Abstract
Before the coronavirus disease crisis, the EU-27 foreign trade as a whole and the member states’ trade in particular, have encountered certain challenges with the expansion of the Asian economies worldwide. On the one hand, the Single Market is one of the important achievements of the integration process in Europe by providing free movement of goods and services and eliminating the customs duties and the quantitative restrictions and barriers. On the other hand, the competition among the countries in the world has increased, thus reflecting on the production and foreign trade opportunities for the European countries.

The enforcement of the preferential foreign trade agreements is one of the activities of the EU trade policy introduced in recent years to improve the EU position. However, the real implementation of these already signed agreements and the intensity of trade between both the parties remain the main issues of the win-win strategy in foreign trade.

The paper reviews the trade relationships between the EU-27 with a special focus on the Czech Republic, the Slovak Republic and Bulgaria, and three of the major economies in Asia – China, Japan and India, and the challenges and opportunities they face in their bilateral exports and imports including the consequences of the coronavirus disease pandemic.

Keywords: bilateral trade, Bulgaria, Czech Republic, Slovak Republic, trade intensity index

JEL Classification codes: F10, F13, F15, F17

1. INTRODUCTION
All the world has been affected by the coronavirus disease and the pandemic consequences have not been overcome yet both in healthcare system and economy. Trade plunged sharply due to the pandemic (Baldwin and Weder di Mauro, 2020) and most of the countries were blocked. However, it is not the only crisis that international trade encountered during the years. For instance, P. Krugman (2008) reviewed in his Nobel prize lecture the trade theory development and the puzzles and crises impact on trade before and after the wars - World War I and World War II. Nevertheless, foreign trade recovered in the middle of the 20th century and continued boosting. When the devastating impact of the wars is compared with the present pandemic, there is still optimism for restoring trade activities in near future. The issues before the pandemic are not solved yet and they are going to emerge once the trade re-opens again.

Before the pandemic, trade relationships worldwide have faced various challenges, including renegotiation of some of the already existing bilateral and regional agreements and even their suspension. Moreover, trade wars have emerged due to the need of achieving a better competitive position, especially in the field of new technologies. Thus, there is a transformation of international trade from globalization and liberalization to protectionism and rise of non-tariff barriers and quantitative restrictions. And the COVID-19 pandemic has significantly highlighted all the undergoing processes.

European Union has its own internal issues for solving and further considering its role on the global stage. On the one hand, there is the decision of the United Kingdom to leave the Union which means leaving the Single Market and abandoning the EU policies. Of course, the future relationships, trade included, will have to be re-negotiated and probably will be based on a new trade agreement.
On the other hand, the migration waves have already altered the EU priorities which reflect on the budget planning and implementation and especially on its disbursement part. Moreover, there is a significant gap regarding the economic development within the European Union. If a future disruption among the Member States occurs such as a “center-periphery” model or a “differential approach” (i.e. “clubs”, “different concentric circles” or a hybrid model as Demertzis et al. stated (2018)), a possible widening of the economic gap may be forecast. In these terms, a future EU disintegration rather than integration is under discussion as well.

The above-mentioned issues, reflecting on trade policy as well, represent only a small part of the whole picture in the European Union. When analyzing the EU trade position, at least two perspectives should be regarded: 1. EU trade as an entity on the global market, and 2. the specific trade contribution of each Member State to its own economy and trade and to EU policies. Thus, some certain trends in both the imports and exports are possible to follow and analyse in depth.

The EU Member States contribute to trade policy as being part of the entity and the more active and innovative they are, the better is the position of the whole European Union. The Czech Republic and the Slovak Republic are part of the EU from 2004 and Bulgaria has joined in 2007. As they are part of Central and Eastern Europe and some Asian economies have focused on that specific part of Europe, it is interesting how their trade performs and what the trends are.

The purpose of the paper is to review the trade relationships between some of the Central and Eastern European countries as the Czech Republic, the Slovak Republic and Bulgaria, and three of the major economies in Asia as China, India and Japan. The challenges and opportunities they face in their bilateral exports and imports are analyzed in the paper as well.

2. LITERATURE REVIEW

When discussing the sample countries in the paper and their trade relationships, some certain aspects have to be considered.

