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Abstract

The aim of this paper is to look at the dynamics during the last decade and the current state of Bulgaria's foreign economic relations with China. A special focus is put on trade relations. Various trade indicators are employed including trade complementarity, intra-industry trade, revealed comparative advantage indices in order to evaluate the current status and identify potential areas for intensification of Bulgaria's business ties with China. The findings of the paper can be used to draw policy implications for promoting future trade and investment cooperation between Bulgaria and China.

Keywords: *foreign trade, FDI, Bulgaria, China*

1. Introduction

Bulgaria has long lasting relations with China dating back to 1949. It is the second country in the world only after the USSR that officially recognized the People's Republic of China. In the 1950s the bilateral ties were flourishing. However during the Cultural Revolution in China (1966-1976) and the rising ideological disagreements with the USSR, the Sino-Bulgarian relations halted to a zero.[1] In the beginning of the 1980s the cooperation between Bulgaria and China was restored and, with the exception of the early 1990s when both countries had different internal issues to deal with, ever since then they have been on an upward path. Amidst the twists of history, both sides have always adhered to the principles of mutual respect, understanding and reciprocity. At present Bulgarian-Chinese relations are free of political contradictions, ideological prejudices, unresolved issues and have a friendly and pragmatic character.

Agreement on Economic Cooperation between both countries was signed on the 20th November 2006 in Beijing with effect from 9 October 2007. Additional Protocol to the Agreement on Mutual Encouragement and Protection of Investments in force since 1995 was signed on 26th June 2007. The legal framework of the Sino-Bulgarian economic relations is also complemented by an Agreement for the avoidance of double taxation in force since 24.05.1990 and amended in 2002. A notable event in the Sino-Bulgarian relations is the establishment in 2006 in Sofia of the first Confucius Institute in Central and Eastern Europe.

A recent potential boost of the Bulgarian-Chinese relations was given by the "16+1 Cooperation" framework initiated in 2012 by China. It aims at intensifying and expanding political dialogue and cooperation between China and 16 Central and Eastern European countries (CEECs) - 11 EU Member States (Bulgaria, Croatia, the Czech Republic, Estonia,

[1] Donchev, D. (2018) 65 years diplomatic relations between Bulgaria and the PRC, China today, issue 2/2018, http://www.kitajdnes.com/index.php?option=com_content&view=article&id=895:65-godini-diplomaticheski-otnosheniya-mezhdu-balgariya-i-knr&catid=434&lang=bg

Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia) and 5 countries from the Western Balkans (Albania, Bosnia and Herzegovina, Macedonia, Montenegro, Serbia) in the fields of investments, transport, finance, science, education, and culture. In the framework of the initiative, China has defined three potential priority areas for economic cooperation: infrastructure, high technologies, and green technologies. The heads of states of the member countries meet annually and have agreed to construct about 20 professional coordination mechanisms and platforms in areas including trade, investment, tourism, local cooperation, transportation, logistics, technology cooperation, think tanks etc. Bulgaria was assigned to host the cooperation mechanism in agriculture. In 2014 the China-CEE Association for the Promotion of Agricultural Cooperation was established in Sofia.

The 16+1 intergovernmental mechanism represents a platform that in a certain way overcomes the asymmetry in the economic and political significance of the individual CEECs and China. It is a forum where those countries have the chance to meet the Chinese prime-minister on a regular basis which otherwise would be hardly attainable. For China it is also important to be able to influence the entire region and to have access to the leaders of 120 million people at once, instead of pursuing bilateral talks one by one. The attractiveness of the CEE region for China stems from several factors:

- historically both sides have always shared close political and economic ties;
- despite the existing economic and social differences among the CEECs the region generally has a political and macroeconomic stability, sound economic growth, high trade and investment openness and relatively cheap but qualified labour;
- the region provides direct access to the European Single Market as 11 of the CEECs are EU member states while the rest are in the process of EU integration;
- important geographic location of the region that places CEECs among the 65 countries part of the Belt and Road Initiative – the most ambitious Chinese strategic plan that aims at fostering economic development and provides a framework for international cooperation in the fields of infrastructure, trade and investment, energy, people-to-people exchange.

At the turn of the 21st century the CEECs, respectively Bulgaria, have increased their interest in revitalizing bilateral economic relations with China due to the following reasons:

- the spectacular economic development and rise of China in the New World Order. When China started economic reforms in 1979 it was a poor, small, underdeveloped agrarian economy. After almost forty years of unprecedented economic growth now China is the world's second largest economy. In 2009 it overtook Germany and became the world's biggest exporter. China displaced the United States as the world's largest manufacturing nation in 2010. In 2016 China widened its lead with a share of 25.5% of the global manufacturing activity surpassing the US by 7.4 percentage points.[2]
- China offers an alternative model of development policy than the one adopted by most CEECs and Bulgaria in the years of transition following the prescriptions of the Washington based international institutions. During the last 40 years, China's development model, driven by investments and exports, generated impressive results in terms of economic growth,

[2] data from the United Nations Statistical Division

technological modernization, poverty reduction and the country's repositioning in the global economy. An appealing characteristic of the model is that China is not trying to impose its political and economic views to the other countries, emphasizing the "no intervention principle."

- The cooperation with China is not seen as an alternative to the European integration of Bulgaria. China also considers its relations with CEECs as part of its wider ties with the EU.
- China is rapidly transforming into an innovation superpower. It spends over 2% of its GDP on research and development, accounting for 21% of the world's total of nearly $2 trillion in 2015 being the second largest spender on R&D only after the US.[3] Bulgaria and most of the CEECs being technological laggards need international transfer of technology to boost their economic development.
- In line with the "Go Out Policy" initiated back in 1999 China is increasingly becoming a global investor in overseas business, with both state-owned and private firms investing abroad in projects and assets as diverse as infrastructure, technology, manufacturing, real estate, agriculture. In 2014 the country became the second largest exporter of FDI and in 2016 invested over USD 183 billion in the world (over USD 110 billion announced greenfield projects). [4]
- In 2001 the country joined the WTO and is consistently opening its economy. China's demand for imports is expected to continue increasing, driven by the effects of fast economic growth, higher incomes and rapid urbanization. China presents enormous opportunities for Bulgarian exporters to its huge market and growing middle-class.

