Is There “a Chinese Effect” On EU-15 Foreign Direct Investment in Central and Eastern Europe?

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This paper aims to empirically verify the possible existence of “a Chinese effect”, that is, a substitution effect between the Chinese and the EU-15 investment in the Central and Eastern European (CEE) region, which has been recently involved in the Belt and Road and 17+1 Initiatives. Such an effect can result from the strengthened political orientation of several CEE authoritarian populist and illiberal elites towards China, which can, in turn, discourage the EU-15 from investing in the CEE region. Despite intensified Sino-CEE political relations, the results of the analysis conducted on 15 CEE countries during 2010–2018 suggest that the Chinese FDI does not substitute for investment from the EU-15 market since the expectations regarding the FDI cooperation between China and the CEE region have not been met. Moreover, most of the Chinese investment has been made via mergers and acquisitions, and not via greenfield FDI, which may lead to exaggerations of the relatively weak Chinese influence in the CEE region.

KEYWORDS foreign direct investment, China, soft power, Central and Eastern Europe

DOI https://doi.org/10.32422/cjir.5
INTRODUCTION

Since the Great Recession, Europe has witnessed an increase in the Chinese foreign direct investment (FDI), which in 2016 reached its highest level at more than 35 billion EUR. The wave of the Chinese FDI motivated by technology transfer and market-seeking due to saturated markets and the overcapacity in the domestic Chinese market (see, e.g., Turcsányi 2017; Conrad - Kostka 2017; Liedtke 2017; Pendrakowska 2018) has spread to all European countries and their economic sectors, but especially to the automotive industry, the real estate market, the food industry, agriculture, and energy.

Even though this investment contributed in a positive manner to the economic growth of both China and the EU (see, e.g., Jiang et al. 2019), the strengthened Sino-European relations have also raised concerns about the Chinese opportunity to gain a dominant position in the market (Naughton 2010; McNally 2013; Merler 2014), especially through the use of China’s soft power, which is aimed to force other countries to behave in a certain desired way (see, e.g., Hunter 2009; Turcsányi 2017; Wu 2018). This topic has lately received a lot of attention from media, academic, and policy communities (see, e.g., Brînza 2019; Kavalski 2019; Zweers et al. 2020; Krpec - Wise 2021; Vladimirov - Rolland 2021; Strupczewski 2021), whose claims suggest that the reinforced relationships of China, especially those with populist policy-makers from the Central and Eastern European (CEE) countries who even support anti-EU policies, may act against the EU unity itself and disrupt the Western-CEE relations. The CEE countries’ political and economic re-orientation towards China may thus imply a discouragement of the Western part of Europe, on whose massive investment inflows the CEE countries have long depended.

Given this, is the increased Chinese investment induced by the creation of the Belt and Road Initiative (BRI) and the 17+1 Initiative associated with a decrease of investment from the main Western European investors (i.e., the EU-15 countries such as France and Germany) in the CEE region? We attempt to answer this research question by investigating the relationship between Chinese and Western European FDI in the CEE region with the use of the dynamic panel data model for the 15 CEE countries involved in the Chinese investment strategies in the time period of 2010–2018. In particular, the aim of this article is to empirically verify whether there is “a Chinese effect”, that is, the existence of a substitution effect which would suggest that Chinese
investment could replace the previously dominant EU-15 investment in the CEE region.2

Based on regional discussions, we hypothesize that Chinese FDI is in a negative relationship with the EU-15 investment in the CEE countries (H1). Our assumptions rely on the recent involvement of the CEE countries in the Chinese Belt and Road Initiative (BRI) and the 17+1 Initiative, which was considered by previous authors dealing with the topic (see, e.g., Merler 2014; OECD 2018; Pendrakowska 2018) as an attempt by China to create a transnational zone of political and economic influence, from which the geo-economic concerns of Western EU public and private entities have emerged. For example: “infrastructure financing deals can serve as a kind of geo-economic Trojan Horse for China through which commercial deals can be turned into political or geostrategic leverage now or in the future” (Ferchen et al. 2018: 9).3 Such concerns have been expressed especially regarding the strengthened political orientation of CEE authoritarian populist and illiberal elite towards China, which could undermine the CEE countries’ commitment to the EU democratic standards (see Krpec – Wise 2021). As their compliance is crucial for cooperation within the EU, their disobeying can, in turn, discourage EU investors from investing in the CEE region, and the existence of the mentioned Chinese effect would thus be confirmed.

