metal products, computer and communication equipment, electrical equipment, machinery and equipment grew by over 50%.
- Largest manufacturing companies operate in the sub-sectors of metal manufacturing, followed by pharmaceuticals.
- Micro-companies have the largest share in the manufacturing sector in Sofia (82%). Their share is significantly below the average for all other sectors combined. This shows the presence of relatively larger companies in the manufacturing industry.
- The highest number of new companies in the manufacturing industry of Sofia were created in the segments of non-motorised vehicles and processing of skins.
- The manufacturing sector employs 70 000 people or 13% of all employees in the city, with most of them working in medium-sized firms. Employment is concentrated in sub-sectors of food and metal production – 12 000 and 7 000 people respectively.
- The highest average salaries were registered is in the sub-sectors of computer equipment production - BGN 1989 gross in 2017. The average pay for the whole manufacturing industry was BGN 1 226 per month, thus remaining close to, but below the average salaries in Sofia; the growth rate in manufacturing is also lagging behind average wage growth in the city in recent years.

The Manufacturing industry in Sofia

- Cumulative foreign investment in the manufacturing industry reached EUR 1.7 billion at the end of 2017 or 16% of all FDI in Sofia.
- A significant part of the manufacturing industry of Sofia is export oriented. Export accounted for BGN 4.5 billion in 2017 or over half of the total manufacturing output. The sector has an increasing weight in Sofia's total exports. Base metals, electrical equipment, computer and communication equipment are the products accounting for the majority of the sector's export.

A close-up photograph of a white industrial robotic arm with black cables, positioned over a white tray containing a green printed circuit board (PCB). The background is a blurred industrial factory environment with various machinery and equipment.

THE MANUFACTURING INDUSTRY IN SOFIA

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