The aim of this paper is to look at the dynamics during the last decade and the current state of Bulgaria's foreign economic relations with China and to evaluate the potential for further intensification. The focus is put on trade and foreign direct investment ties. At the backdrop of intensive high-level political and business talks and declared intentions it is interesting to see does Bulgaria realize its export potential on the Chinese market and has the country managed to benefit from the 16+1 initiative and the increased interest of China to invest in the CEE region.

2. Methodology

This study aims to provide some empirical insights to the Bulgarian trade and investment relationship with China. The analysis uses indices identified in the literature and widely used by policy makers. The indices describe and evaluate the state and dynamics of trade flows and patterns between the two countries.

The data used to measure the trade indices is collected from the Eurostat and the International Trade Centre. Foreign direct investment data is obtained from the Bulgarian National Bank. The surveyed indicators cover the last decade – the period from 2007 (the year of Bulgaria's accession to the EU) to 2017 (or the most recent available year).

Some of the questions that the paper attempts to answer are: What is the importance of China for Bulgaria as a trading partner and as a source country for incoming foreign direct

[3] data from World Bank WDI
[4] data from UNCTAD

investment? How have the exports and imports volumes of Bulgaria in its relations with China changed for the last ten years? How much is the merchandise trade balance of Bulgaria with China? What is the product structure of Bulgaria's trade with China? What is the degree of the intra-industry trade (relative to inter-industry trade) in their bilateral trade? What is the degree of complementarity between Bulgaria's exports and Chinese imports? What are the goods in Bulgaria that have comparative advantages on the Chinese market and on the international market in comparison to China?

In order to answer these questions we have calculated various trade indicators, commonly used in other similar studies and suggested by international institutions.[5] Some of them (the ones that require relatively more complex calculation) are presented in table 1.

Table 1 **Commonly used trade indicators for the analysis of bilateral trade relations**

Trade indicator	Formula	Meaning
Export intensity index	$$x_{ij} = \frac{\frac{X_{ij}}{X_i}}{\frac{M_j}{M_w - M_i}}$$ where: xij = Export intensity index of trade of country i with country j; Xij = Exports of country i to trading partner j; Xi = Total exports of country i; Mj = Total imports of country j; Mw = Total world imports; Mi = Total imports of country i.	Measures the strength of bilateral trade flows and helps to determine if the value of bilateral trade is greater or smaller than what would be expected on the basis of their share in world trade. An index greater (less) than 1 implies a bilateral trade flow that is larger (smaller) than expected, given the partner country's presence in world trade.
Import intensity index	$$m_{ij} = \frac{\frac{M_{ij}}{M_i}}{\frac{X_j}{X_w - X_i}}$$ where: m_{ij} = Import intensity index of trade of country i with country j, M_{ij} = Imports of a country i from trading partner j; M_i = Total imports of country i; X_j = Total exports of country j; X_w = Total world exports; X_i =Total exports of country i.	
Grubel-Lloyd index of intra-industry trade	$$IIT = 100 * \left(1 - \frac{\sum_{j=1}^{n} [X_j - M_j]}{\sum_{j=1}^{n} [X_j + M_j]}\right)$$ where X_j denotes exports in product $_j$; M_j is the value of imports of product $_j$ in the trade relations of the analyzed country.	IIT refers to simultaneous exports and imports of similar goods within a specific industry. IIT index can vary between 0 and 100. Higher values indicate a higher level of IIT between countries. IIT is more likely to occur in

[5] Hatab A., Shoumann, N., H. Xuexi (2012) Exploring Egypt-China bilateral trade: dynamics and prospects, Journal of Economic Studies, Vol. 39 No. 3, 2012, pp. 314-326; Tyagi, S., (2014) Composition, Intensity and Revealed Comparative Advantage in Sino-Indian Bilateral Trade: A Preliminary Study, Institute of Chinese Studies, Delhi; Zhelev, P., Z. Podoba, (2013) Bulgarian-Russian Bilateral trade relations: Current State and Prospects. Печатается по постановлению Редакционно-издательского совета экономического факультета Санкт-Петербургского государственного университета Редколлегия: д. э. н., проф. СФ Сутырин; Lima, J., Alvarez, M., D. Cracau (2016) Manual on foreign trade and trade policy, United Nations, Santiago

		sophisticated manufacturing production.
Trade Complementarity index	$K = 100 * \left(1 - \frac{\sum_{j=1}^{n} [X_{ij} - M_{jk}]}{2}\right)$ where X_{ij} = share of product *j* in country *i*'s exports; M_{jk} = share of product *j* in country's *k* imports.	It provides information on how well export profile of one country matches the import profile of another country. The index ranges between 0 and 100. The higher the index the greater the compatibility between the export structure of the exporting country with the import structure of the importing country
Revealed Comparative Advantage (RCA) index	$RCA_{ij} = \frac{\frac{X_{ij}}{X_j}}{\frac{X_{wj}}{X_w}}$ where Xij and Xwj, are values of country i's and world exports of product j, respectively; Xwj and Xw are values of total world trade in j and world total trade, respectively	Revealed comparative advantage indices (RCA) use the trade pattern to identify sectors in which an economy has a comparative advantage, by comparing the country of interests' export profile with the world average. When the product's share in national exports is higher than the product's share in the world exports (RCA>1), we interpret it as the country revealed comparative advantage in this particular product. In contrast, for products whose RCA<1, country is said to have revealed comparative disadvantage.
Bilateral RCA index	$Bilateral\ RCA_{ijs} = \frac{\frac{Exports\ of\ s\ from\ i\ to\ j}{All\ exports\ from\ i\ to\ j}}{\frac{All\ exports\ of\ s\ from\ i}{All\ exports\ from\ i}}$	The bilateral RCA compares to what extent an exporting country`s specialisation in its overall trade of industry *s* goods is similar in its trade with a particular importing country *j*. If the RCA index is higher than 1, it indicates a specialisation in the analysed market with the goods in question, if it is lower than 1, it indicates comparative disadvantage.