On the other hand, we might observe the overall increase in FDI in the CEE countries, which may motivate other investors to allocate resources to these countries due to industry clustering and the resulting cost savings. In that case, Chinese FDI may act complementarily to the EU-15 investment, which would not meet our assumptions. A similar effect can be expected while taking into account the Western-led efforts to outcompete China’s BRI and 17+1 initiative. To counter China’s growing worldwide influence, the G7 member states have recently launched the Build Back Better World (B3W) initiative of $40+ trillion, which is aimed to boost infrastructure investment for low- and middle-income countries, while the Global Gateway strategy of a similar character, which provides up to €300 billion in investment, has been undertaken by the EU. However, it must be said that these initiatives have been launched in 2021, so their effects cannot yet be observed, but for them we hold the hypothesis about the negative relationship between China and the EU-15 investment.4
This paper aims to contribute to the international political economy field by providing new evidence of the potential effects of the Sino-CEE cooperation from the perspective of the EU-15 market. While some existing empirical studies have examined the mutual relationship between China and the CEE countries in the foreign trade or FDI market (see, e.g., Fung et al. 2009; Silgoner et al. 2015), the presented article, in contrast, addresses another, yet unexplored effect of the Sino-CEE cooperation on the EU-15 investment based on the mentioned geo-economic concerns expressed regarding the reinforced orientation of CEE elites towards China, by which we fill this gap in the empirical literature. The results of the presented analysis can not only reveal the possible substitution effect of Chinese investment in the CEE region but also provide useful policy implications concerning the future political and economic orientation of the CEE region.

The remainder of this paper is as follows. In the second section, we rely on the theoretical concept of soft power and discuss its implications for China and the CEE countries based on an overview of previous empirical studies dealing with Chinese investment in the CEE region, which results primarily from the BRI strategy and the 17+1 Initiative. In the third section, we describe the methodology and data used to examine Chinese investment in CEE countries. The empirical results are presented in the fourth part, together with the related discussion. Finally, we summarize our findings and provide recommendations for political practice within the EU in the last section.

**CHINESE SOFT POWER AND FDI IN THE CEE REGION**

In this section, we provide a review of the relevant literature for examining the Chinese effect. Firstly, we discuss how our evidence fills the gap in the empirical literature, and then we justify our arguments by relying on the concept of soft power, which we discuss entirely with regard to the Chinese economic model and investment. The rest of the literature review is devoted to driving forces and country-specific results concerning Chinese FDI in the CEE region, which illustrates the Sino-CEE economic and political relations, including the differences in these two types of relations, following our research hypothesis.
To the best of our knowledge, the existing empirical literature lacks studies investigating the possible substitution effect between EU-15 and Chinese investment in the CEE region. So far, there have been published only a few studies dealing with the mutual trade or FDI relationship between China and CEE countries in a similar context – for instance, Fung et al. (2009), who investigate whether China as a recipient of FDI can compete with the CEE countries as host countries with low production costs, or Silgoner et al. (2015), who examine whether China can act as a global competitor of the CEE countries and negatively affect their foreign trade on the EU-15 market.

