ACADEMY OF ECONOMICS „D. A. TSENOV“ - SVISHTOV

Faculty of Industry and Commerce

Department of Industrial Business and Entrepreneurship

PhD student KARMEN DIMITROV VRANCHEV

„IMPACT OF THE GERMAN DIRECT INVESTMENTS ON THE DEVELOPMENT OF THE BULGARIAN ECONOMY“

ABSTRACT

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Dissertation Advisor:

Prof. Lyubcho Varamezov, PhD

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The dissertation was discussed and proposed for defense in accordance with the Law on the Development of Academic Staff and the Regulations for the Implementation of the Act on Development of Academic Staff by the Department of Industrial Business and Entrepreneurship at the Faculty of Industry and Commerce at “D. A. Tsenov” Academy of Economics, Svishtov.

The author is a PhD student in a part-time form of study at the Department Industrial Business and Entrepreneurship at the “D. A. Tsenov” Academy of Economics, Svishtov.

The dissertation consists of an introduction, three chapters, a conclusion, a list of figures, a list of tables and a list of references. Its volume is 234 pages, of which title page, table of contents - 2 pages, list of figures - 3 pages, list of tables - 2 pages, introduction - 8 pages, main text - 202 pages, conclusion - 6 pages, sources of information - 10 pages. 22 tables and 42 figures are included in the dissertation. The list of used literature consists of 104 sources in Cyrillic and Latin, of which 12 in Bulgarian, 62 in Latin and 30 electronic sources.

The defense of the dissertation work will take place on 20.10.2023 at 11:00 a.m. in the Rectorate Meeting Hall at “D. A. Tsenov“ Academy of Economics, Svishtov. The defense materials are available to those interested on the website of “D. A. Tsenov“ Academy of Economics, Svishtov - https://www.uni-svishtov.bg/bg.

CONTENT OF THE ABSTRACT

I. GENERAL CARACTERISTICS OF THE DISSERTATION

1. Relevance of the topic

With the development of globalization, foreign direct investment (FDI) is gradually increasing and playing an increasingly important role in the economic growth and development of the world economy. It is a key element in the world economy and international economic integration, and its attraction is the basis of many government policies, mainly of developing countries.

Foreign investments create stable and sustainable relationships between economies, lead to increased labor productivity, improved product quality and competitiveness. They promote the creation of new jobs (increase employment and positively affect competition on the labor market), contribute to the transfer of knowledge, technology and know-how between countries, stimulate consumption.

In addition to international trade relations, FDI is among the most important global economic activities. Economic theory confirms its essential role as a driver of growth in host countries. As part of the global economy, FDI affects not only the host country's economy, but also its politics and social life. When foreign investments are made, not only positive development and favorable effects can be observed, but also negative ones. The effects do not occur automatically and immediately. They occur in medium and long term and are subject of analysis in various scientific studies.

After the transition to a market economy, Bulgaria also attracts a significant volume of foreign investments, which on the one hand is a sign of the open modern economic systems, and on the other – contributes to the inclusion of the country in the global integration processes. Germany is a major trade partner and key investor for our country. The exchange of goods between the two countries has set records, and in recent years many German companies have invested and opened new productions in Bulgaria. Some of the companies are expanding the already existing production bases or opening productions in new locations in the country.

Many foreign and Bulgarian authors work on problems related to the processes of globalization and economic development worldwide, international economic relations and the activities of multinational corporations (MNCs), FDI and economic growth. Among them, the achievements of M. Blomström, R. Vernon, J. Dunning, I. Öztürk, K. Kojima, T. Ozawa, A. Sapienza, S. Hymer, M. Velushev, K. Kolev, Z. Mladenova, A. Radulova, and others.

2. Subject and object of the research

The subject of research in this dissertation is the impact that FDI has on the Bulgarian economy.

The object of research is the FDI realized in the country originating from Germany.

3. Aim and tasks of the research

The **main goal** of the dissertation is the analysis and assessment of the influence and the direct and indirect effects of the import of foreign direct investments originating from Germany, and in particular investments in the metallurgy based on the example of the company “Aurubis Bulgaria”.

To achieve the goal, the following **main scientific tasks** are set:

1. On the basis of a theoretical analysis, to indicate the features of direct foreign investments and to highlight the effects they have on the economy of the host country;

2. To identify the main motives that lead companies to invest in a foreign economy, the forms for the implementation of direct foreign investments, as well as the factors that influence companies to invest in a foreign country;

3. To analyze the German-origin FDI in Bulgaria and to evaluate their impact on the country's economy;

4. To develop a specific tool for researching the effects of German investments at micro (the company "Aurubis Bulgaria"), at regional level (the influence of "Aurubis Bulgaria" on seven municipalities of Srednogorie region) and at macro level by using an appropriate econometric model;

5. To give recommendations for development of an effective policy for attracting more foreign investments to the country and, in particular, investments from Germany.

4. Main thesis and sub-thesis

The **main thesis** of the dissertation is that the impact of German-origin FDI on the Bulgarian economy can be objectively measured, analyzed and evaluated by identifying the direct and indirect effects resulting from the activities of foreign-owned enterprises with German-origin capital as well at national (macro), as well as at company (micro) and at regional level. In addition to the direct and indirect effects, there are also induced effects that the employed use through their remuneration to purchase goods and services and thus create additional consumption, which increases the aggregate internal demand in the country and supports the development of other businesses.

With regard to the thesis formulated in this way, the following **sub-theses** can be distinguished:

1. FDI affects the host economy through a number of direct and indirect effects, which can be both positive and negative depending on the channels of influence;

2. In addition to direct and indirect effects, FDI also creates tertiary (induced) effects;

3. FDI affects the host economy at national (macro), regional and company (micro) level.

5. Methodology of the research

In the process of conducting the scientific research, general analytical approaches, retrospective, structural, descriptive and applied analysis, scientific methods such as induction and deduction were applied. Mathematical and statistical methods were used as well.

6. Limitations of the research

The research encounters the following **limitations**, which come down to the scope of the researched company and the effects realized by it:

• The study covers the "Metallurgy" sector and in particular the company "Aurubis Bulgaria", not including all existing companies with capital and realized foreign investments originating from Germany. To examine the impact of all FDI in Bulgaria (even originating from only one single country) is a difficult and overwhelming task due to the large number of companies with foreign capital; the different sectors of the economy in which they operate; the vast amount of data for research and analysis, which is not always comparable; and the impossibility of actually tracking the effects of all foreign investment in the country.

• The selected period of study of the influence and effects in the "Metallurgy" sector covers 5 calendar years (2017-2021), and for the company "Aurubis Bulgaria" – 3 calendar years (2019-2021). The main economic indicators are analyzed up to and including year 2022, for a period of 5 or 10 years, depending on the indicators and the conclusions to be drawn. The analysis of the data did not consider the impact of the 2020 coronavirus pandemic, due to which the world economy faced serious challenges, and which changed not only the functioning of the economy and the economic environment in general, but also negatively affected all spheres of life, as it is not a focus of the study. The most current officially published statistics as of April 2023 were used.

• The focus of the study of indirect effects is directed only at the directly related companies, regardless of the type of their activity and ownership. Theoretically, effects are also possible on other unrelated enterprises in the Bulgarian economy, which, however, can hardly be tracked and measured accordingly.

• Only the effects realized at the enterprise level are studied, ignoring the impact on Bulgarian institutions, other types of organizations and society as a whole.

• The empirical study of direct effects is limited to the period from 2019 to 2021. For the purpose of easier comparability, the considered data from the financial statements and activity reports are also limited to 2021, regardless that the data analyzes were made in April 2023 and some general economic indicators are analyzed up to the end of 2022. An approach has been taken that official statistical information and

enterprise-level surveys should cover the same period. Most data related to macroeconomic indicators are considered over a 10-year period (2013-2022).

7. Sources of information

In addition to the data provided by "Aurubis Bulgaria", the dissertation includes data from official sources such as the Bulgarian National Bank (BNB), the National Statistical Institute (NSI), Eurostat, the Federal Bank of Germany (Deutsche Bundesbank), the Federal Statistical Service of Germany (Statistisches Bundesamt (Destatis)), Ministry of Economy of Bulgaria, Bulgarian Association of Metallurgical Industry (BAMI), International Copper Study Group, etc. Data were processed using their latest updates as of April 2023.

8. Approval

The dissertation has been discussed and directed for defense by the "Industrial Business and Entrepreneurship" Department at the Academy of Economics "D. A. Tsenov" – Svishtov. Separate parts of the dissertation have been published in specialized scientific publications. Some ideas related to the present study have been presented during participation in national and international scientific conferences.

II. STRUCTURE AND CONTENT OF THE DISSERTATION

The dissertation consists of an introduction, three chapters, a conclusion, a list of figures, a list of tables and a list of references. Its volume is 234 pages, of which title page, table of contents - 2 pages, list of figures - 3 pages, list of tables - 2 pages, introduction - 8 pages, main text - 202 pages, conclusion - 6 pages, sources of information - 10 pages. 22 tables and 42 figures are included in the dissertation. The list of used literature consists of 104 sources in Cyrillic and Latin, of which 12 in Bulgarian, 62 in Latin and 30 electronic sources.

The content of the dissertation is presented in the following logical sequence:

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BRIEF DESCRIPTION OF THE DISSERTATION

INTRODUCTION

In the introductory part of the dissertation, the relevance and significance of the development are substantiated. The subject, the object and the research thesis and subtheses of the study are defined. The main goal and tasks related to its achievement are formulated. The research methods applied, the limiting conditions introduced and the sources of information are indicated.

CHAPTER ONE. THEORETICAL-METHODOLOGICAL FOUNDATIONS OF DIRECT FOREIGN INVESTMENT AND ASPECTS OF DEFINING THE EFFECTS OF DIRECT FOREIGN INVESTMENT

The first chapter has a theoretical focus. Based on a theoretical overview, it presents the specific characteristics of FDI (definition of the concept and its classification), discusses in detail the main theories of foreign investment, systematises the motives that lead firms to invest in a foreign economy, the forms of their implementation and the factors that influence their attractiveness. The effects – direct

and indirect, positive and negative – on the host economy are described in detail and the impact of investment on economic growth is analysed.

1. Definition and classification of foreign direct investment

Foreign direct investment (FDI) is a category of cross-border investment made by an enterprise resident in one economy with the objective of establishing a lasting interest and the intention of acquiring a lasting participation in an enterprise resident in another economy. Both government and private enterprises can act as investors. There is no universal or formal definition of FDI in the literature. There are a variety of definitions, some overlapping and some complementary. The most widely used are the OECD and UNCTAD definitions. The World Bank, the World Trade Organisation (WTO) and the International Monetary Fund (IMF) have their own definitions.

In summary, all definitions focus on the fact that the investor is from a foreign economy, has a continuing interest in the enterprise in which it invests, and has a significant degree of influence and control over the management of that enterprise.