First, concerning the multilateral agreements both the European Union and the individual EU countries are members of the World Trade Organization. As the Czech Republic, the Slovak Republic and Bulgaria are EU Member States, they follow the EU trade policy in terms of bilateral and regional partnership agreements (European Commission, 2020). Although the possibilities for their own trade activities are limited, there are the advantages of the negotiated terms as a block, especially with the leading world exporters and importers.

Speaking in terms of foreign trade partners of the European Union, for 2018 China was the largest one in imports with approximately 394,847 million euro or 19.9% of the EU imports. At the same time, it was the second largest partner behind the United States of America in exports with 209,846 million euro or 10.7% of the EU exports. The expectations for China’s position in EU foreign trade for 2019 are the same as those in 2018. There is not any trade agreement signed so far between the European Union and China and the existing relationship in the economic field is based on the World Trade Organization rules.

The relationship between China and Visegrad group is analyzed in detail in recent years (Krejčí, 2019), especially in the terms of the Belt and Road Initiative (Baláž, Královičová and Bronček, 2018). For Bulgaria, the trade flows were discussed in the view of their historical development and trade intensity indices (Zhelev, 2018).

India is the fastest growing economy in the world, and it is one of the largest trading partners of the European Union in both the exports and imports. For 2018 the imports from India were 45,817 million euro or 2.3% of the total EU imports, while the exports amounted to 45,674 million euro or 2.3% of the total exports. Moreover, EU is the largest trading partner for India ahead of China and the United States. The trade relationship between the European Union and India are regulated under the rules of the World Trade Organization as is the case with China.
From January 2019 the European Union and Japan have an effective Economic Partnership Agreement which regulates their trade relationship. In that way, preferential access has been given to a number of European goods to the Japanese market and vice versa. In order to evaluate the effect of the agreement and the following trends, some more data and years of enforcement are necessary in order to analyze it. Moreover, Japan is the second largest trade partner in Asia with imports to EU of 69,712 million euro or 3.5% of the total imports and exports from EU amounting to 64,625 million euro or 3.3% of the total EU exports.

Second, both the exports and imports on bilateral basis are developed not only through the government activities but they rely on the private sector companies and foreign direct and portfolio investments. Moreover, the enterprises interest in providing and fulfilling trade activities with Asian partners are based more on profit and market share increase rather than the restrictions and barriers.

Third, export is regarded as a driver of economic growth and development for countries. Thus, trade expansion usually is stimulated by governments and is part of trade and economic policy. The export range depends on the production potential of goods and the possibilities for introducing services. The Asian economies continue their enlargement and is expected the trend to continue. Thus, there are significant opportunities for the European companies on the markets in the Far East.

Having in mind the mentioned specifics of the trade relationships between the European Union and the three of the largest Asian economies, the paper will focus on the trade intensity of the Czech Republic, the Slovak Republic and Bulgaria and their trade development opportunities.

When foreign trade is analyzed some certain acknowledgements should be pointed out, including for the purpose of the paper. On the one hand, there is export and import and their impact over the economy and the various fields of science, e.g. economic growth, poverty, monetary policy and foreign exchange, innovations, etc. On the other hand, the bilateral and regional relationships determine the way of the implementation of the export and import operations.

Since the middle of the 20th century, export is reviewed as a fundamental possibility for generating growth and overcoming inequality, and in some countries even the poverty reduction is in focus (UNCTAD, 2013; European Commission, 2015). When discussing growth and its relation to trade and export, it is reviewed upon the geographic distribution of the countries and the distance between them, especially when the focus is on the bilateral relationships (Frankel and Romer, 1999), (Yotzov, 2000).

When export is reviewed as a growth generator, it is usually linked to the openness of the economy as well, which is fully applicable for the Asian countries (Haddad and Shepherd, 2011). Thus, further increase in the wages and salaries is expected, but this means that government and institutions involved should implement some specific export-oriented measures. The economic growth-oriented approach has been successfully adopted and implemented by small and open economies not only in Asia but in other parts of the world. Export and trade policy, especially in the context of the European Union, should be reviewed as part of the other common policies. Moreover, the European monetary policy is regarded as further step in the integration process of the Member States (Houbenova, 2019).

Another perspective for the export is its contribution to the economic performance enhancement of companies as they implement new technologies and approaches, and they learn by participating in export activities (export-based innovations). Their experience on the external markets is transferred to the home country contributing to the improvement of both the enterprise itself and the whole business environment. Having in mind that the learning methods for the companies are various and may influence their performance in a number of ways, the experience in the past may enhance their future development.