In both cases, China is viewed as a growing superpower, and we also rely on this perspective while examining the mentioned Chinese effect. In recent years, China has been opening zones of economic cooperation in various parts of the world, demonstrating the effective and active internationalization of the country (Zhu – Edney – Rosen 2020). Its economic position is then employed to achieve a geopolitical advantage through the use of soft power (see, e.g., Nye 1990, 2005, 2008). This concept can offer a theoretical foundation for the investigation of our matter. Not only is it the case that a positive perception of the donor in the FDI host country is favorable for the donor’s foreign policy goals and its promotion becomes a foreign policy goal in itself (Turcsányi 2017), but the soft power concept also suggests that the general perception of the country plays a role in determining economic fundamentals, such as investment. It can either promote or prevent investment and serve as a predictor of future investment decisions (see, e.g., Nye 2008). In this context, the presence of Chinese FDI in the CEE countries may determine the future investment flows from Western EU investors. This strategy also includes the reduction of the likelihood of alliances with other countries which could counteract the growing Chinese power (Garrison 2005; Nye 2005; Wu 2018). Within this framework, China’s own economic and investment model can involve a divergence of several CEE countries from the Western path. Such claims can be also confirmed by the concerns among Western European diplomats, who once evaluated the 17+1 Initiative with a remarkable note: “China and Central Europe were building a new Berlin Wall across the EU” (Matura et al. 2021: 7). Since such claims from academy/policy communities have not been properly examined, we attempt to fill this gap in the empirical literature with this paper.
In the related empirical studies a greater emphasis has been recently placed on the driving forces of the Sino-CEE cooperation and its evaluation. In this regard, Éltető and Szunomár (2016) state that the good quality of the labor force in the CEE region and the labor costs there, which are considerably below the EU average, can be considered as the main incentives for the Chinese presence in the CEE region. Turcsányi (2014) views the membership of these countries in the EU as another important driving factor of the Chinese FDI in the CEE region; their EU membership can provide valuable benefits, such as the avoidance of tariff barriers. The CEE region can also represent a kind of back door and an ideal space for greenfield investments, which can then be sold to a rich and established Western European market.

On the other hand, McCaleb and Szunomár (2017) highlight the institutional factors behind Chinese investment in the CEE region. The volume and speed of the Chinese ethnic minority’s feedback in the region, subsidies along with investment incentives, and special economic zones, but also permanent residence permits or visas, all seem to be favors given to China in exchange for a certain level of investment. The authors also suggest that Chinese investment might be boosted by the host country’s government’s willingness to cooperate, the possibilities of privatization, or the quality of the political relations.

Nevertheless, it should be noted that even though China signed a formal cooperation agreement with 16 CEE countries, the key trade cooperation countries seem to be the Czech Republic, Hungary, Poland, Romania, and Slovakia, which represent almost 82% of the CEE member states’ GDP and 89% of their bilateral trade with China, which stands for about $64 billion. A similar finding holds for China’s capital – evidence from previous empirical studies suggests that the distribution of the Chinese investment in the CEE region is uneven (see, e.g., Fábián et al. 2014; Pendrakowska 2018; Matura 2019) – as well as the levels of political relations of particular CEE countries with China. To illustrate this point, we present the country-specific results related to the Sino-CEE cooperation with regard to FDI in the following paragraphs.

Out of the Central European countries (i.e., the Visegrad Group), China has the strongest political relations with Hungary, headed by Victor
Orbán, who pioneered in the rebuilding of the Sino-Hungarian relations in the early 2000’s. In particular, Hungary’s “Opening to the East” policy was aimed to promote trade and investment relations with China and the Chinese presence in Hungary has been strengthened through, e.g., logistics zones, business centers, and the organization of trade fairs and exhibitions. As Krpec and Wise (2021) state, the Chinese soft power in Hungary is prominent; these findings can be confirmed by, for instance, the establishment of five Confucius Institutes in Hungary, as these are commonly known as a tool for promoting Chinese soft power all over the world and their operations have been proved to be a driver of Chinese trade and outward FDI (Lee – Oh – Selmi 2012). The prevailing Chinese soft power in Hungary can be also confirmed by the fact that Bank of China’s CEE regional headquarters has been located in Budapest, or by considering Victor Orbán's recent plans to build a Chinese satellite campus at a Budapest University. Matura (2017) provides an overview of the successful Chinese investments in Hungary and states that based on Chinese sources, Hungary has the largest number of Chinese FDI out of all the EU member states and within the CEE region. On the other hand, this country has recently had only a very modest success in attracting new investors from China. Fábián et al. (2014) confirm previous findings and identify as the main obstacle the absence of direct flights between the countries, as well as the problems associated with the issuance of visas.

Given that Poland signed a joint declaration in June 2016 on the establishment of a comprehensive strategic partnership with China, it can be argued that the bilateral level of the relations between Warsaw and Beijing is the most important type of their mutual relations. While Pendrakowska (2018) observes a recent gap in expectations which has emerged due to Poland’s unmet economic ambitions, the Sino-Polish relations seem to be at their peak since the fall of communism in Poland.