The academic literature distinguishes between two main forms of foreign investment - **direct** and **indirect (portfolio)**:

- Foreign direct investment (FDI) or direct investment is an equity investment abroad that is made with the aim of the investor having a direct influence on the business activities of the enterprise, with financial motives and the possibility of control being the most important.

- Indirect outward investment, or portfolio investment, refers to the acquisition of foreign securities or other equity investments, such as shares, investment certificates or fixed-income securities, without direct influence on a company. They are mainly made by private individuals, with risk/return considerations being the main driver.

Depending **on the form of entry**, FDI can be classified as *greenfield investment, brownfield investment, mergers and acquisitions (M&A)* of an existing enterprise in the host economy, or *joint ventures* between the investing company and an enterprise or public institution in the host economy.

Depending **on the direction of expansion**, i.e. how production in the host country is linked to that in the donor country or how it is integrated into the overall business

process, we can distinguish between *horizontal*, *vertical* and *conglomerate* FDI (Braun, 1988).

In the investment process, the features of the host country are also of significant interest, which contribute to the fact that an investor chooses this particular country. Here **investment motives** play a decisive role. In this regard, a distinction can be made between three types of direct investment – market-seeking, efficiency-seeking and resource-seeking investments (Dutt, 1998).

Depending **on the term of the investment**, investments can be *long-term* and *short-term*.

Depending **on the source of capital**, we can distinguish investments *with private capital* and investments *with state capital*.

The types of foreign direct investment are presented in Fig. 1.

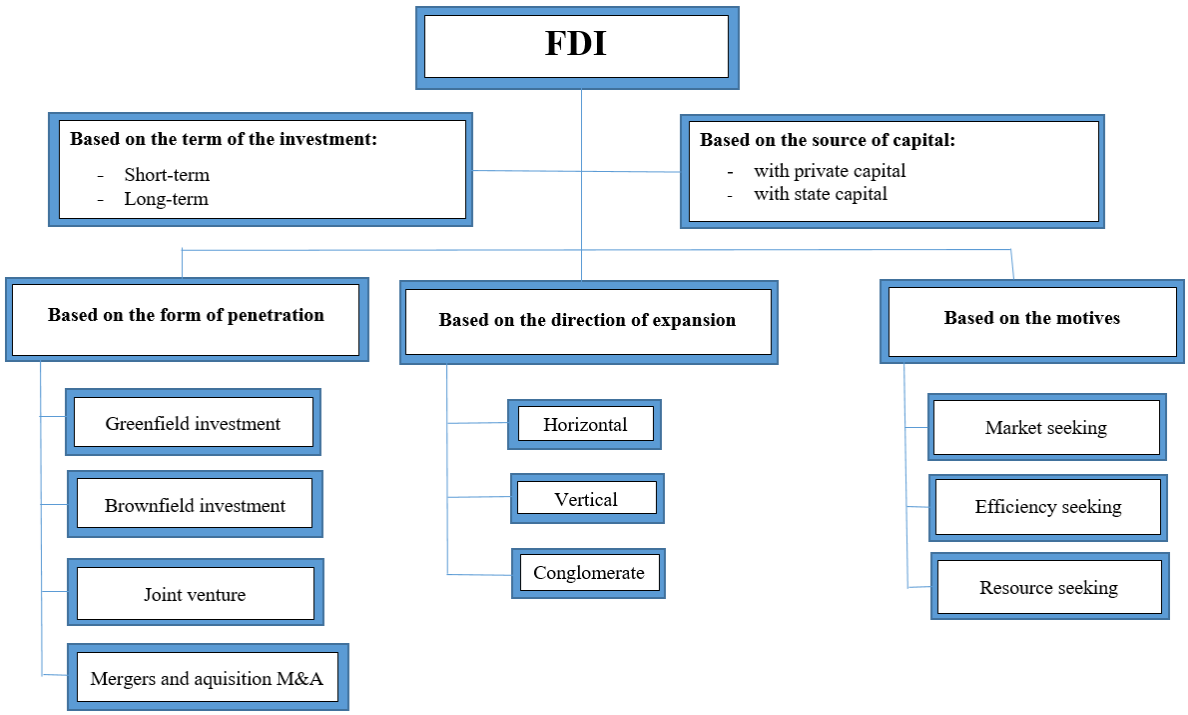


Figure 1. Types of FDI

There are other classifications of FDI by various authors. Only the most common ones are discussed in this paper. Different forms are also associated with different costs of their implementation compared to alternative options.

2. Development of foreign direct investment theories. Main theories

Theoretical concepts of FDI attempt to clarify the nature of FDI; explain the causes, motives, behaviour and mechanism of its implementation; examine the factors, form and relationship between the investor and the host country; attempt to analyse and predict the impact of FDI on the economic, social and political development of host countries.

Broadly speaking, the concepts can be divided into micro and macro theories. Micro theories focus on firm behaviour and imperfect competition as an opportunity for firms to exploit their competitive advantages in foreign markets. Macro theories link foreign investment to theories of foreign trade and countries' comparative advantages. Some of the major theories are briefly discussed in this dissertation, such as monopolistic advantage theory, product life cycle theory, exchange rate risk theory, internalisation theory, location theory, oligopolistic theory, Dunning's eclectic paradigm and Eastern theories of FDI.

3. Motives for making foreign direct investment and factors affecting their attraction

Defining the motives for FDI is essential, as it has different implications for both the investor and the host country. There is a considerable variety of reasons that motivate firms to expand abroad. The main motive for companies to invest abroad is to achieve attractive and reasonable profits and returns in long term, while minimising costs.

The **motives** for FDI can be conventionally divided into three groups: *strategic*, *economic* and *socio-political*. Strategic motives include expanding access to markets, securing competitive advantage and securing resources on a sustainable basis. Economic motives include increasing efficiency and profits, introducing new technologies, diversifying risks, etc. The motives for FDI are also influenced by a number of socio-political factors, such as government restrictions, political stability, attitudes towards 'foreign' companies and foreign debt (Stoimenov, 2011).

Another classification divides motives into *'pull'* and *'push'*. In the case of “pull” motives (pulling, attracting), the firm is in some way forced to internationalise its activities through FDI. These motives are imposed by the market and represent a kind of defensive strategy of the company. “Push” motives describe the firm's drive to seek

out development opportunities. Here, the push motives are based on the firm's specific advantages and the potential opportunities offered by the environment. This type of investment is associated with a more aggressive and proactive management style.

A thorough analysis of the **factors** is essential to the MNC's investment decision. Basically, the factors can be divided into *pull factors*, such as access to local markets, size of the domestic market, labour costs and economies of scale, various types of incentives offered by the host country, etc., and *push factors*, such as weak economic development, corruption, lack of rule of law, bureaucracy, high taxes, unfavourable political environment, etc.

4. Effects of foreign direct investment on the host country

The impact of FDI on the host economy has been studied in most economic theories. The potential effects of foreign investment manifest themselves differently depending on the motives or forms of implementation, sector and time horizon, economic and political conditions, etc. Classifying the effects is a necessary condition for establishing the causal relationship between FDI and economic growth. The effects are different at **micro** (company) and **macro** (country) levels. According to the way they affect the host economy, they can be **direct** or **indirect**. According to the time horizon – **short-term** and **long-term**. Depending on the outcome, the effects are **positive** or **negative** (see Fig. 2).

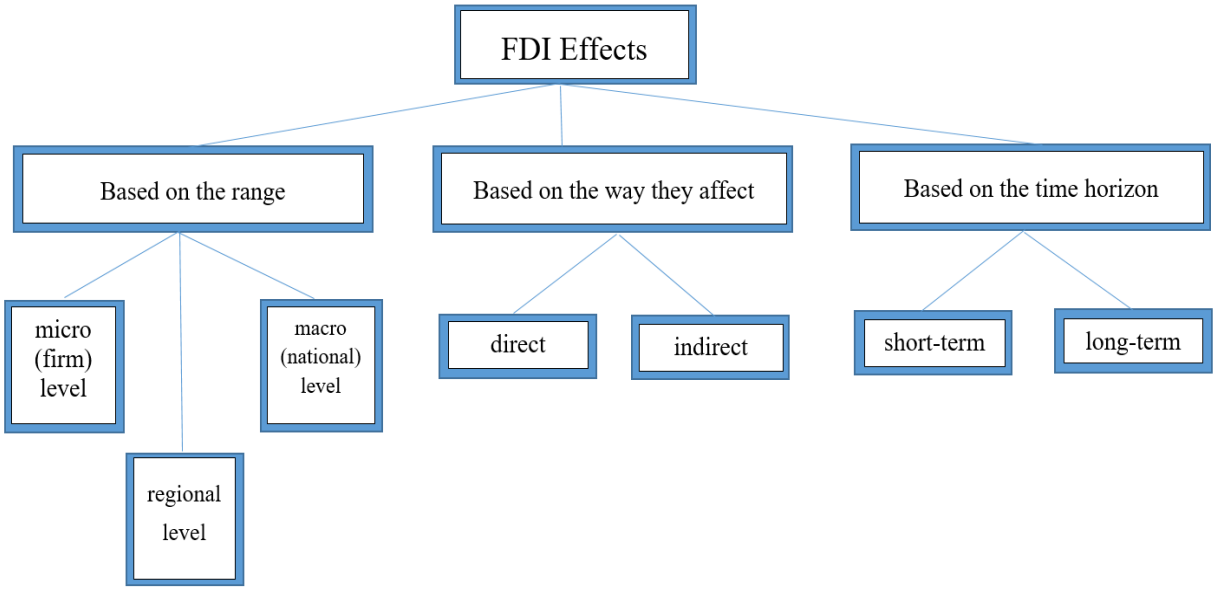


Figure 2. Classification of FDI effects

FDI has an impact on the real economy of the host country, in particular on national production, its volume and structure, trade (imports and exports), innovation and technological development, the local market and competition, employment and income of the population.

The entry of foreign capital into a country affects its entire economy and the level of social life. The main objective of the investor is to make a financial profit from the investment made. The movement of capital in the form of FDI is a process of seeking greater profit and is stimulated by the differences in returns offered by different countries. The effects of FDI on the host economy can be both positive and negative and are presented in Table 1.

Table 1. Impact of FDI

Positive effects of FDI	Negative effects of FDI
• Expansion of capital stock and capital accumulation	• Crowding out effect
• Employment and income effects	• Distributional effects
• Fiscal effects	• Race to the bottom
• Spill-over effects	• Currency outflows
• Competition	• Attempt to influence local policies
• Infrastructure development	• Migration effects
• Multiplier effects	

Summaries and conclusions

Although science does not have a universal definition of the concept of FDI, in the main definitions the statement prevails that the investor is from a foreign economy, has a lasting interest in the company in which he invests and has a significant degree of influence and control over its management.

There are different types of foreign investment that can be classified based on different characteristics.