However, on the opposite position are A. Bernard et al. (2007) for the export role on the companies. They suggest that the enterprises’ experience in export do not have a significant impact on their performance. Moreover, exporters have a better performance due to the decrease in expenditures on the foreign markets rather than the export activities themselves. The expenditure drop is possible because of the transportation costs diminishing and trade barriers abolishing.

Despite the better expenditure management or the new approaches and technologies implementation, the enterprises’ export reflects on their mobility and market position.
Some authors (Kraay, 1999) connect the economic performance with specific factors such as export. For example, for the Chinese firms at the beginning of the 90s the export contributed to a higher labor productivity and the overall productivity. At the same time there was a decrease in the fixed and variable expenditures. However, the statement is valid only for renowned exporters while for the emerging enterprises the export effect is relatively insignificant or with negative consequences.

Another opportunity for the foreign trade in terms of the coronavirus pandemic is the increased and enlarged volume of the e-commerce and the information technologies implementation in trade transactions. The e-commerce has started its development in the late 90-s and has continued increasing exponentially at the beginning of the new century (Dzhambazov, 2001; Dzhambazov, 2018). Of course, the enhancement of the blockchain technology may influence international trade by introducing new opportunities to goods and services export and import (Ganne, 2018). Last but not least, trade of high technology is another niche for further development of exports and imports among countries ((Voronina, Yatsenko and Muratt, 2019) and it has an impact over the economic growth and development as well.

3. METHODOLOGY

The purpose of the paper is: 1. to review the trade relationships between the Czech Republic, the Slovak Republic and Bulgaria as EU Member States with the three of the major economies in Asia – China, Japan and India, and 2. to present the challenges and opportunities they face in their bilateral exports and imports including the coronavirus disease pandemic impact.

One of the indices that is largely applied for analyzing bilateral trade is the trade intensity index. The index was proposed by Brown and is applied to present the bilateral trade between countries or regions. Later, K. Kunimoto (1977) explained and systematized the typology of the trade intensity indices, including the Kojima`s indices for both the export and import trade intensity. Based on his assumptions further development of these indices were applied during the years.

Various authors calculate both the export and import trade intensity indices and in that way they try to achieve a better analyses of two countries or group of states following their trade flows (Duran Lima, Alvares, Cracau, 2016; Zhelev, 2018; Wu, 2012).

The trade intensity between the EU and Asian economies is described by estimating the export and import intensity indices of Bulgaria, the Czech Republic, and the Slovak Republic with the largest Asian economies, i.e. China, India and Japan for the recent 20 years starting from 1999. Thus, the period before and during the EU membership is included in the calculations and trends are reviewed. The used data is from the World Bank database on annual basis.

The trade intensity indices are used in bilateral trade to present whether a country or a region exports or imports more to a destination than the world does on average. The index ranges usually between 0 and +∞. If the value is closer to 0, it implies that there is no bilateral trade at all, or the trade flow between the countries is smaller than the presence of the country of destination in the world. If the value is 1 or above, it indicates intense bilateral trade flows.

The formulae for the trade intensity indices are shown in equation (1) for export intensity and (2) for import intensity:

\[ \text{Export Intensity Index: } x_{ij} = \frac{x_{ij}/X_i}{M_j/(M_w-M_i)} \]  

where

\[ x_{ij} = \text{export intensity index of trade of country i with country j}, \]

\[ X_i = \text{exports of country i to country j}, \]

\[ X_i = \text{total exports of country i}, \]
M_j = total imports of country j  
M_w = world total imports,  
M_i = total imports if country i.

Import Intensity Index: 
\[ m_{ij} = \frac{M_{ij}}{X_j / (X_w - X_i)} \] 

where 
m_{ij} = import intensity index of trade of country i with country j,  
M_{ij} = imports of country i to country j,  
M_i = total imports of country i,  
X_j = total exports of country j  
X_w = world total exports,  
X_i = total exports if country i.

The limitation of the indices is that factors other than trade policy or bilateral relationship affect the trade flows between the countries, e.g. the challenges mentioned in the Introduction (migration crises, coronavirus disease pandemic, etc.).

The findings in the paper are based on the export intensity index and the import intensity index for Bulgaria, the Czech Republic, and the Slovak Republic with China, India and Japan respectively.