The findings of this paper based on usage of trade indices such as Trade Intensity index, Intra Industry Trade index, Trade Complementarity Index, Revealed Comparative Advantage index may be used as an input into the process of evidence-based policymaking to improve Sino-Bulgarian bilateral economic relations.

3. Research results

3.1 Foreign trade of Bulgaria with China

Throughout the last 10 years China has greatly increased its importance for Bulgaria as an export market. While in 2007 China occupied the 27th rank among top Bulgarian export destinations, in 2017 it has moved to the 12th position, increasing its share from less than

0.6% to 2.4% of total Bulgarian exports. With regards to non-EU export destinations China has moved from the 12th to the 3rd position falling behind only Turkey and Russia but managing to surpass the USA and closely situated countries like Serbia, Macedonia, Ukraine and Georgia.

Table 2 **Share (%) and position (rank) of China in Bulgaria's exports and imports**

Flow/Year	*2007*		*2012*		*2017*	
	Rank	Share (%)	Rank	Share (%)	Rank	Share (%)
Export	27 (12)*	0.55	9 (3)*	2.86	12 (3)*	2.40
Import	5 (3)*	5.2	11 (3)*	2.98	9 (3)*	3.67

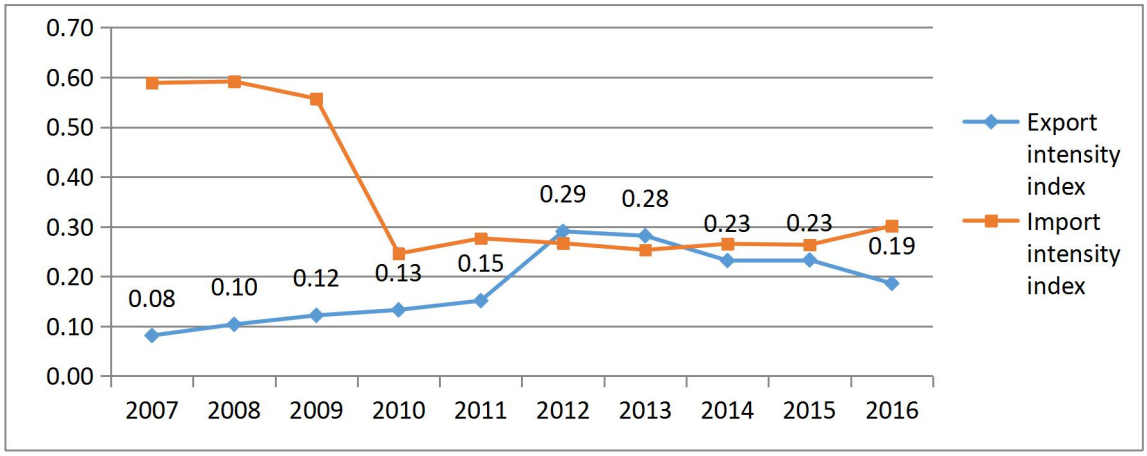
* rank among non-EU countries
Source: based on ITC data

Looking at Bulgaria's top import partners it seems that China is losing positions on the Bulgarian market. In 2007 it used to be the 5th largest importer with a share of more than 5% while in 2017 it lost 4 positions and decreased its share in Bulgaria's imports to 3.7%. However that is rather a statistical artefact as before 2010 the import data used to be presented on the basis of the origin of the goods and after that on the basis of the consignment of the goods. Actually many Chinese products enter the Bulgarian market through intermediary EU countries and the consignment based reporting of data downsizes the real value of the imports. In terms of non-EU import destinations China has invariably occupied the 3rd position after Russia and Turkey among Bulgaria's major supplier countries.

The importance of China in Bulgaria's foreign trade can be further illustrated by calculating trade intensity indices. These coefficients appear in two forms, i.e. export intensity index and import intensity index (table 1), that measure the strength of bilateral trade flows. They expose if an economy trades more with given destination than the world does on average. The indicators theoretically take values between 0 and $+\infty$ and a value higher than 1 indicates an intense trade relationship between the analyzed economies. Fig. 1[6] reveals that Bulgaria's export and import intensity indices throughout the whole analyzed period are consistently below unity. That means that Bulgaria trades less with China than what is expected on the basis of China's share in world trade. Therefore there is a great potential for expansion of trade between the two economies.

[6] Here we also observe that after 2010 with the change in the reporting of import data from origin of the goods to consignment of the goods, the import intensity index has sharply declined showing that a large part of the Chinese imports in Bulgaria is channeled through other countries.

Fig. 1 **Intensity indices of Bulgaria's foreign trade with China** (2007-2016)