As pointed out by Turcsanyi (2017), China is, to some extent, viewed differently than other investing countries due to the security risks stemming from China’s status as a growing superpower with an authoritarian and undemocratic political system. Based on a media analysis, and expert and semi-structured interviews, the author focuses on Chinese investment in the energy sectors in the Czech Republic, Poland, and Slovakia, and concludes that while in Poland China’s presence in the energy sector is
Is There "a Chinese Effect" On EU-15 Foreign Direct Investment in Central and Eastern Europe?

justified by availability, affordability, and efficiency, in the Czech Republic and Slovakia China is often ideologically perceived and the environmental framework is less taken into account. In a similar vein, De Castro, Vlčková and Hnát (2017), who focus on China’s existing trade and investment relations with the Czech Republic, warn of major risks related to an intensified cooperation with China, including corruption, profit repatriation, and property rights, but also a greater Chinese influence on Czech politicians with regard to their position towards the EU and NATO. As Chinese FDI is often state-supported, a significant number of China’s multinationals are even forming strong ties with the Chinese government, and some of them may be owned by the Chinese state. This is a matter of concern for the EU member states when they consider their involvement in Chinese FDI, as the political, economic and security implications are still poorly understood and clarified (KNOERICH – MIEDTANK 2018).

The Baltic states (Estonia, Latvia, and Lithuania), which are already member states of the EA, do not seem to be the core recipients of Chinese investment among the CEE countries, but their political and economic orientation is in line with the negative relationship between the Western EU and China investment. In spite of the fact that the Baltic region is in need of physical and digital infrastructure, the Chinese economic impact is in the background of the political and security risks which are also connected to the Chinese military cooperation with Russia (LARSEN 2020). For instance, even though the Lithuanian government has previously agreed on the cooperation of Lithuanian post and railway companies with China to create a cargo partnership which would enable Lithuania to become the European logistics hub for shipments from China (SEE, E.G., LIETUVOS PASTAS 2019), more recently, this Baltic country has been motivated to stop participating in the 17+1 activities as the cohesion within the European Union and the cooperation within NATO are more central for it, proving its “frontline state” position, which was previously seen in its relations towards Russia and is now seen in its relations towards China (EGGER 2021).

While the recent empirical studies suggest that China failed to deliver the promised trade and investment flow to the mentioned more developed CEE countries, as they obtained this promise due to their EU/EA membership and integration into the global value chains of the Western EU countries, Germany in particular (SEE, E.G., KRPEC – WISE 2021), the opposite
is the case for the countries in the Western Balkans. In spite of the fact that the EU provides pre-accession funding for this region, the Western Balkans gravitate more towards Chinese infrastructure investment and loans due to their having no need to comply with the EU’s strict regulatory environment and standards of transparency, competition, public procurement, and environmental objectives (see, e.g., Vladimirov – Rolland 2021). The short-term benefits thus outweigh the long-term negative financial effects in the form of undermined financial sovereignty, increased indebtedness, or macroeconomic imbalances. Through these actions, Chinese soft power rises in the Western Balkans, while the EU’s is weakening, mainly because of citizens’ skeptical perspectives on the future EU enlargement (see, e.g., EWB 2021).

In this vein, an important milestone in the cooperation between China and the CEE countries was reached when China, Hungary, and Serbia agreed on the modernization of the railway line between Budapest and Belgrade. For Chinese companies, this represented an opportunity to create a transport corridor between the Port of Piraeus in Greece, which is now majority owned by China’s state-owned company COSCO Shipping, and Western Europe via Macedonia, Serbia, and Hungary. The Chinese ownership of Piraeus, the largest seaport in Greece, has been considered as another step toward creating a political leverage for China in Europe’s periphery (see Benner – Shi-Kupfer 2018). Given that Greece has managed to obtain a substantial Chinese infrastructure investment to boost its depressed economy, these claims have been somewhat confirmed when this country vetoed the EU joint condemnation of China’s human rights violations at the United Nations Human Rights Council in 2017. In the same spirit, Hungary has recently blocked the EU statement condemning China for the new security law in Hong Kong (Chalmers – Emmott 2021). The economic and political ties of Serbia with China are also prominent. The increased Chinese influence and the soft power widening there can be confirmed by the establishment of two Confucius Institutes in Serbia, along with the actions of the authoritarian Serbian president Aleksandar Vučić, who moved Serbia away from the West and the EU by promoting an anti-Western orientation (Bieber 2022). While citizens of the Western Balkan countries mostly support the idea of EU accession, the most skeptical in this regard are the citizens of Serbia, given that 46.8% of the Serbian respondents in a recent survey are not in favor of Serbia joining the EU. Moreover, there
has been an increase of 10.9% in the number of respondents against the EU accession compared to last year (see Stratulat et al. 2021).