4. RESULTS AND DISCUSSION

Tables 1-6 show the results from the calculation of the export and import intensity indices of the three EU countries with China, India, and Japan.

### Table 1. Export Intensity Index of Bulgaria

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<tbody>
<tr>
<td>China</td>
<td>0.06</td>
<td>0.06</td>
<td>0.08</td>
<td>0.13</td>
<td>0.23</td>
<td>0.23</td>
<td>0.19</td>
<td>0.23</td>
<td>0.24</td>
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<tr>
<td>India</td>
<td>0.88</td>
<td>0.21</td>
<td>0.26</td>
<td>0.12</td>
<td>0.09</td>
<td>0.11</td>
<td>0.19</td>
<td>0.15</td>
<td>0.10</td>
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<tr>
<td>Japan</td>
<td>0.11</td>
<td>0.03</td>
<td>0.04</td>
<td>0.02</td>
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Source: processed by author based on World Bank Database (2020)

### Table 2. Export Intensity Index of Czech Republic

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<tbody>
<tr>
<td>China</td>
<td>0.07</td>
<td>0.06</td>
<td>0.08</td>
<td>0.1</td>
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<tr>
<td>India</td>
<td>0.22</td>
<td>0.28</td>
<td>0.29</td>
<td>0.26</td>
<td>0.13</td>
<td>0.14</td>
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<tr>
<td>Japan</td>
<td>0.06</td>
<td>0.07</td>
<td>0.09</td>
<td>0.087</td>
<td>0.13</td>
<td>0.14</td>
<td>0.15</td>
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Source: processed by author based on World Bank Database (2020)
Table 3. Export Intensity Index of Slovak Republic

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<tbody>
<tr>
<td>China</td>
<td>0.1</td>
<td>0.05</td>
<td>0.11</td>
<td>0.21</td>
<td>0.2</td>
<td>0.14</td>
<td>0.16</td>
<td>0.16</td>
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<tr>
<td>India</td>
<td>0.29</td>
<td>0.11</td>
<td>0.06</td>
<td>0.06</td>
<td>0.02</td>
<td>0.03</td>
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<tr>
<td>Japan</td>
<td>0.02</td>
<td>0.07</td>
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Source: processed by author based on World Bank Database (2020)

In general, the export intensity indices of Bulgaria, the Czech Republic, and the Slovak Republic (Tables 1-3) show that the trade relationships with China, India and Japan are between 0.03 and 0.24 in recent years. The bilateral trade may be intensified and there is a potential in increasing the trade flows between these economies. Moreover, the population in Asia is increasing, even in China and India it is over 1 billion with an expected uprising trend. Of course, the COVID-19 pandemic may change the perspectives in near future, but even with limited trade flows the bilateral trade may start improving.

There are some specifics regarding Bulgaria, the Czech Republic, and the Slovak Republic.

- **Bulgaria** has increased its trade relationship with China in recent years and it is due to the export rise in primary commodities as metals as well as machinery and equipment. The Bulgarian export to China amounted to only 2.67% of the total export of the country in 2018 but still it is the largest trade partner in Asia. The export shares of both India and Japan of the total export of Bulgaria is below 1%. In 2018 the Bulgarian export flow to India amounted around 0.34% of the total export and to Japan it was 0.15%.

- **The Czech Republic** exports to China were 1.28% of the total export of the country in 2018. It is the largest export destination in Asia and during the recent years there is a stable trend of around and above 1% of the total export flow of the country. The bilateral trade with India and Japan is smaller and in 2018 it took 0.35% and 0.45% from the total export, respectively.

- **The Slovak Republic** has a stable level of the exports to China in recent years and in 2018 it amounted to 1.72% from the total export. China is the largest trade partner in Asia for the Slovak Republic. Again, India and Japan have export shares below 1% as in Bulgaria and the Czech Republic. In 2018 the export share to India was 0.09% of the total export and to Japan 0.17% of the total export.