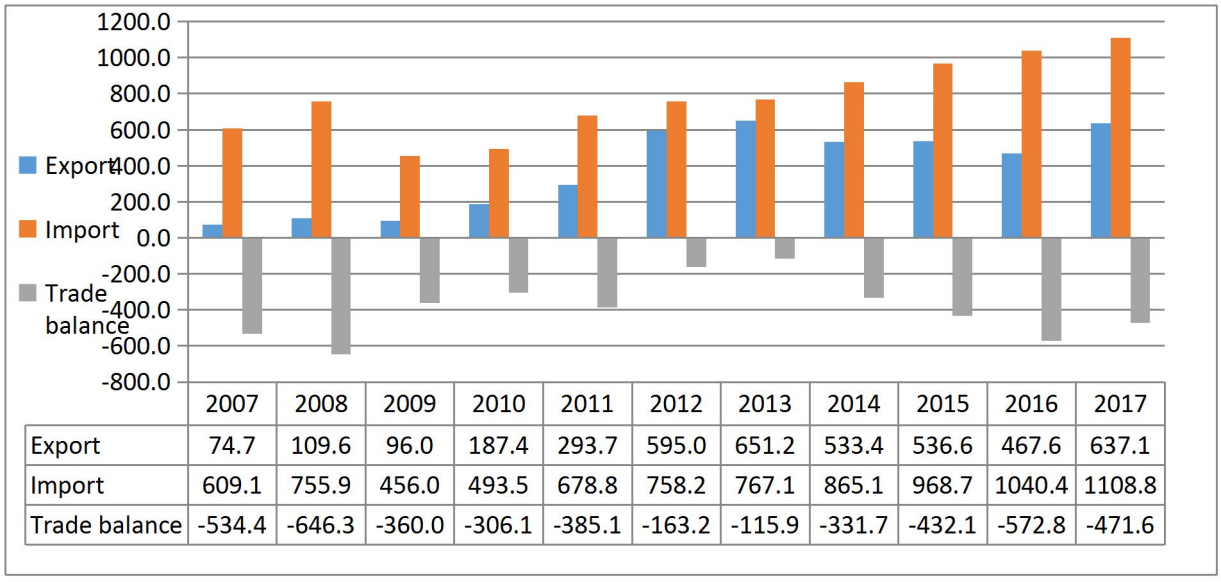


Source: own calculations based on ITC 4-digit HS data

The dynamics of Bulgaria's foreign trade with China shows an upward trend during the last decade, both in terms of export and import flows. Bulgarian exports to China have grown from EUR 74.7 million in 2007 to EUR 637.1 million in 2017 registering a more than 8.5-fold increase. The biggest value was reached in 2013 (over EUR 651 million) due to the favorable conjuncture for Bulgaria's export commodities. With the decrease of their prices in the subsequent years there was a drop in the value of the exports.

After a drop of almost 40% in 2009 due to the effects of the Great Recession, in the following years Chinese imports to Bulgaria have registered a steady growth. While in 2007 Chinese imports to Bulgaria stood at EUR 609 million, in 2017 they climbed to roughly EUR 1.1 billion.

Fig. 2 **Bulgaria's merchandise trade with China** (2007-2017, million EUR)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Export	74.7	109.6	96.0	187.4	293.7	595.0	651.2	533.4	536.6	467.6	637.1
Import	609.1	755.9	456.0	493.5	678.8	758.2	767.1	865.1	968.7	1040.4	1108.8
Trade balance	-534.4	-646.3	-360.0	-306.1	-385.1	-163.2	-115.9	-331.7	-432.1	-572.8	-471.6

Source: Eurostat

During the whole period (2007-2017) imports exceeded exports resulting in a negative trade balance of Bulgaria with China. It has ranged from less than EUR 116 million in 2013 to

roughly EUR 573 million in 2016. The trade surplus in favour of China stood at EUR 471.6 million in 2017 when Bulgarian exports covered only 57% of the imports.

The constant negative trade balance of Bulgaria with China (which is actually significantly underestimated due to data reporting based on the consignment of the goods) can be best explained when looking at the bilateral trade pattern.

As demonstrated by table 3, Bulgaria's exports to China are highly concentrated in the product group "Ores and metals" which in 2017 has a share of over 83%. Moreover this extremely high concentration of Bulgaria's export basket is dominated by one single big firm – a subsidiary of a TNC that produces copper. Altogether 85.5% of Bulgarian exports to the Chinese market consisted of primary commodities in 2017 – goods with low level of processing and relatively little added value.

A positive feature that can be observed from table 3 is that no matter the lower rate of growth in comparison with "Ores and metals", the manufactured product groups "Chemical products", "Machinery and transport equipment" and "Other manufactured goods" have all increased their value in the period 2007-2017.

Table 3 **Structure of Bulgaria's exports to China**

Product group / Period	***2007***	***2012***	***2017***	***2007***	***2012***	***2017***
	Million EUR	Million EUR	Million EUR	%	%	%
Primary commodities, precious stones and non-monetary gold	56.3	548.6	544.5	**75.3**	**92.2**	**85.5**
All food items	2.4	4.1	9.3	3.3	0.7	1.5
Agricultural raw materials	0.6	2.9	4.7	0.8	0.5	0.7
Ores and metals	52.9	541.8	530.2	70.8	91.1	83.2
Fuels	0.5	0.0	0.3	0.6	0.0	0.1
Manufactured goods	18.5	46.3	92.5	**24.7**	**7.8**	**14.5**
Chemical products	2.4	10.0	13.6	3.2	1.7	2.1
Machinery and transport equipment	10.9	17.1	56.1	14.5	2.9	8.8
Other manufactured goods	5.2	19.2	22.8	7.0	3.2	3.6
Total all products	74,7	595,0	637,1	100	100	100

Source: based on Eurostat data

While Bulgaria's exports to China are highly concentrated and dominated by primary commodities, Chinese exports to Bulgaria are much more diversified and are mainly composed of manufactured items. In 2017 these goods accounted for more than 94% of total Bulgarian imports from China while the primary goods for just 5.3%. The biggest share in the structure of Bulgaria's imports from China has the "Machinery and transport equipment" – a product group generally characterized with high capital and research intensity and technological sophistication. This type of bilateral trade pattern is typical for a developed and a developing country. In this case Bulgaria which is an EU member state and therefore part of the developed world exhibits the features of trade specialization of a developing

country, while China formally being a developing country has much more advanced export offer characteristic of industrialized economies.

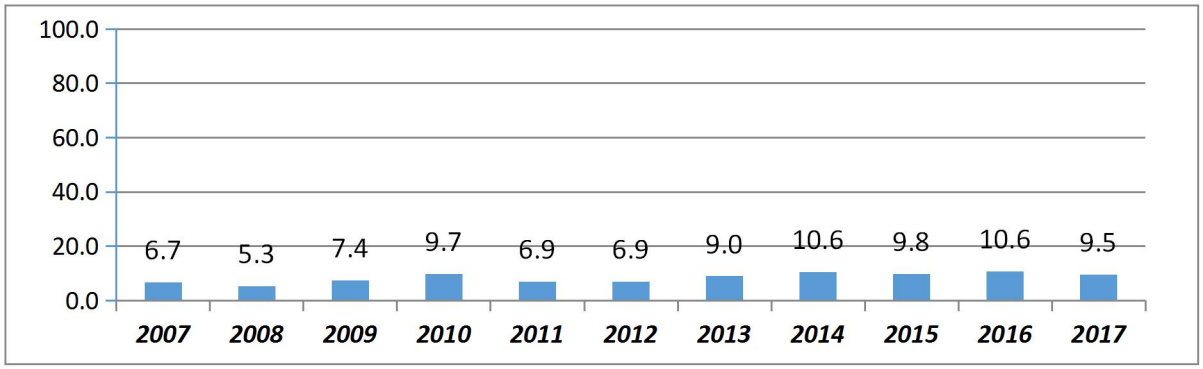
Table 4 **Structure of Bulgaria's imports from China**