The main theories of FDI attempt to explain the causes and nature of foreign investment, the motives and behavior of companies, the factors that influence investor behavior and choices, and their role in the world economy and the impact on host countries. The theories are divided into micro and macro, with microeconomic theories

looking at the determinants of direct investment within the company, and macro theories focusing on the role of MNCs.

The main motives of investors for FDI are diverse, as well as the factors that influence their attraction. The result of the investment activity are the effects of FDI, which can be positive and negative, short-term and long-term, direct and indirect. They have different manifestations at the micro, macro and regional level.

The impact of FDI on the economy of the host country is undeniable. The effects of the investments made on economic growth can be both positive and negative. Both types of effects have nuances and positive in a given context can be seen as negative and vice versa. Beneficial effects of foreign investment are mainly observed on growth and development in developing countries and to a lesser extent in developed economies.

CHAPTER TWO. POLICY OF ATTRACTING AND PROMOTING FOREIGN DIRECT INVESTMENT

The second chapter analyses the characteristics of the business environment in Bulgaria on the basis of Bulgaria's position in various international rankings. A historical overview of the legislation and regulations in the field of FDI in the country is provided. This chapter analyses in detail the main economic indicators of Bulgaria, such as gross domestic product, gross value added, foreign trade, labour market and employment, and foreign direct investment, and on this basis examines the development of the Bulgarian economy for the period 2008-2022. On the basis of the data on the main economic indicators and FDI, the role of Germany in the country's economy and the dynamics of investment originating from Germany are outlined.

1. Characteristics of the business environment in Bulgaria

A number of international organisations, governmental institutions and consulting companies elaborate rankings and reports based on various criteria that assess the economic development of countries and the conditions for doing business in them, with the aim of helping investors make investment decisions. Bulgaria also appears in such rankings. Traditionally, our country scores well on indicators related to macroeconomic stability, low taxes and freedom of trade. It scores poorly on indicators such as business regulations, administrative efficiency, corrupt practices and weakness of the judiciary.

Bulgaria's positioning in some of the most prestigious rankings such as: The Global Competitiveness Yearbook 2022 of the Institute for Management Development, Global Competitiveness Index 4.0, Global Innovation Index 2022, the World Bank's Doing Business Report, A. T. Kearney Global Services Location Index™, International Property Rights Index (IPRI), Index of Economic Freedom (IEF), prepared by the Heritage Foundation etc.

2. Regulatory framework for foreign direct investment in Bulgaria

This section presents the main legal framework for FDI in the country, from the first law regulating foreign investment in Bulgaria in 1991 to the current Law on Foreign Investment and the Regulations for the Implementation of the Law on Foreign Investment.

3. The role of state and institutions in attracting foreign direct investment

The business environment is affected by factors such as global economic developments and economic conditions that are external to the country and difficult for it to influence. Internal factors such as political, social, demographic, technological, etc. can be influenced by the state. Its policies in various areas can therefore influence both current and future development of companies. The role of our state and institutions is crucial not only to maximise the benefits of the presence of foreign investors in the Bulgarian economy, but also to minimise the negative effects of their activities at local level.

Bulgaria's priorities in attracting foreign investors should focus on investments in sectors that have the potential for the production and sale of high value-added products, in order to achieve the maximum multiplier effect. Such sectors include chemicals, pharmaceuticals, computer and communications technology, robotics, automotive, etc. Investments in these sectors will increase the intensity of the introduction of new technologies and the use of specific knowledge and skills, strengthen the export orientation of the company, contribute to its regional specialisation and increase its potential for development in the value chain and increase employment.

This section also provides a brief introduction to the Bulgarian Investment Agency (BIA) and Germany Trade & Invest (GTAI) in order to provide an overview and comparison of the volume, type and scope of services provided by the two agencies and

their role in attracting FDI. The role of bilateral chambers of foreign trade in attracting foreign investment is analysed and the role of the German-Bulgarian Chamber of Industry and Commerce (GBCIC) is highlighted.

4. The Bulgarian economy in the period 2008 - 2022. Foreign direct investment in Bulgaria. The role of Germany

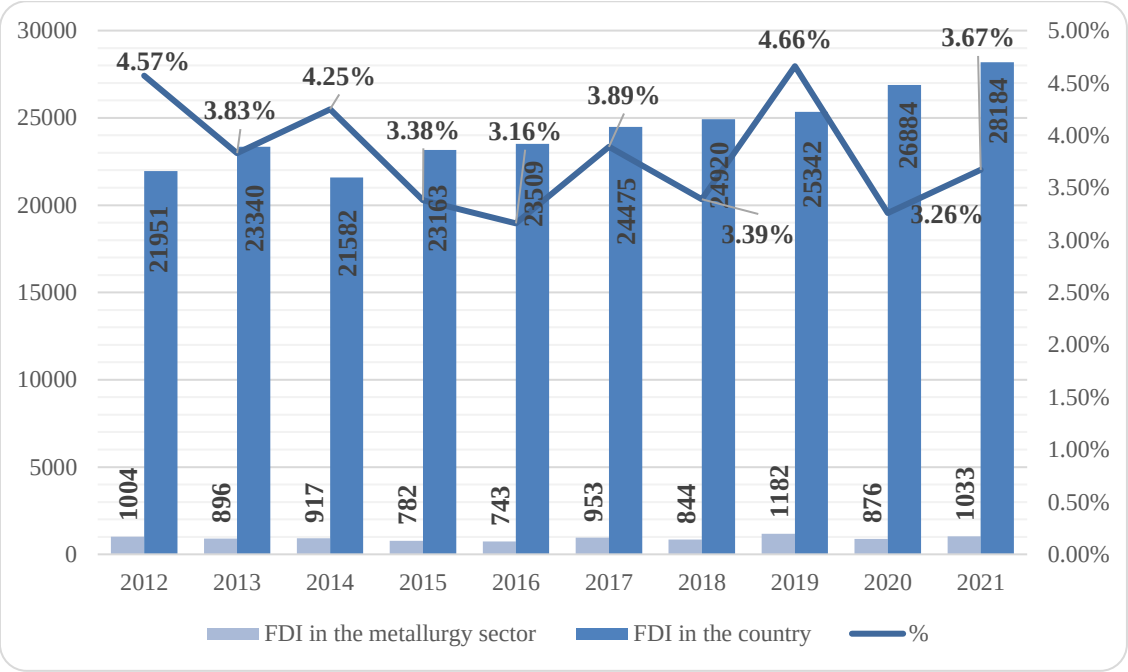
4.1. Main economic indicators

The main economic indicators of Bulgaria, such as gross domestic product, gross value added, foreign trade, labour market and employment, etc. are analysed in detail and on this basis the development of the Bulgarian economy for the period 2008 - 2022 is examined.

4.2. Foreign direct investment in Bulgaria

This paragraph presents the methodology of FDI reporting by the BNB, which has serious shortcomings. It does not allow to identify the origin of foreign investors. The methodology identifies foreign investment only by the direct ownership of the capital and not by the endownership. Another shortcoming is the lack of data on FDI both by geographical area and by economic activity. The BNB publishes data by type of investment (equity, reinvested earnings and debt), by geographical area (countries) or by economic activity. In general, there is no information on the economic sectors in which enterprises from a given geographical area or country invest.

The dynamics and structure of FDI in the country and in metallurgy for the period 2012 - 2021 were examined, focusing on the sector “Production of basic metals and metal products, except machinery and equipment”. The data are presented in Fig. 3.



Source: BNB, author's calculations

Figure 3. FDI in non-financial companies in Bulgaria and in the sector 'Production of basic metals and metal products, except machinery and equipment' for the period 2012-2021 in million euro

It can be seen that investment in the sector does not follow the trends of investment in the country as a whole. They are not directly correlated with FDI inflows. Its peaks are due to investments by companies to increase production capacity, productivity and competitiveness, and are rather internal.

4.3. Germany's role in the domestic economy and foreign direct investment originating from Germany

Foreign trade

Germany is Bulgaria's largest trading partner and one of the leading foreign investors in the country. The two countries are bound together by an important strategic partnership. Since 2009, Germany has steadily established itself as a major trading partner and trade turnover numbers are setting records. In 2022, a record trade of 12 635 billion euro was achieved, which marked a growth of 26,57% and formed 12,26% of the country's entire trade. Exports to the Federal Republic were 6 668 billion euro or 13,94% of all exports. Imports from Germany amount to 5 967 billion euro, which corresponds to 10,80% of all imports for 2022 (see Table 2).

Table 2. Trade between Bulgaria and Germany for the period 2008-2022

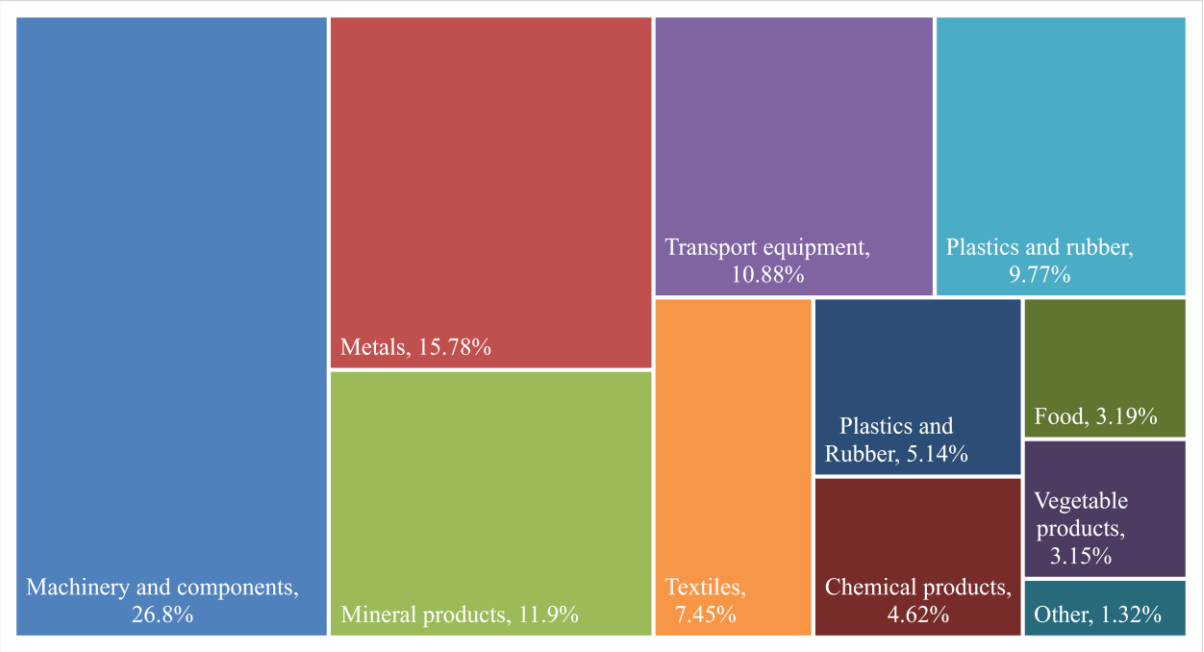
Year	Commodity Exchange (million euro)	Growth, %	Export, (million euro)	Growth, %	Import, (million euro)	Growth, %	Balance
2008	4 137	-17.9	1 383	-0.4	2 754	10.00	-1 371
2009	3 394	-22.4	1 320	-4.6	2 074	-24.7	-754
2010	3 894	14.7	1 658	25.6	2 236	7.8	-578
2011	4 891	25.6	2 355	42.0	2 536	13.4	-181
2012	4 957	1.3	2 126	-9.7	2 831	11.6	-705
2013	5 534	11.6	2 741	28.9	2 793	-1.3	-52
2014	5 868	6.0	2 655	-3.1	3 213	15.0	-558
2015	6 288	7.2	2 893	9.0	3 395	5.7	-502
2016	6 638	5.6	3 216	11.2	3 422	0.8	-206
2017	7 294	9.9	3 590	11.7	3 703	8.2	-112
2018	8 153	11.8	4 174	16.2	3 979	7.5	**194**
2019	8 462	3.7	4 410	5.6	4 052	1.8	**358**
2020	8 202	-3.1	4 466	1.7	3 715	-8.3	**771**
2021	9 981	21.7	5 181	15.5	4 800	29.3	**380**
2022	12 635	26.6	6 668	28.7	5 967	24.3	**701**