Table 4. Import Intensity Index of Bulgaria

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<tr>
<td>China</td>
<td>0.3</td>
<td>0.56</td>
<td>0.66</td>
<td>0.27</td>
<td>0.29</td>
<td>0.29</td>
<td>0.33</td>
<td>0.31</td>
<td>0.34</td>
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<tr>
<td>India</td>
<td>0.32</td>
<td>0.32</td>
<td>0.38</td>
<td>0.19</td>
<td>0.29</td>
<td>0.36</td>
<td>0.32</td>
<td>0.31</td>
<td>0.39</td>
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<tr>
<td>Japan</td>
<td>0.15</td>
<td>0.24</td>
<td>0.28</td>
<td>0.08</td>
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<td>0.09</td>
<td>0.1</td>
<td>0.1</td>
<td>0.12</td>
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Source: processed by author based on World Bank Database (2020)

Table 5. Import Intensity Index of Czech Republic

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<tbody>
<tr>
<td>China</td>
<td>0.55</td>
<td>0.90</td>
<td>0.98</td>
<td>1.29</td>
<td>1.00</td>
<td>1.06</td>
<td>1.03</td>
<td>1.07</td>
<td>1.17</td>
</tr>
<tr>
<td>India</td>
<td>0.39</td>
<td>0.36</td>
<td>0.35</td>
<td>0.35</td>
<td>0.31</td>
<td>0.32</td>
<td>0.34</td>
<td>0.32</td>
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<tr>
<td>Japan</td>
<td>0.26</td>
<td>0.61</td>
<td>0.70</td>
<td>0.53</td>
<td>0.5</td>
<td>0.47</td>
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As export is reviewed as a growth factor, it is better that the three countries focus on the future development of the bilateral trade with China, India, and Japan. There are enough opportunities for further intensifying the export flows.

The import flows from Asian countries are far more intense compared to the export. As the import intensity indices (Tables 4-6) show they range between 0.12 and 1.17. The exception above 1 is for the Czech Republic in the bilateral trade with China. The index implies an intense trade flow and the trend is sustainable for more than ten years.

- **For Bulgaria** there is an upward trend in the import flow from China in the recent ten years. The import share of China varies during the years, but it is around and above 3% steadily since 2010. In 2018 the import share of China was 4.1% of the total import of Bulgaria. The import intensity with India and Japan is smaller and their import share is below 1%, e.g. in 2018 India had 0.61% and Japan 0.43% share in the total import of Bulgaria.

- **The Czech Republic** is the champion in the trade relationships with China among the three states. The country has an intensity index above 1 for more than ten years, which makes China the second largest partner in import after Germany. In 2018 the import share of China was 14.09% of the total import of the Czech Republic. The trade flows with India are below 1% of the total import of the country while those with Japan range between 1% and 2%. The import share in 2018 of India was 0.47% and of Japan was 1.70%.

- **The Slovak Republic** has steady trade relationship with China during the years. As import intensity index is concerned there is an indication of a slowdown in the trade flows. However, China is the third largest partner of the country and in 2018 the import share was 5.97% of the total import which was less than the previous years. The import from India and Japan is smaller than the one from China, as the intensity indices show. In 2018 the import share of India was 0.36% and of Japan 0.62% of the total import.

China has intensified its relationships with the countries in Central and Eastern Europe (known first as “16+1” format and later “17+1”) under the Belt and Road Initiative and the result is a significant rise in investment and a continuous increase in import flows from China to that countries. Thus, the strategy of the Chinese government for intensifying the bilateral trade in this region has succeeded gradually and the calculations from the import intensity indices confirms that.

5. CONCLUSIONS

The challenges European Union faces may be reviewed as external and internal, due to reasons for their emergence. However, both affect the EU activities and its perspectives for further development.

The external challenges include but are not restricted to: 1. The situation in the world economy, i.e. protectionism vs. globalization and liberalization; 2. Trade wars; 3. Digital and crypto currencies and their role over the monetary policy of the central banks and the increasing share of the e-commerce and
e-business; 4. Migration waves; 5. COVID-19 pandemic and eventually next waves of the disease. All these factors are not calculated in the intensity index and its both modifications – export and import; however, they have a significant impact over the trade flows.

As European Union is an entity based so far on 27 Member States which have their own independent view on most of the EU policies, it is difficult to achieve one homogeneous position. Thus, the economic growth and development differ throughout the Union, referring to various options for the future of the union. For example, the idea for Europe on different clubs or center-periphery may only direct the future to enlarging the gaps between the member states.

Nevertheless, Bulgaria, the Czech Republic, and the Slovak Republic may intensify their export flows to the Asian markets as there is an enormous potential regardless of the COVID-19 pandemic.

REFERENCES