Product group / Period	*2007*	*2012*	*2017*	*2007*	*2012*	*2017*
	Million EUR	Million EUR	Million EUR	%	%	%
Primary commodities, precious stones and non-monetary gold	48.2	46.0	59.0	**7.9**	**6.1**	**5.3**
All food items	13.2	27.8	33.1	2.2	3.7	3.0
Agricultural raw materials	10.4	11.9	16.3	1.7	1.6	1.5
Ores and metals	19.7	8.0	11.8	3.2	1.1	1.1
Fuels	7.2	0.1	0.3	1.2	0.0	0.0
Manufactured goods	560.8	710.5	1045.7	**92.1**	**93.7**	**94.3**
Chemical products	38.7	81.2	99.4	6.3	10.7	9.0
Machinery and transport equipment	236.0	392.2	476.7	38.7	51.7	43.0
Other manufactured goods	286.1	237.1	469.6	47.0	31.3	42.3
Total all products	609	758	1109	100	100	100

Source: based on Eurostat data

The increasing globalization and international production fragmentation has led to a growing importance of intra-industry trade (IIT) in the last decades. IIT refers to simultaneous exports and imports of similar types of products (ones that are classified within the same industry) in a country. IIT is generally assumed to occur between developed industrialized economies with similar factor endowments and capital-labor ratios, while developing countries typically engage in inter-industry trade by exporting labor-intensive resource-based products in exchange for final manufactured goods.[7]

Fig. 3 **Intensity of intra-industry trade according to the Grubel-Lloyd index (calculated on 3-digit SITC codes data) in Bulgaria's relations with China** (2007-2017, %)



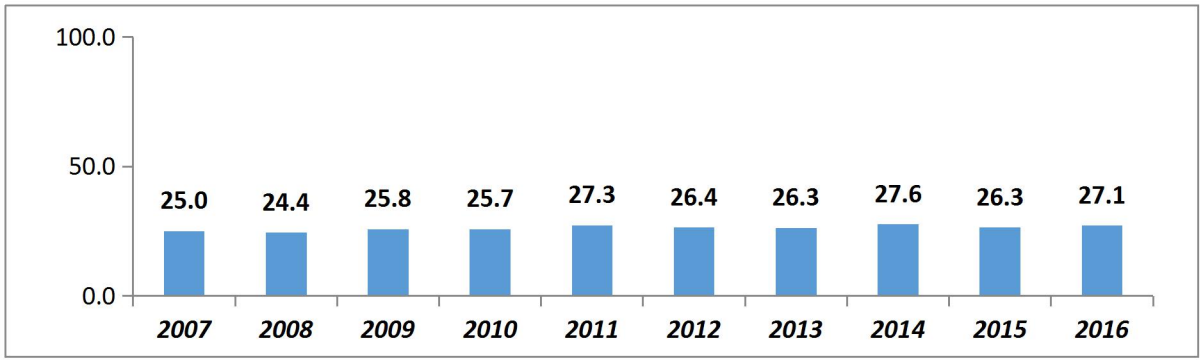
Source: own calculations based on Eurostat data

[7] Sawyer, W., Sprinkle, R., K. Tochkov (2010) "Patterns and determinants of intra-industry trade in Asia", Journal of Asian Economics 21 (2010) p. 485

According to OECD (2002)[8] intra-industry trade is particularly high for sophisticated manufactured products (chemicals, machinery, transport equipment, electrical equipment, and electronics; both based on product differentiation and fragmentation) and is positively related to FDI flows. Given the very high proportion of primary goods in Bulgaria's export bundle to China one would expect a low intensity of intra-industry trade between the two countries. Indeed, the values of the Grubel–Lloyd index (the most often used method to measure IIT) of Bulgarian-Chinese trade confirm that. Though we can observe a slight increase in the last couple of years, roughly 10% of the bilateral trade between China and Bulgaria is of intra-industry type, the rest 90% are of inter-industry type. This means that Sino-Bulgarian trade relations are based mostly on differences in the existing factor proportions and accordingly comparative advantages and not on product variety and differentiation, economies of scale and splitting up the value chain.

Next, it is interesting to see what is the extent to which Bulgaria's export pattern matches China's import demand. This is done by calculating the trade complementarity index (table 1) taking Bulgaria as an exporter and China as an importer. The index might range between 0 and 100. It takes value 0 when there is no product that is exported from the exporter country and imported by the other one. The index takes value 1 when trade flows match perfectly, that is, when the export structure of one country is just the same as the import structure of the other country. Changes over time tell us whether the trade profiles are becoming more or less compatible.

Fig.4 **Trade complementarity index for Bulgaria's exports to China, 2007-2016**



Source: own calculations, based on 4-digit HS data from the ITC database

The analysis of Bulgaria's export profile complementarity with China's import pattern shows that its level is relatively low and stable throughout the last 10 years. While it has slightly increased from 25 in 2007 to 27.1 in 2016, at this time Bulgaria's export structure is not highly compatible with China's import structure.

Finally we shall try to identify those product groups in which Bulgaria has comparative advantages on the Chinese market. To do that we use the Bilateral RCA index (table 1) whose values above unity signify the existence of a comparative advantage - the share of a certain

[8] OECD (2002) "Intra-Industry and Intra-Firm Trade and the Internationalisation of Production", Economic Outlook No. 71/2002

product group in the country's exports to the trading partner is higher than the equivalent share in its total exports to the world.