Source: Ministry of economy, BNB, NSI

For the fifth year in a row, the trade balance with Germany is positive, reaching 701 million euro in 2022. One of the reasons for this is the German companies that produce in Bulgaria and export their products back as Bulgarian exports. As in previous years, cars and their parts are the most important German export goods in 2022, with a value of 244,8 billion euros and a share of 15,5% in total German exports. Machinery and equipment comes second with a share of 13,3% (209 billion euro) of Germany's total exports. Chemicals come third with a share of 10,3% (163 billion euro). As one of the world's largest exporters, Germany has a negative trade balance with only 77 of its 237 trading partners. The country with which Germany has the largest trade deficit is China, at 84 488 billion euro, but the size of the negative balance in 2022 puts Bulgaria in 23rd place. Among the countries of South-Eastern Europe, Germany only has a larger trade deficit with North Macedonia (17th place). Ahead of Bulgaria in this ranking are some Central European countries that are highly integrated into German supply chains, such as the Czech Republic (11th), Hungary (16th), Slovakia (18th) and Slovenia (26th).

Analysing the dynamics in the structure of bilateral trade, according to 2020 data, the largest share of Bulgarian exports to Germany is machinery and components (26,88%), followed by metals (15,78%) and mineral products (11,90%). Exports of

transport equipment rank fourth with a share of 10,88% (see Fig. 4). The picture is almost identical in 2019, with minor differences in percentages.

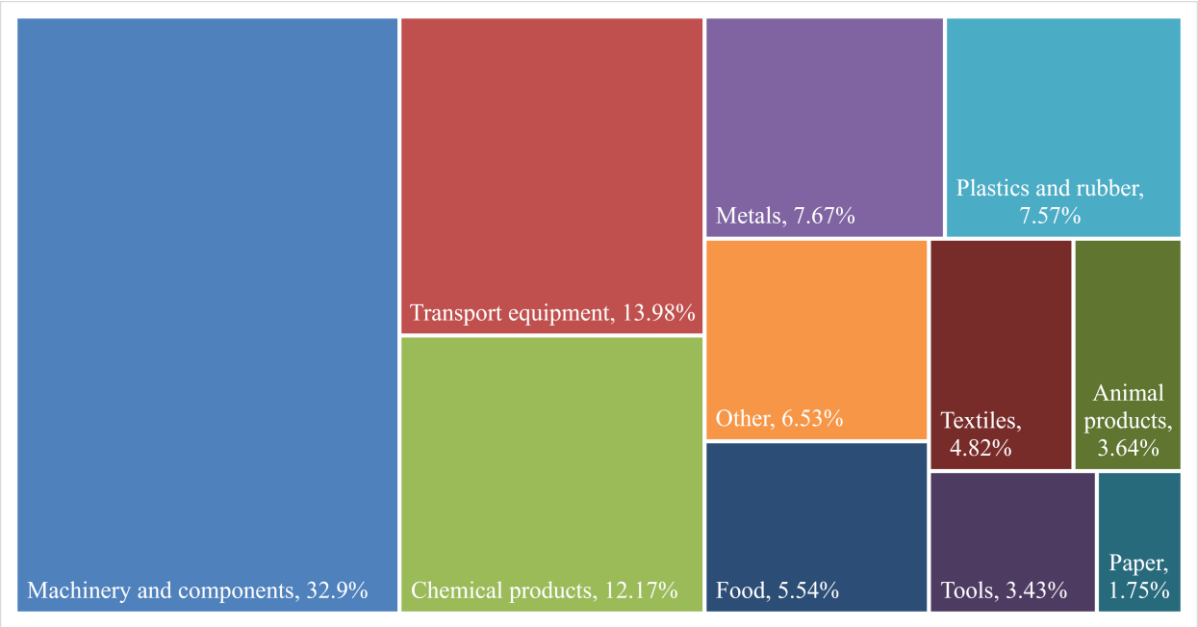


Source: OEC, author's calculations

Figure 2. Structure of Bulgarian export to Germany in 2020 in %

The transition to machinery and components as the leading product group in recent years is the result of the gradual transformation of the Bulgarian economy towards higher value-added production. This is mainly due to companies in the automotive industry. Previously, exports were mainly from the textile industry.

In terms of imports from Germany, machinery and components (32,9%) again lead the way, followed by transport equipment (13,98%) and chemical products (12,17%). Metals came fourth with 7,67%. Automobiles, machinery and chemical products have been the country's leading exports in recent years. However, motor vehicles and parts remain the most imported products on the German market (see Fig. 5).



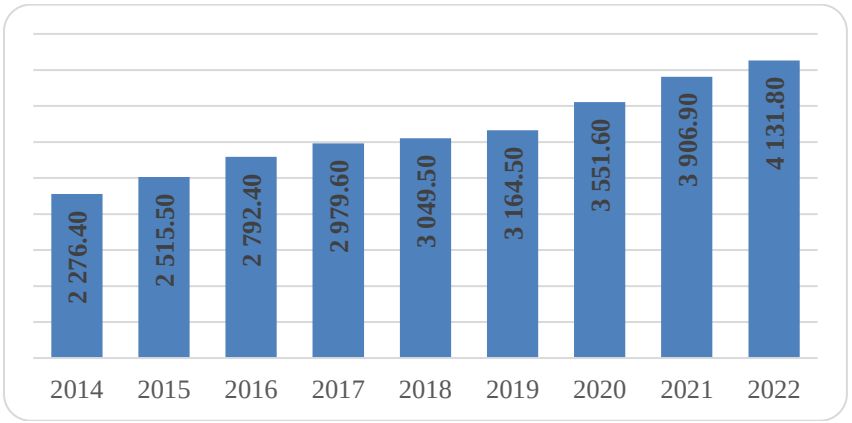
Source: OEC, author's calculations

Figure 5. Structure of Bulgarian import from Germany in 2020 in %

Intra-industry trade has emerged as a trend in bilateral trade over the past few years. The fact of this is the coincidence of separate product groups, such as machinery and components, which are noticeably present in both Bulgarian exports and imports from Germany.

Foreign direct investment from Germany

In addition to being an important trading partner, the Federal Republic is also a strategic investor in Bulgaria. In recent years, it occupies leading positions in the ranking of major investor countries. According to BNB data, the stock of FDI originating from Germany is growing steadily and will amount to 4 131,8 million euro in 2022 – 81,50% more than in 2014 (see Fig. 6).



Source: BNB

Figure 6: FDI stock from Germany for the period 2014-2022 in million euro

According to the data of Bulgarian Investment Agency (BIA), 51 projects with German participation have been certified for the period 2004-2021, covering Class A, Class B and Priority Class investments with a total value of 4 436,45 million BGN and the creation of 12 336 new jobs. Another 2 investment projects with German participation are in the process of certification until 25.01.2022.

German companies in Bulgaria

According to Eurostat data (last update on 07.02.2023) the number of German companies in Bulgaria is 302. For the period 2010 - 2020 a growth of just over 14% is reported. According to the Eurostat, the number of employees in these companies is 110 581. For the period 2010 - 2020, a growth of 45,6% was observed.

In Bulgaria, the Registry Agency registers established companies with foreign participation. These entities can be of different types - AD, EAD, OOD, EOOD, DZZD, ET, FL - subject to Bulstat, cooperation, FL registered under VAT, etc. According to the agency, the number of entities established with German participation in 2019 is 1 142. If the structure of these entities is analysed, there is an increase in the number of established EOOD and FL - subject to Bulstat, while the number of OOD remains constant.

From the information presented so far, it can be concluded that Bulgaria is an attractive destination for investments by companies from Germany, as well as that German companies in the country are a preferred employer for Bulgarian workers. If at the beginning the German investors were large concerns for which investing in the country was associated with a moderate risk, in the last decade the profile of investors has changed and has been supplemented by a greater number of small and medium-sized enterprises. Practice shows that German investors are cautious and need some time to choose our country for their investment, but when they make their choice, they settle long-term in our country and develop their investment over time.

Summaries and conclusions

Bulgaria is ranked by a number of international institutions and scores well on indicators related to macroeconomic stability, low taxes and freedom of trade. The country scores poorly on indicators such as business regulations, administrative

efficiency, corrupt practices and weakness of the judiciary. Our country's position in these rankings serves as a point of reference and can both attract and push back investors.

The development of legislation and institutions to facilitate the attraction of foreign capital and create the necessary conditions in the country began at the end of the last century with the adoption of the first law regulating foreign investment in Bulgaria, which has undergone many changes over the years. Currently, the main aspects of investment activities in the country are regulated by the Law on Foreign Investment and and the Regulations for the Implementation of the Law on Foreign Investment. A weakness is the lack of a modern strategy for attracting foreign investment and the fact that responsibility for implementing investment promotion policy is concentrated in a small number of structures, on whose work the country's investment attractiveness depends. If these structures do not function effectively, this leads to weaknesses in the marketing and positioning of Bulgaria as an attractive investment destination and thus to weak interest on the part of investors. The investment promotion strategies developed so far are inconsistent and are result of the state's current investment policy rather than long-term planning.

The current official BNB methodology for FDI reporting has one major drawback. It does not allow to identify the origin of foreign investors. The methodology identifies foreign investment only by the direct ownership of the capital and not by the endowner. Another shortcoming is the lack of data on FDI both by geographical area and by economic activity. There is no information on the economic sectors in which companies from a given geographical region or country invest. This makes it difficult to analyse investment on a sectoral and regional basis.