Table 5 **Product groups with a bilateral revealed comparative advantage of Bulgaria on the Chinese market (2007-2017)**

HS	Product/Period	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*
'74	Copper and articles thereof	5.1	6.8	4.8	6.9	6.8	7.5	6.6	6.3	7.5	8.4	8.0
'26	Ores, slag and ash	7.0	4.6	24.1	3.6	6.4	4.1	7.9	8.1	6.2	12.8	5.0
'53	Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn	1.7	0.0	0.9	1.3	0.7	0.6	0.1	1.7	0.3	1.8	2.9
'29	Organic chemicals	0.8	1.6	3.8	4.2	3.8	1.6	1.3	2.5	2.2	2.4	1.9
'22	Beverages, spirits and vinegar	0.3	0.2	0.4	0.4	0.4	0.4	0.3	1.1	0.8	1.4	1.6

Source: own calculations, based on ITC data

Table 5 presents data on Bulgaria's export product groups which enjoy a BRCA higher than 1 on the Chinese market. The product group with the highest competitiveness is "Copper and articles thereof" which has a value of BRCA=8 in 2017, meaning that Bulgaria is specialized by 8 times more in the exports of copper to China than on average to the rest of the world. This is not surprising as China accounts for half of the world demand of copper - one of the metals driving the green revolution and being used in electronics, wiring, construction, machinery, and automotive sectors primarily.[9] The product group with the second highest BRCA is "Ores, slag and ash" and consists mostly of copper, lead, manganese and zinc ores. The groups with the third and the fourth highest BRCA owe their performance to woven fabrics of wax and organo-sulphur compounds respectively. In the last two years Bulgaria has gained a comparative advantage on the Chinese market in the product group "Beverages, spirits and vinegar" thanks to the growing exports of wine of fresh grapes which in 2017 reached a value of EUR 4.3 million.

In Annex 1 data on revealed comparative advantage index of Bulgaria over China on the international market is presented, exposing the product groups which have higher shares in Bulgaria's total exports than in Chinese total exports. In these product groups Bulgaria is more internationally competitive than China and they represent potential areas for intensification of Bulgaria's exports on the Chinese market. The highest competitiveness is registered by metals (lead, zinc, copper) and ores and various agricultural products (cereals, vegetable oils, cocoa preparations, dairy produce, beverages, meat, tobacco, etc.). Other product groups with a high export potential from Bulgaria to China include pharmaceuticals, essential oils, beauty products and perfumes, fertilizers and glass articles (appendix 1).

[9] Desjardins, J. (2018) China's staggering demand for commodities, World Economic Forum website, retrieved from: https://www.weforum.org/agenda/2018/03/china-s-staggering-demand-for-commodities

3.2 Chinese investments in Bulgaria

FDI inflows play a key role in the process of restructuring and economic catching-up of Bulgaria. After the global financial and economic crisis in 2008 the country as the other CEECs has increasingly started to look at China as a potential alternative to Western-Europe as a source of capital to create jobs, to provide capital for research, development and innovation, generate tax revenue, create new market opportunities for Bulgarian firms both in China and in third markets, build and improve infrastructure and even introduce technology and innovative business models into the economy. [10]

However, according to Jakóbowski and Kaczmarski (2017) the Chinese interests diverge from those of the CEECs, respectively Bulgaria. While the region would like to attract mostly greenfield foreign direct investments in order to create new jobs and boost production, exports and tax incomes, the Chinese are mostly interested in mergers and acquisitions and in public procurement tender opportunities for infrastructure construction. The Chinese offer to finance infrastructure in the 16+1 framework is based on loans with relatively low interest and extended repayment period. These loans are linked to the appointment of a Chinese contractor (without an open tender) and requirement of a sovereign guarantee (state aid) that are incompatible with EU law.[11] Moreover, as an EU Member State Bulgaria has an access to the EU Structural Funds which provide partial grants and this makes Chinese loans less attractive. That is why the much discussed Bulgarian-Chinese infrastructure cooperation (construction of the Cherno More speedway along the Black Sea between Varna and Burgas, building a tunnel under the Balkan peak Shipka, construction of the Ruse-Svilengrad speedway) so far remains at the stage of political declarations and media speculation.

The Bulgarian offer for bilateral infrastructure cooperation is through a concession or a public-private partnership, but without a state guarantee and possibility for additional payments in case of low traffic. In 2018 a consortium between the Chinese company Hainan Group and Plovdiv Airport Invest won a concession procedure to manage the airport of Bulgaria's second biggest city Plovdiv. The concession is for 35 years and for that period the concessionaire will invest in the airport nearly 80 million euros. The funds are intended for maintaining and repairing the existing infrastructure and building a new one.[12]

When it comes to FDI, the most often cited factor to attract Chinese investment to CEECs is the market seeking motive – by entering the region Chinese companies gain access not only to the EU, but also to the CIS, Mediterranean countries and EFTA.[13] McCaleb and Szunomár (2017) find out (based on company interviews) that when seeking for factors that may make the region a favourable investment destination for China, the quality and the cost of labour is to be considered first.[14] Besides the strategic geographic position on the crossroad

[10] Seaman, J., et.al. (2017) Chinese Investment in Europe A Country-Level Approach, ETNC Report, December 2017

[11] Jakóbowski, J., M. Kaczmarski (2017) Beijing's mistaken offer: the '16+1' and China's policy towards the European Union, OSW commentary, No 250, p. 4

[12] Government Appointed New Concessionaire at Plovdiv Airport , https://www.bnt.bg/en/a/government-appointed-new-concessionaire-at-plovdiv-airport

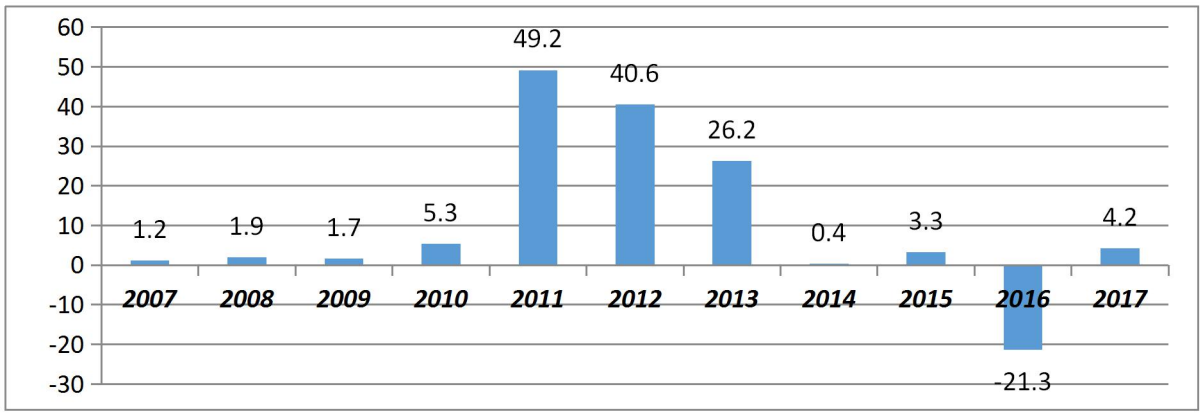
[13] Wiśniewski P. A. (2012) Aktywność w Polsce przedsiębiorstw pochodzących z Chin, Zeszyty Naukowe 34, Kolegium Gospodarki Światowej, SGH, Warszawa

[14] McCaleb, A., A. Szunomár (2017) Chinese foreign direct investment in central and eastern Europe: an institutional perspective // Drahokoupil, J.(ed.) Chinese investment in Europe: corporate strategies and labour relations, ETUI, Brussels, p. 126

between the EU and Turkey and the Middle East, Bulgaria offers the lowest labour costs and the most favourable tax regime (corporate income tax of 10%) in comparison with the other New Member States of the EU but nevertheless it has received the least volume of incoming Chinese FDI. It seems there are other factors behind attractiveness of host economies for direct investment from China. Various studies find out that crucial importance has the political factor, that is - countries with stronger political relations have higher stocks of Chinese investment.[15] According to the bilateral relationship indicator (based on partnership treaties, top-leader visits, mutual public favourability, investment and trade treaties etc.) created by Liu (2014) Bulgaria ranks 11th among the 16 CEECs in terms of good relations with China lagging significantly from the top-performers Poland, Hungary, Czech republic, Slovakia, Romania and Serbia.

Chinese outward direct investment started to flow to Bulgaria more visibly after the country joined the EU in 2007. Up to 2017 China invested EUR 108.4 million in Bulgaria, a mere 0.27% of the total inward FDI stock of EUR 39.9 billion.[16] That puts China on the 36-th position right after Serbia among the countries exporting FDI in Bulgaria.

Fig. 5 **Foreign direct investment inflows to Bulgaria from China** (2007-2017, million EUR)



Source: Bulgarian National Bank

Bulgaria attracted the majority of the existing Chinese investment between 2011 and 2013 (fig.5). Following the adoption of the landmark renewable energy act in 2011 several Chinese companies built over 150 MW in solar capacity or 15% of all solar installations in the country. [17] Other big investments from China include a EUR-10-million investment in 20 000 acres of Bulgarian farm land in Northwestern Bulgaria near Vidin by TianJin Agrobusiness Company and a green-field investment of EUR 6 million by China TianJin Tianshinong Farming Technology Ltd. in building a feed production facility near Dobrich that plans to export 90% of its production to China.

[15] Li, Q., Q. Liang, (2012) Political Relations and Chinese Outbound Direct Investment: Evidence from Firm- and Dyadic-Level Tests. Working Paper 19, Indiana University; Liu, Z. (2014) The Analysis of China's Investment in V4. // Current Trends and Perspectives in Development of China-V4 Trade and Investment, Bratislava; Matura, T., (2017)Chinese Investment in the EU and Central and Eastern Europe // Moldicz, Cs. (ed.) China's Attraction: the Case of Central Europe, Budapest Business School

[16] according to BNB data

[17] according to the Ministry of Economy of Bulgaria

In 2015, the China-CESEE Investment Cooperation Fund completed its first investments in SEE. This US$ 500 million private equity fund, launched in 2014 with financing provided by Exim Bank, made an investment in Walltopia. Currently the fund owns 10% of one of the most innovative Bulgarian companies and a world leading manufacturer and installer of mounting walls.

A notable Chinese investment was carried out in 2012 by the Chinese auto-producer Great Wall Motors (GWM) in a joint venture with the Bulgarian counterpart Litex Motors in a car assembly plant near Lovech. This FDI tried to exploit the low-cost environment in Bulgaria in relatively simple activities in a technology-intensive sector. The Bulgarian partner was the main investor, contributing 90 per cent of the capital while GWM contributed mainly technology and knowhow.[18] Despite the fast growing automotive component industry in Bulgaria, there were no indications of its integration in the assembly of GWM/Litex produced cars. The investors relied on using Bulgaria as an export platform but given the glutted European market and the tiny local one (no matter that Bulgarian authorities purchased GWM/Litex cars for the needs of the administration) the endeavor didn't turn out to be viable and after 5 years of existence Litex Motors entered into a bankruptcy procedure.[19]

Notwithstanding the unsuccessful case of Litex Motors, according to the Bulgarian Commercial and Economic Affairs Office in Beijing (2016) there are ample opportunities for establishment of joint ventures between Bulgarian and Chinese companies for production in Bulgaria of goods with export orientation to the European market. Prospective areas are electronics and electrical engineering, information technology and R & D, machine building, automotive industry, agriculture and food processing, pharmaceuticals, textiles and others. There is a great potential for cooperation in the field of agriculture through creation of joint Bulgarian-Chinese companies to produce agricultural products in Bulgaria and export to China.[20]

6. Conclusion

Bulgarian-Chinese economic relations are developing on an upward trajectory during the last decade. Bulgaria has managed to significantly increase its exports to China, however they remain extremely concentrated in primary commodities such as copper and copper ores. This presupposes constant trade surplus for China which exports to Bulgaria mostly manufactured goods.

The bilateral trade relations are almost entirely of inter-industry type. This is also reflected in the low incoming Chinese outward direct investment to Bulgaria. Up to date Bulgaria has attracted an insignificant amount of Chinese FDI. Both trade and investment relations remain far below their potential.