The shaping of the macro environment depends entirely on the actions of the host country. The role of the state is to create, through its mechanisms, the right conditions for business and stability of the environment in which businesses operate. Bulgaria's priorities for attracting foreign investors should focus on sectors with the potential to produce high value-added products, such as chemicals, pharmaceuticals, computer and communication technology, robotics, automotive, etc.

In recent decades, Bulgaria has attracted a significant volume of foreign investment thanks to stable macroeconomic indicators. EU membership, with the integration of the country into the economy of the common European market, has

contributed to this. Germany has established itself as Bulgaria's largest trading partner and one of the leading foreign investors. Over the years, German FDI has increased and the Federal Republic has taken a leading position in the ranking of the most important investor countries in Bulgaria. The stock of FDI originating from Germany in 2022 is more than 4 billion euro. German companies invest mainly in trade, automotive, manufacturing, finance and insurance sectors. There are 302 German companies operating in Bulgaria, employing more than 110 000 people. This confirms the interest of German business in our country and explains the increasing number of German companies entering the Bulgarian market. Practice shows that foreign investments significantly accelerate the growth of the Bulgarian economy, lead to an increase in labour productivity, improve the quality of production and competitiveness, have a positive impact on competition and the labour market, support the transfer of capital, knowledge, technology, innovation as well as the introduction of good and sustainable practices.

CHAPTER THREE. IMPACT AND EFFECTS OF GERMAN DIRECT INVESTMENTS ON THE ECONOMY OF BULGARIA BY THE EXAMPLE OF THE METALLURGICAL INDUSTRY AND THE COMPANY “AURUBIS BULGARIA” AD

Chapter three identifies and measures the impact of German direct investment on the Bulgarian economy using the example of the metallurgical industry and in particular the company “Aurubis Bulgaria” at the micro, macro and regional level. The paper presents the approach used to assess the impact of FDI and the methodology for calculating the aggregate economic impact of the company's activity in the country. The overall picture of the metallurgy and manufacturing industry in Bulgaria is presented on the basis of specific indicators. A link is established between the EU and Bulgarian metallurgical industry. The role of “Aurubis Bulgaria” in the country's economy, manufacturing industry and labour market is highlighted. The focus is on the company's overall contribution to domestic demand and the direct, indirect and induced socio-economic effects of its activity are assessed. Finally, the full impact (economic footprint) of the company's activity is described.

1. Approach to assessing the impact of foreign direct investment and methodology for calculating the overall economic impact of the activity of "Aurubis Bulgaria" in the country

In the dissertation, the term effect is considered not only as the result or consequence of an implemented investment action, but also as the overall influence and impact of the implemented investments. Effects can have different manifestations and positive or negative aspects. They largely depend on the time horizon, the sector, the form of implementation, the motives of the investor, etc.

The overall impact of FDI on domestic enterprises can be most accurately measured by analysing and evaluating the direct and indirect effects realised. The effects are of a potential nature, i.e. there are many possibilities for their manifestation, but not all possibilities are realised in practice.

The impact of FDI on the host economy and economic growth has been the subject of research interest by Bulgarian and foreign authors, but a comprehensive study of all direct and/or indirect effects in a country has not been carried out yet. Neither has been assessed the impact of FDI from a particular country on the host economy. The authors avoid the approach of estimating all direct effects known from theory, preferring to concentrate on a specific part of them or on a particular aspect of the direct effects of FDI. Some of them examine the relationship between foreign direct investment, gross domestic product, trade (imports and exports) and economic growth in developed and developing countries. Most studies examine individual indicators at the macro level, and the object of study is most often at the level of a country or group of countries. Among the numerous studies and papers, those by Girma et al. (2014), Almeida (2007), Öztürk & Kalyoncu (2007), Kokko & Gustavsson (2004), Sapienza (2009), Johnson (2006), Borensztein et al. (1998), Balasubramanyam et al. (1996), Alfaro (2003), Lipsey (2002), Blomström et al. (2002), Castellani & Zanfei (2003), De Mello (1999), Dimelis (2005), Ruxanda & Muraru (2010), Keller & Yeaple (2009), Campos & Kinoshita, (2002), Miteski & Stefanova (2017), Acaravci & Öztürk (2012), Nikolova (2014), Velushev (2017), Mihaylova (2014), Mladenova et al. (2005), Petkov (2009), Mladenova (2006), Popov (2008), Radulova (2017), etc.

Despite much studies, questions remain about the causal relationship between these three variables - FDI, exports and GDP - in terms of the direction of causality, the

strength of the relationships and the potential impact of bidirectional interdependencies. This allows the analysis of the impact of foreign trade with Germany on the Bulgarian economy to be conceptualised in the context of limited but concentrated German investment in key export-oriented sectors (copper processing, automotive, electronics and electrical engineering).

The research to establish the direction and intensity of the direct effects of foreign investment will proceed in the following stages:

- Estimation of the total direct impact of foreign investment using a system of micro-level indicators;
- Combining the derived direct effects with the estimation of indirect and induced effects;
- Analysis and assessment of regional impacts - the impact of the company on the municipalities of Srednogorie region.

Different industries have both direct and indirect impacts on the Bulgarian economy, which are the result of their interaction with other sectors in terms of supply and demand, as well as the jobs created. The methodology for calculating the total economic impact of Aurubis Bulgaria AD's activity in the country is based on an assessment of these impacts using a regional economic impact model (Regional Input-Output Modelling System - RIMS II), which is widely used by both investors and the public sector in preparing assessments of the economic impact of investment projects, operating companies and entire sectors in different economic sectors, both in the production and supply of goods and services.

The results of empirical tests of the model show that it estimates the demand arising from the industry under consideration with a high degree of accuracy. The methodology used in the thesis strictly follows the detailed instructions given in other research papers. The starting point of the model is that the direct effects resulting from an initial change in economic activity are accompanied by various indirect effects resulting from a change along the value chain.

In this framework, several types of impacts on aggregate demand, created by the activity of “Aurubis Bulgaria”, are distinguished:

Direct (primary) effects: These include the costs that the company incurs in supplying goods and services from local companies. The main groups of expenses for

“Aurubis Bulgaria”, carried out in the country, are the investments, the expenses for the purchase of goods and raw materials necessary in the processing process and their delivery, as well as the use of various external services necessary for the functioning of the company.

Indirect (secondary) effects: Each of the suppliers of goods and services to “Aurubis Bulgaria” in turn creates additional demand for raw materials, capital goods, fuels, various services, etc. Other things being equal, the higher the share of intermediate consumption in final output, the higher the cost multiplier for indirect effects. At the same time, the higher the proportion of required goods and services that are sourced from domestic enterprises, the higher the proportion of value added generated by the domestic economy at the expense of imports of such goods and services, and the more pronounced and visible the corresponding marginal effect on the national economy.

Induced (tertiary) effects: When employees spend their income, they create additional demand whenever they buy from a local supplier, which in turn creates additional value chain effects. The value of the multiplier depends on the propensity to consume, and the induced effect depends on the consumption basket - different goods and services generate different secondary effects through their supply chains.

The calculations are based on both the latest data from the Resource Use Tables published by the NSI (ESS 2010) and the estimation of expenditure multipliers for individual industries estimated by the Organisation for Economic Co-operation and Development (OECD, Input-Output tables, 2018 edition).

The direct, indirect and induced effects of the activity of “Aurubis Bulgaria” are considered in the context of an analysis of the Bulgarian economy with a focus on investments over the last decade and the development and trends in the metals industry, including metals exports and their role in the economy.

2. The metallurgy and the Bulgarian processing industry

The overall picture of metallurgy sector and the Bulgarian processing industry is presented, with an emphasis on gross added value, productivity in the sector, energy consumption and turnover. A connection was made between the metallurgical industry of Bulgaria and the EU.

3. The role of “Aurubis Bulgaria” in the country's economy, processing industry and labour market

“**Aurubis**” **Group and** “**Aurubis Bulgaria**” **AD**

“Aurubis” is a leading integrated copper group and the world's largest copper processor. With an annual production of more than 1 million tonnes of copper cathodes and further processing into various copper products, the Aurubis Group is the largest copper processor in the world and the global leader in the copper sector. More than 2,4 million tonnes of copper concentrates and about 1 million tonnes of recycling materials and blister copper are processed annually.

“Aurubis Bulgaria” is part of Aurubis AG (Aurubis AG, based in Hamburg, Germany). The company is the largest taxpayer in Bulgaria and is structurally important for the country's economy. The main activity is the processing of copper concentrates, the production of refined copper, listed on the London Metal Exchange under the brand name “Pirdop”, of copper anodes and, as by-products of the processing of raw materials, sulphuric acid, iron silicate, anode slime and fayalite concentrate.

Production of anode and electrolytic copper by “Aurubis Bulgaria”

In 2021, the production of anode and cathode copper decreased by 10,91% and 3,06% respectively, with the amount of anode copper being the lowest in the period under review (see Table 3). The lower production volumes are intermittent and characteristic of years in which major repairs are carried out on the smelting facilities, including the shutdown of the smelter. This leads to a reduction in the input of copper concentrates during the year and in the amount of sulphur contained for the production of sulphuric acid (1,18 Mt of sulphuric acid produced in 2021). For the second consecutive year, the amount of copper waste processed decreased by 7 thousand tonnes. The processing of secondary copper has an economic and environmental impact and the company's policy is to increase this proportion over the years.

Table 3. Production of anode and electrolytic copper in “Aurubis Bulgaria” for the period 2017-2021, tonnes

Product	2017	2018	2019	2020	2021
Anode copper	375 241	358 676	310 245	335 306	298 728
Electrolytic copper	228 457	224 098	207 196	224 880	218 020

Source: “Aurubis Bulgaria”

With a relatively constant share in the production of anode and electrolytic copper worldwide and production within the EU-28, the Bulgarian copper industry has a good position in world production. The data also show the high specialization of Bulgaria in the copper production of the EU, which conforms to and meets the best European and world standards (see Table 4).

Table 4. Production of anode and electrolytic copper as a part of world production and that of the EU-28 in "Aurubis Bulgaria" for the period 2017-2021, thousand tonnes

Production in Bulgaria	**Anode copper**		**Electrolytic copper**	
	Part of world production	*Part of EU-28 production*	*Part of world production*	*Part of EU-28 production*
2017	1.96%	16.50%	0.97%	8.37%
2018	1.93%	16.75%	0.94%	8.49%
2019	1.55%	14.10%	0.87%	7.97%
2020	1.59%	14.20%	0.92%	8.43%
2021	1.20%	11.20%	0.90%	8.10%

Source: "Aurubis Bulgaria"

The electrolytic copper produced in Bulgaria in 2021 is 0,9% of the world production, 5,6% of the European production and 8,1% of the EU production (8,43% in 2020). Bulgaria's share of world anode copper production in 2021 is 1,2% and that of the EU is 11,2%. The decrease is also due to the increase in the copper price - from 7 000 USD in January 2021, to over 10 000 USD in May, to a relatively stable level of over 9 000 USD in June-December 2021.