The perspective sectors where intensification of Bulgaria's exports to the Chinese market is possible are those that possess comparative advantage. Besides metals and ores these

[18] Drahokoupil, J. et.al. (2017) Chinese investment in Romania and Bulgaria// Drahokoupil, J.(ed.) Chinese investment in Europe: corporate strategies and labour relations, ETUI, Brussels, p. 146-147

[19] The fall of the "Great Wall of China" in Bulgaria – a lesson to foreign investors, http://bnr.bg/en/post/100816551/the-fall-of-the-great-wall-of-china-in-bulgaria-a-lesson-to-foreign-investors

[20] Commercial and Economic Affairs Office in Beijing (2016) Business Compass'16, Ministry of economy of Bulgaria

include pharmaceuticals, cereals, processed food, wine, tobacco, dairy produce, rose oil, beauty products and perfumes, fertilizers, glass articles. These are products that Bulgarian firms can export on the Chinese market or Chinese firms can invest in their production in Bulgaria and then export them to China. Furthermore Bulgaria could be attractive as an export platform for Chinese investments in machine building, electronics, electric autos and buses, information and communication technologies, that target to sell on the markets of the EU, EFTA, the Mediterranean region. An untapped potential exists also in the services sector like tourism, transportation, ICT-related services and the higher education.

A recent study by the Bulgarian Chamber of Commerce and Industry shows that China is the most preferred destination for business travel, cited by 54% of respondents, surpassing Germany.[21] Thus Bulgarian businesses clearly realize the large existing opportunities to do business with China.

An important measure to foster the Sino-Bulgarian economic relations would be launching a direct regular flight line between Sofia and Beijing/Shanghai. This would make trips faster and more comfortable without stopovers and big delays thereby encouraging business, cultural, educational, tourism visits between the two countries.

While the trade and investment rules are generally set by EU level policies, there are still important leverages that Bulgaria can use in order to invigorate the bilateral relations with China. The Bulgarian Commercial and economic affairs offices in China, the Bulgarian SME Promotion Agency, the Invest Bulgaria Agency and the Bulgarian Export Insurance Agency play key role. Their tasks are related to provision of information and raising awareness about existing business opportunities, creating attractive investment environment, supporting business training programs, organization of B2B forums and general improvement of Bulgaria's image in China.

Another key issue is consistency of policy towards China that is required to enhance the investors' confidence that attitudes towards Chinese investments are not going to change with change in governments. In this regard a wise step would be to follow the Slovakian example and set up a specific "Strategy for the Development of Economic Relations with China", that should be based on a broad consensus among the major political parties and various stakeholders and provide a systemic and integrated approach of all measures towards the goal of capitalizing the existing opportunities in Sino-Bulgarian relations.

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[21] Bulgarian Chamber of Commerce and Industry http://www.bcci.bg/news/12567

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Appendix 1

HS 2-digit product groups with revealed comparative advantage of Bulgaria over China (2007-2016)

Product/Year		*2007*	*2010*	*2012*	*2015*	*2016*
'10	Cereals	5.0	103.2	183.8	266.8	208.4
'78	Lead and articles thereof	17.2	78.6	176.9	87.9	171.0
'26	Ores, slag and ash	18.7	21.7	133.7	193.1	167.5
'79	Zinc and articles thereof	16.2	51.5	80.9	27.1	48.2
'47	Pulp of wood or of other fibrous cellulosic material	20.8	41.9	35.1	49.9	47.9
'15	Animal or vegetable fats and oils	10.5	29.2	27.6	36.2	38.4
'18	Cocoa and cocoa preparations	9.5	25.8	17.2	33.5	32.6
'04	Dairy produce; birds' eggs; natural honey	14.7	29.7	26.8	30.2	25.4
'74	Copper and articles thereof	23.1	32.8	29.7	35.9	23.3
'12	Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit	9.0	23.3	21.3	18.6	22.1
'24	Tobacco and manufactured tobacco substitutes	19.0	27.1	27.2	24.4	20.2
'02	Meat and edible meat offal	15.1	15.9	16.9	14.0	17.7
'19	Preparations of cereals, flour, starch or milk; pastrycooks' products	8.7	12.1	10.0	13.7	12.1
'30	Pharmaceutical products	8.3	9.5	9.7	11.4	9.4
'27	Mineral fuels, and oils	8.6	7.9	10.7	8.7	7.2
'11	Products of the milling industry	2.1	7.5	10.6	7.7	6.7
'23	Residues and waste from the food industries; prepared animal fodder	3.9	4.9	5.1	7.7	6.1
'01	Live animals	5.6	7.6	4.4	3.9	5.5
'33	Essential oils and resinoids; perfumery, cosmetic or toilet preparations	3.8	5.0	4.6	4.7	5.3
'22	Beverages, spirits and vinegar	12.2	9.7	9.2	5.9	5.0
'17	Sugars and sugar confectionery	6.5	12.6	8.9	5.0	4.5
'51	Wool, fine or coarse animal hair	4.6	2.7	3.2	4.8	4.4
'41	Raw hides and skins	1.6	3.6	6.2	3.9	3.1

'25	Salt; sulphur; earths and stone; plastering materials, lime and cement	2.2	1.8	2.3	2.7	3.1
'31	Fertilisers	2.2	2.3	2.8	2.1	3.0
'45	Cork and articles of cork	1.9	2.0	2.1	2.2	2.9
'09	Coffee, tea, maté and spices	1.5	2.5	3.3	3.3	2.8
'06	Live trees and other plants; bulbs, roots and the like; cut flowers	1.9	2.5	2.5	2.2	2.7
'35	Albuminoidal substances; modified starches; glues; enzymes	1.6	1.8	2.2	2.7	2.4
'21	Miscellaneous edible preparations	1.8	2.4	2.1	2.5	2.3
'70	Glass and glassware	2.3	2.1	1.7	2.2	2.2
'38	Miscellaneous chemical products	0.2	0.3	0.5	0.8	2.1

Source: own calculations, based on ITC data

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