Investment projects of "**Aurubis Bulgaria**"

This section presents the Company's investment programmes and projects and their financial value by year for the period 2015 - 2023. On February 15, 2023, the Supervisory Board of Aurubis (Aurubis AG) approved an investment of 235 million BGN for the expansion of the cathode copper refinery at the plant in Bulgaria. The expansion will enable "Aurubis Bulgaria" to produce around 340 000 tonnes of cathode copper per year, an increase of around 50%. The expected annual impact on the operating result (EBITDA) is 58,7 million BGN after commissioning in the second half of 2026. This is the largest single project investment in Bulgaria since the acquisition of the refinery in 2008. The refinery expansion will allow all copper anodes produced in Bulgaria to be processed on site. This will optimise flows while significantly reducing logistics costs and the associated carbon footprint.

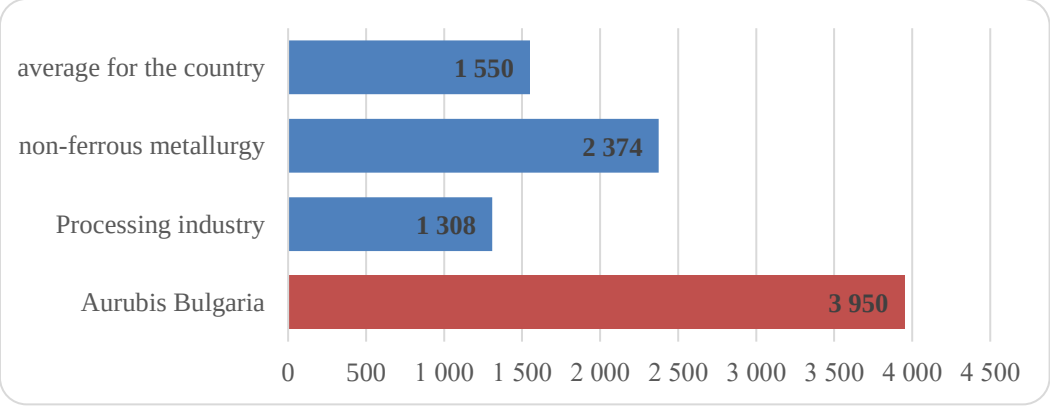
“Aurubis Bulgaria” in the national economy

“Aurubis Bulgaria” is the largest producer of copper in South-East Europe and plays a significant role in the Bulgarian export economy. Its products are widely used in the electronics, energy, automotive, chemical and construction industries. The company contributes 6% of total exports of goods and services and 8% of exports of goods on average over the last three years. “Aurubis Bulgaria” dominates the metallurgical industry, with the company's exports representing about 50% of the value of exported metals in the period 2020-2022. In fact, it completely dominates cathode and anode copper exports from Bulgaria.

The company generates about 50% of its revenues from sales of enterprises in the sector “Production of base metals” and about 60% of its revenues from the production and processing of precious and non-ferrous metals. The company is the employer of approximately 7% of the employees in the base metals production industry as a whole and 17% of the employees in the non-ferrous metals production industry.

The activity of “Aurubis Bulgaria” has a significant macroeconomic dimension. It is the largest non-financial company in Bulgaria in terms of sales revenue for 2020 and 2021 according to the K100 ranking of “Capital” magazine, on 11th place in terms of asset value for 2021 and is among the 150 most large employers in our country.

The average sales revenue per employee is 32 times higher than the average value for non-financial enterprises as a whole. This allows “Aurubis Bulgaria” to be among the employers with the highest remuneration in the Bulgarian economy - in 2021 it will be 3 950 BGN – 2,5 times higher than the average salary for the country and 3 times higher than the average wage in the manufacturing industry (see Fig. 7).



Source: NSI, author's calculations
Figure 7. Average monthly wage in 2021 in BGN

For another year, the highest wages in the country are to be found in small municipalities with large employers - the leading municipalities are those in Srednogorie region, which have developed mining and related manufacturing industries, as well as those with large enterprises in the energy sector. The Srednogorie region is characterised by relative stability of economic indicators, thanks to large industrial enterprises in mining and metallurgy sector. According to the Institute for Market Economics (IME), the highest average gross monthly salary in Bulgaria in 2021 is in the municipality of Chelopech (2 930 BGN). The second highest average salary is in Kozloduy (2 431 BGN), followed by Pirdop (2 205 BGN) and Sofia municipality with 2 144 BGN. The fifth municipality is Radnevo with 2 144 BGN.

4. Impact and effects of the activity of "Aurubis Bulgaria" on the Bulgarian economy

The activity of "Aurubis Bulgaria" has both direct effects on the Bulgarian economy – in terms of its expenditure on raw materials and external services, remuneration of employees, taxes, etc. – and indirect effects as a result of its interaction with other companies and sectors of the economy.

4.1. Direct costs in the Bulgarian economy

The direct impact of the enterprise's activity on the Bulgarian economy includes its expenditure on local activities. These can be divided into several broad groups:

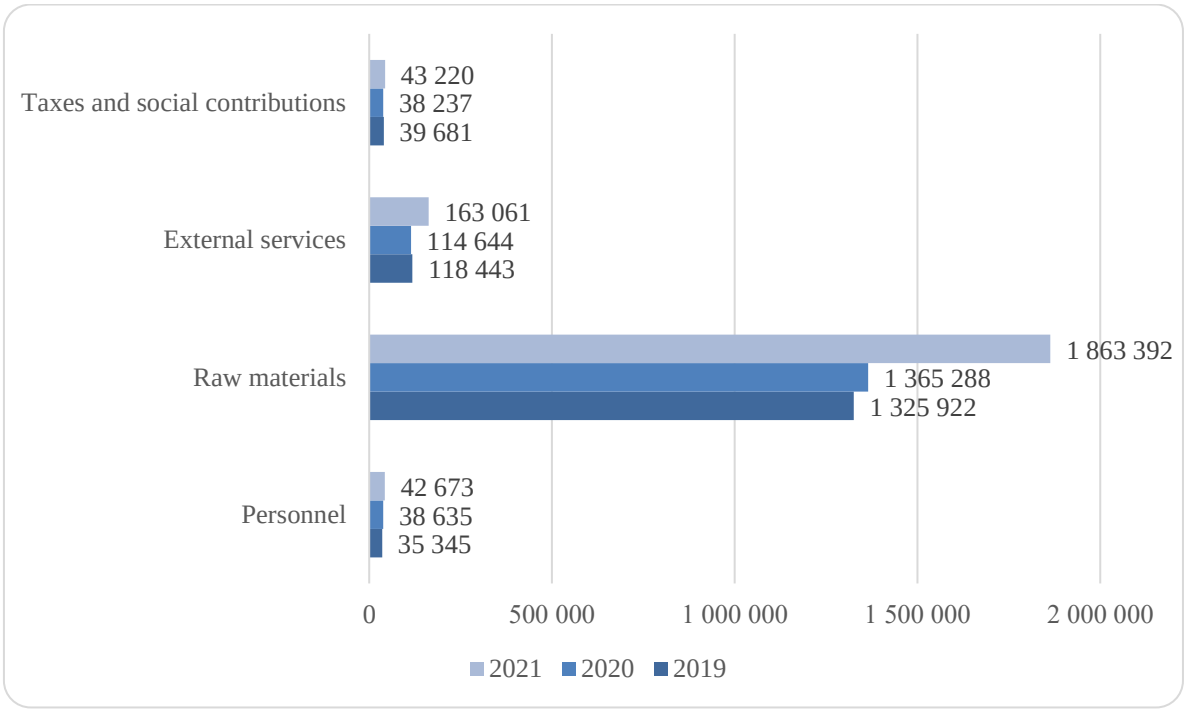
- Purchase of raw materials and inputs used in production and ordered from Bulgarian suppliers;
- Personnel costs;
- The cost of various external services;
- Expenditure on the acquisition of fixed assets.

In addition, the company pays taxes on profits and employee income, as well as local taxes and fees.

In the period 2019-2021, the total expenditure of these groups in Bulgaria is more than 2,2 billion BGN per year on average. Their size varies over the years depending on a number of objective and subjective factors, such as global economic activity, the copper exchange price, the stage of implementation of the investment programme, etc.

In 2021, the company's expenditure on the local market amounted to 2,1 billion BGN, the majority of which was spent on the purchase of raw materials such as copper, electricity, fuel, etc.

There is a consistent trend in personnel expenses, which increased in each year of the period under review. This is due to both an increase in the number of employees and an increase in wages. The company's headcount will increase from 887 in 2019 to 913 in 2021, with gross monthly remuneration increasing from 3 320 BGN to 3 950 BGN over the same period. Some of the company's direct costs in the country are shown in Fig. 8.



Source: Data of "Aurubis Bulgaria"

Figure 8. Expenditure in Bulgaria for the period 2019-2021, in thousand BGN

Net expenditure on wages and salaries together with social security contributions and taxes represents 0,81% of the total expenditure of the enterprise. The low share is typical for capital-intensive companies with high labour productivity, which is also reflected in the level of average gross monthly wages – 3 950 BGN in 2021, compared to the country average of 1 550 BGN, 1 308 BGN for the manufacturing industry, 2 347 BGN for the non-ferrous metallurgy industry and the average wage in the municipalities of Anton, Zlatitsa, Koprivshtitsa, Pirdop, Chavdar and Chelopech of 1 424 BGN.

In 2021, the purchase of raw materials and supplies for the operations will account for the largest share of the company's expenses - approximately 92,17%. This includes both the purchase of copper concentrates from “Asarel Medet” AD and “Elacite-Med” AD (29% of the production requirements are from local companies) and scrap from other companies. Approximately 91,3% of the costs are for copper and copper concentrates, as well as for electricity, oxygen, spare parts, fuel, etc.

As a result of its operations, the company spends about 3% of its costs on paying taxes – corporate tax, social and health insurance, personal income tax, household waste tax and property tax.

4.2 Indirect impact on domestic demand

In addition to the direct effects that Aurubis Bulgaria's activity has on the Bulgarian economy, there are also indirect effects. Each of the company's suppliers of goods and services creates through its activities additional demand for raw materials, industrial goods, fuels, various services, construction, etc., which multiplies the aggregate demand already generated in the country.

Investment costs

It is more difficult to analyse the investment expenditure over a calendar year because the implementation of various projects is planned over more than 12 months and is not evenly spread over the years.

Investment costs are not uniform. Based on the expenditure multipliers for the various related activities, the total effect on domestic consumption, which includes the so-called secondary demand effects, in the country increases from 55,2 BGN million to 111 million BGN in the period 2017-2019. In the period 2020-2022, investments amount to 209,2 million BGN and generate additional demand along the value chain of investment and construction activities of almost 215 million BGN in the Bulgarian economy. In 2021 alone, 85,3 million BGN will be invested in the implementation of projects, generating additional demand of 87,6 million BGN. In 2022, 79,8 million BGN will be invested in the implementation of projects that are part of the company's investment programme. The Supervisory Board of Aurubis AG approved an investment of 235 million BGN for the expansion of the cathode copper refinery in Bulgaria.

External service costs

External service costs are an integral part of the company's operations. Based on an assessment of cost multipliers for different groups of external services, the total secondary effect of these services has been calculated. Thus, the direct effect of external service costs of about 163 million BGN in 2021 leads to an additional aggregate secondary effect of about 120 million BGN. The additional domestic demand is directed to different sectors of the economy: business services, service and maintenance, transport, administrative services and management, human resources, etc.

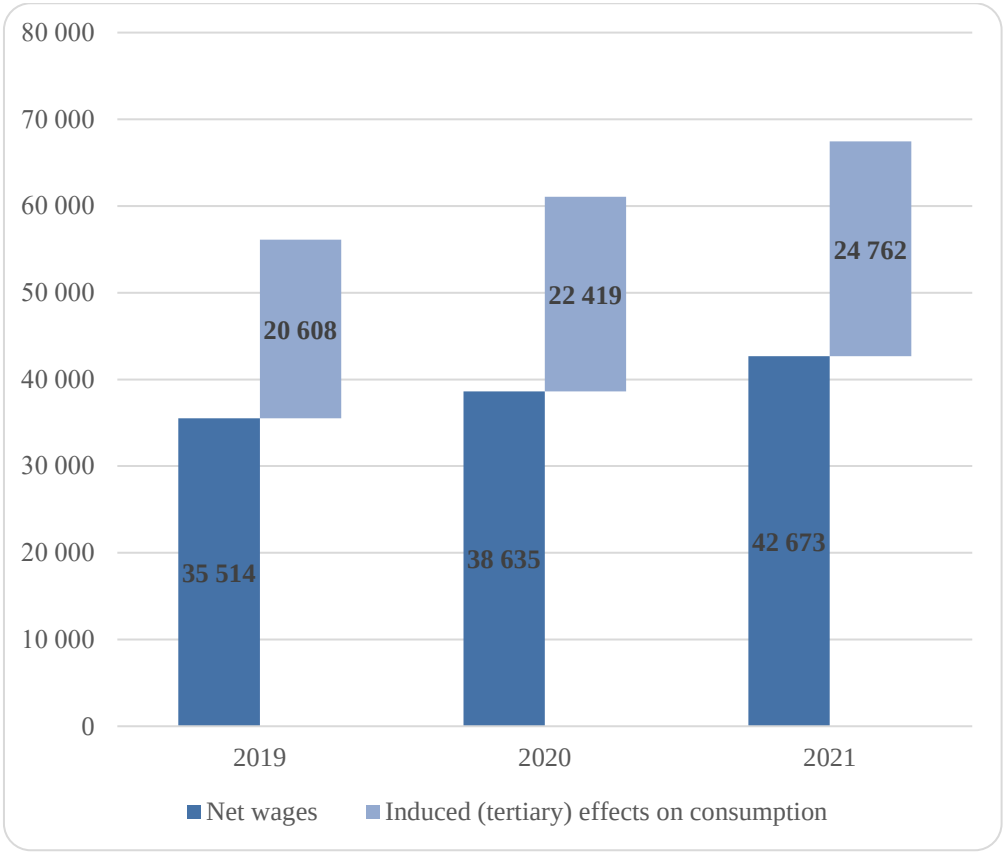
Local suppliers of raw materials

Aurubis Bulgaria's expenditure for the purchase of raw materials from Bulgarian suppliers in 2021 amounts to almost 2,1 billion BGN. Around 91,3% of the raw materials and supplies costs are for copper and copper concentrates, as well as 4,1% for electricity, 2,5% for oxygen, and 2,1% for spare parts, fuel, etc. Raw material costs vary significantly over the years and are influenced by a number of objective and subjective factors. These include, for example, the development of the world economy, copper exchange prices, the phase of the economic cycle in which Bulgaria finds itself, etc.

On the basis of an assessment of cost multipliers for different groups of raw materials, the aggregate secondary effect of these has been calculated, which is strongly influenced by the cost of purchasing copper due to its large share in the cost of raw materials. Thus, the direct effect of the expenditure on raw materials by Bulgarian producers of around 2,1 billion BGN in 2021 leads to an aggregate secondary effect of 971 million BGN.

Personnel expenses (income effect)

Aurubis Bulgaria's personnel costs increase by 20,7% in the period 2019 - 2021, reflecting both the increase in the number of employees and the increase in salaries and social security contributions. The net household income from the compensation of the company's employees increases from just over 34 575 BGN thousand in 2019 to 41 718 thousand BGN in 2021 (see Fig. 9).



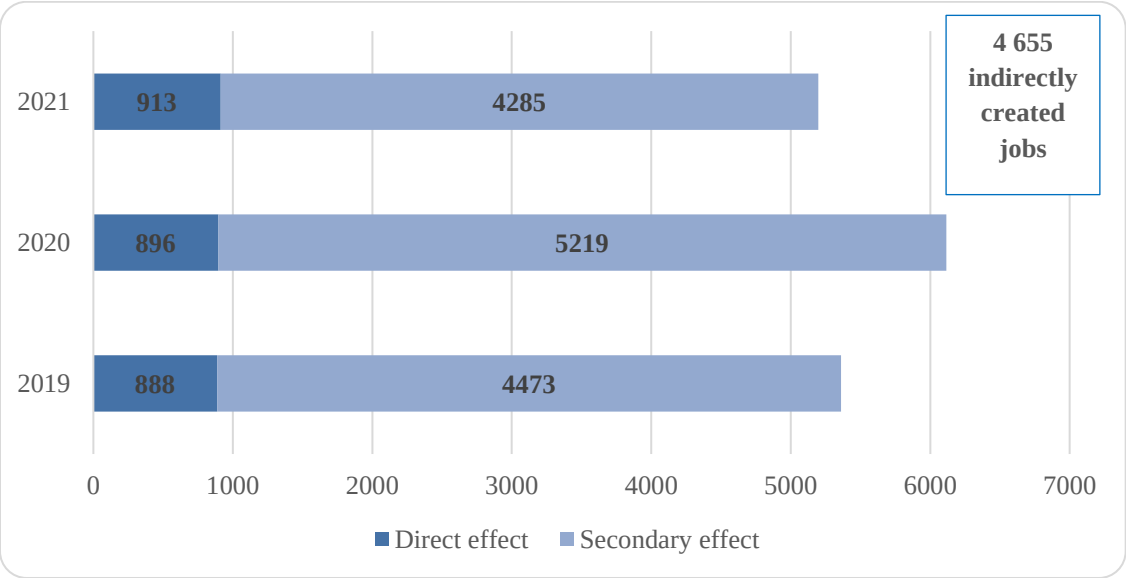
Source: Data of "Aurubis Bulgaria", author's calculations
Figure 9. Effect of direct employment at "Aurubis Bulgaria" on domestic consumption in Bulgaria 2019-2021, in thousand BGN

Using an income-expenditure multiplier of 1,58, the total effect on domestic consumption, which includes the so-called induced or tertiary effects on domestic demand, increases by 24,76 million BGN and reaches 67,43 million BGN in 2021. This means that the net wages received by the employed generate additional demand for goods and services in various sectors - food, beverages, clothing, furniture, machinery, etc., as well as tourism, restaurants, construction, financial and other services.

Impact on employment

In 2021, the company's activity will directly create 913 jobs. The company's expenditure described above, including wage costs that are subsequently translated into household consumption expenditure, has a secondary effect on employment in the economy. Thus, the company's activity create about 4,7 times the 913 jobs it employs, while the additional jobs created in the economy in 2021 amount to 4 655. Over the period under consideration, direct employment in the company has gradually increased

and averages 899 persons, while average indirect employment is around 4 659 persons (see Fig. 10).



Source: Data of "Aurubis Bulgaria", author's calculations
Figure 10. Direct and indirect employment effects of "Aurubis Bulgaria" 2019-2021

For comparison, the total number of persons employed in non-financial enterprises in the municipalities of Anton, Zlatitsa, Koprivshtitsa, Mirkovo, Pirdop, Chavdar and Chelopech in 2021 is 5 755. The impact of "Aurubis Bulgaria" on indirect employment is not limited to these municipalities, as it extends to various activities such as mining in the municipalities of Etropole and Panagyurishte, road and rail transport, etc. Considering the daily operational activities of the company, it can be argued that a large part of the indirect employment is concentrated in the seven municipalities under consideration, in addition to the municipalities of Etropole and Panagyurishte.

4.3. Regional impact

Population structure and dynamics

The municipalities in the Srednogorie region have quite different population structures, especially in terms of the ratio of people of working age to people of retirement age. The largest municipality in terms of population is Pirdop with 7 281 inhabitants in 2021, followed by Zlatitsa with 4 966 inhabitants. They are distinguished from the other municipalities in the region by a relatively higher proportion of both working age population and children, with the negative demographic structure being

particularly evident in Mirkovo. In terms of dynamics in recent years, only one of the communes – Anton – has managed to keep its population stable, while the others, with the exception of Pirdop, are shrinking, with the most significant decrease in Chelopech (-9,4% compared to 2020). The six municipalities have a distinctly negative natural increase, only Pirdop has a positive increase, albeit minimal at 1,25%.

Labour market situation and trends

Due to the particular economic structure of the municipalities in Srednogorie region, they have extremely stable labour markets with consistently high employment rates, low unemployment and significantly higher wages compared to the national average. The employment profile clearly shows the industrial profile of the municipalities, with almost half of the employees in Pirdop working in manufacturing. The other leading sectors are construction and trade.

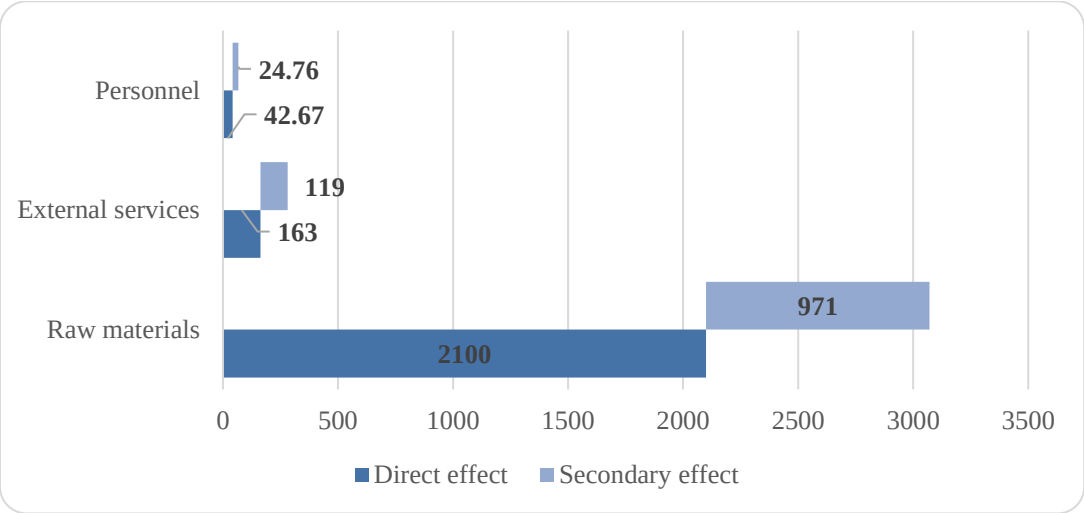
Municipal finances

The municipalities in the Srednogorie region are among the relatively good performers in terms of municipal finances. Given the size of the company, Aurubis Bulgaria is a key player in the finances of the municipalities in which it is located. Over the last three years, the company has paid more than 1,14 million BGN in local taxes and fees annually, which represents between 13-15% of the total tax and fee revenues of the municipality of Pirdop and between 34-36% of those of the municipality of Zlatitsa, depending on the year.

In addition to the local taxes paid by the company, the municipalities also have additional income through the Corporate Social Responsibility programme, through which the company provides additional funds to the municipalities of Anton, Pirdop and Zlatitsa in the average amount of 820 thousand BGN per year for the period 2019-2021.

4.4. Full impact of the company's activity in the country

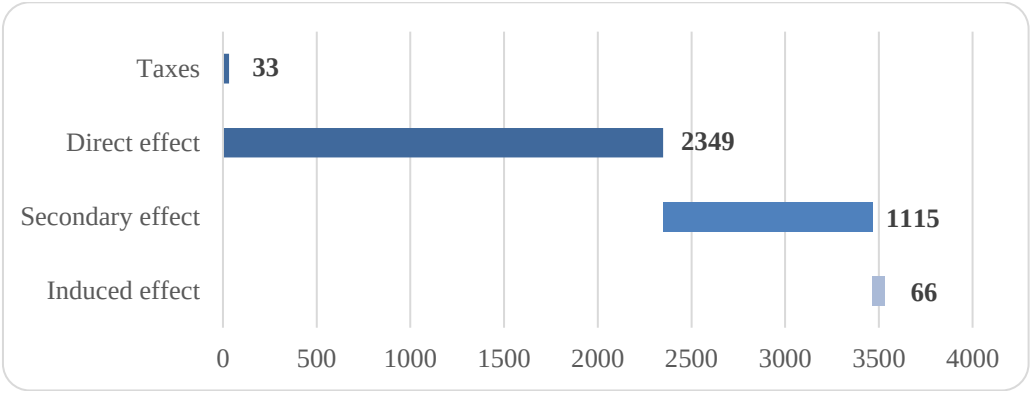
The impact of Aurubis Bulgaria's activity on the economy in 2021 is a total demand created in the country of more than 3,56 billion BGN. As in Fig. 11, the largest impact of the company's activity is concentrated in the production of goods and raw materials used in the processing process.



Source: Data of "Aurubis Bulgaria", author's calculations
Figure 11. Total impact on aggregate domestic demand, 2021.

Next is the aggregate impact of spending on external services, which are also provided by domestic firms. The share of personnel costs appears low, but this is due to the capital-intensive nature of the company's activity, which are characterised by investment in technology and high labour productivity. Finally, it is difficult to analyse capital expenditure in a single calendar year. The annual investment costs in 2021 also appear low compared to the cost of raw materials, but at the end of the year the total value of the company's fixed assets amounted to 482,43 million BGN.

In financial terms, the various effects for 2021 are shown in Fig. 12.



Source: Data of "Aurubis Bulgaria", author's calculations
Figure 12. Direct, secondary and induced effects on domestic demand in the Bulgarian economy for 2021, in thousand BGN

The total demand created of over 3,56 billion BGN includes:

- Expenditure on raw materials purchased from domestic suppliers – 2,1 bln BGN;
- Net salaries – 42 mln BGN;
- Secondary effects through the value chain in the supply of goods and services – 971 mln BGN;
- Induced consumption effects on the net income of employees in the economy - 66 mln BGN.

To this should be added the taxes paid during the year, amounting to 33 mln BGN, which have an additional effect on the development of the local economy.

5. Recommendations for improving the policy for the promotion of foreign direct investment in Bulgaria

A favourable business environment is a prerequisite for attracting more foreign investment. The country's good performance in international rankings helps to improve its image among foreign investors. A good image of our country as a reliable business partner can be achieved with the commitment of the government and public institutions as well as the private sector.

To be effective, a foreign investment policy must not only aim to attract foreign investment, but must also include measures to retain and develop foreign investment, to maximise the benefits of investment for the local market and, where appropriate, to limit the negative impact on the environment. When foreign investors reinvest their profits, build new companies and increase production capacity, introduce new technologies and hire new staff, they deepen their links with the local economy.

Undoubtedly, Bulgaria has a number of advantages for attracting foreign investment, such as: membership in WTO, NATO and EU, strategic geographical location, macroeconomic stability, favourable tax regime, competitive labour costs, etc. Despite these advantages, a number of problems have remained unresolved for years and constitute a serious obstacle for foreign investors, including those from Germany. Such obstacles include: small domestic market, large bureaucracy, non-transparent and inefficient state administration, many administrative obstacles to business, poorly functioning judicial system, high level of corruption, unsatisfactory state of infrastructure, lack of sufficiently educated and highly qualified personnel, etc. It is no

longer necessary to promote Bulgaria only as the country with the lowest taxes and labour costs, but as a destination with potential, offering favourable conditions for starting a business, with the necessary infrastructure and educated and qualified staff. Low taxes, cheap labour and low resource prices are not always attractive to investors who want to settle permanently in a country.

Although Bulgaria is making efforts to implement the necessary reforms, this is not enough to overcome the challenges facing the country's business climate. An important milestone is Bulgaria's accession to the European Exchange Rate Mechanism (ERM-2) in July 2020, which precedes the adoption of the euro. The mechanism ensures that the country's currency does not fluctuate excessively. To maintain this status, the country has reformed its bankruptcy laws, adjusted the rules governing state-owned enterprises and adopted an anti-money laundering law. The prospect of Bulgaria joining the Schengen area promises to simplify supply chains. Bulgarian transport companies expect border crossing times to be reduced by up to 15 hours.

In order to improve the business climate and investment activity, Bulgaria needs an effective and coherent long-term strategy for attracting foreign investment that responds to new realities and trends in the global economy. The strategy needs to be adaptable to the changing environment and conditions and be one of the priorities of the government's economic policy. The regulatory framework should facilitate, not hinder and obstruct, the investment intentions of potential investors.

Although there has been an improvement in the work of the Invest in Bulgaria Agency in recent years, there is a need for active and targeted work in this direction. Foreign investors point to the lack of regional offices, few staff, limited capacity and resources, heavy bureaucracy and delayed certification procedures, inadequate post-investment services, lack of up-to-date and in-depth sectoral analysis, etc. as shortcomings. A number of recommendations can be made in this respect: the establishment of regional offices through which an effective policy can be pursued at local level, as well as offices abroad for better marketing and raising the profile of the country as an attractive investment destination; improving cooperation with bilateral chambers of commerce, trade and economic affairs offices abroad, as well as with local level structures - district and municipal structures; providing up-to-date information on available opportunities for bilateral chambers of commerce are closely linked to the

economies of two countries and are often the first point of contact for investors. They have the necessary specialised information and skills and are preferred by foreign investors in the process of implementing their investment plans.

A positive step towards improving the business environment in Bulgaria was the adoption of the Law for Industrial Parks in 2021, which provides an appropriate legal framework for the creation of conditions to encourage investors to carry out manufacturing activities, including through the mechanism of public-private partnership.

The shortage of educated and skilled workers has become increasingly evident over the last decade, not only in Europe, but also in our country. This is a serious challenge not only for companies in the local market, but also for foreign investors who see the country as an opportunity for their future investments. Often they come with big ideas to open a production with a significant number of employees, but are forced to start with a very small number of employees in case they stay in Bulgaria and do not decide to open their factory elsewhere.

A reform of the education system would help to ensure a sufficient number of trained staff. The knowledge that students acquire during their education is mostly theoretical, not practical and extremely insufficient for the work process. The solution would be to implement the dual vocational training model, which is widely used in Austria, Germany and Switzerland. During the training, the trainees acquire both theoretical knowledge in the training institution and practical knowledge and skills in the company, and after the training they have the necessary experience to start working in their profession. The provision of attractive incentives by the state to invest in the training and qualification of employees would also stimulate the increase of knowledge transfer between employees in companies. All these reforms require political will and commitment from all stakeholders.

Summary and conclusions

As a result of the investment activity of the metallurgical companies operating in the country and the dynamics of the international economic situation, the production and processing of metals is undergoing a significant transformation and the volumes of production and exports are increasing.

Non-ferrous metallurgy plays an important role in the EU processing industry. Europe is the third largest EU producing region for electrolytic copper. The Bulgarian copper industry, thanks to “Aurubis Bulgaria”, has a good position in world production with a relatively constant share in anode and electrolytic copper production.

The activitiy of “Aurubis Bulgaria” have both direct and indirect effects as a result of its interaction with other companies and sectors of the economy. The overall economic impact of the company's activity includes both the direct contribution to additional demand for goods and services through the company's expenditure and the indirect value chain and income effects that increase the country's overall domestic demand. The company's activity also have a regional impact on the municipalities of Srednogorie region – Anton, Zlatitsa, Koprivshtitsa, Mirkovo, Pirdop, Chavdar and Chelopech.

In order to improve the business climate and investment activity, Bulgaria must have an effective and consistent long-term strategy for attracting foreign investments that meets the new realities and trends in the world economy. The strategy must be able to adapt to the changing environment and conditions and be among the priorities of the government's economic policy. The regulatory framework should facilitate future investors, not hinder them and hinder their investment intentions.

CONCLUSION

As the most important economic partner of Bulgaria, investments from Germany have an undeniably large positive impact on the country's economy. In addition to direct and indirect effects, they also generate tertiary (induced) effects that can have an impact at the national (macro), company (micro) and regional level. German companies are looking for alternative opportunities to develop their business by relocating production to regions that are geographically closer. At the same time, German companies are looking for favourable development conditions and solutions to reduce their operating costs. Bulgaria offers a good alternative. The disruption of global supply chains is causing many German companies to rethink their business strategies and bring production back to Europe. Despite strong competition from other countries in Europe and the region, Bulgaria has a lot to offer and can position itself as an attractive destination for nearshoring.