It therefore seems that the Chinese prevalence in several CEE countries can be considered alarming as it can challenge and negatively affect the Western European domination in this region. The Chinese effect, i.e., the substitution FDI behavior in the CEE region, has a political rationale arising from the strengthened political orientation of the CEE authoritarian populist and illiberal elite towards China, which can, in turn, undermine the compliance of these countries with the EU norms and standards (see, e.g., Kavalski 2019; Zweers et al. 2020; Krpec – Wise 2021). Based on these regional discussions, we therefore hypothesize that Chinese FDI is in a negative relationship with the EU-15 investment in this region (H1) and expect that the increasing Chinese activity in the CEE region induced by the BRI and 17+1 Initiatives can be viewed negatively by the Western investors as a shift from the European orientation. If our assumptions are met, i.e., if the analysis confirms a negative relationship between Chinese and EU-15 FDI in the CEE countries, Chinese investment substitutes for the EU-15 investment. Such a substitution then can reflect a discouragement of the Western European investors due to the Chinese presence in this region – in both economic and political terms. On the contrary, if the Chinese FDI to the CEE countries were in a positive relationship with FDI from the EU-15, this would suggest that the previously stated concerns are unlikely to dominate the EU-15 investors’ decisions, and the Chinese FDI only acts as a complement to the outcompeted EU-15 investment. The existing empirical literature does not provide clear results regarding the correlation between FDI in individual countries. For example, while Cravino, Lederman and Olarreaga (2007) confirm the positive effect of China on FDI inflows to the rest of the world, Eichengreen and Tong (2005) conclude that the FDI growth in China supports the FDI in other Asian economies but diverts them from other OECD economies.

Our analysis will therefore provide new evidence particularly for the CEE region, by which we contribute to this yet unexplored area of research. Moreover, as many CEE countries depend on foreign capital inflows, especially from the EU-15 market, our results provide useful insights into their future investment profiles, since foreign capital has made a significant contribution to the economic growth of these post-transition economies up
until now. Policy implications with regard to the economic and political orientations of non-EU CEE countries in connection with the potential EU enlargement, may emerge as well. The methodological aspects regarding the possible Chinese effect are explained in the next section.

METHODOLOGY

To verify the possible existence of the Chinese effect, that is, the negative relationship between the EU-15 and Chinese investment in the CEE region, we estimate a dynamic panel model in the following form:8

\[
F_{DI_{EU15}} = \beta_0 + \beta_1 F_{DI_{EU_{t-1}}} + \beta_2 F_{DI_{China_{t-1}}} + \sum_{c=1}^{C} \delta_c \nu_{ct-1} + \nu_i + \varepsilon_t
\]

where the dependent variable \( F_{DI_{EU15}} \) represents FDI stocks (as a share of GDP) from the EU-15 countries allocated to the particular CEE economy, and the independent variable \( F_{DI_{China}} \) denotes Chinese FDI stocks (as a share of GDP), through which we investigate the possible Chinese effect in the CEE countries. In the model, we also consider several traditional FDI localization determinants such as control variables \((CV)\), time effects \((\nu)\), and the error term \((\varepsilon)\).

All regressors are lagged by one year \((t-1)\). We choose this specification to take into account the fact that the implementation of investment decisions tends to be lagged in practice. This approach has been also applied by previous authors (see, e.g., Merceréau 2005 or Resmini – Siedschlag 2013). The variables in the model are considered as logarithms.9

Since previous empirical studies dealing with FDI research have shown that the current level of FDI is significantly determined by its previous level due to the presence of the so-called agglomeration or clustering effects (see, e.g., Carstensen – Toubal 2004; Ly-My – Lee 2019), we include the lagged value of the dependent variable \( F_{DI_{EU15}} \) as one of the independent variables at the right side of Eq. (1). As suggested by, e.g., Carstensen and Toubal (2004); Fung et al. (2009); Katsaitis and Doulos (2009); and Ly-My and Lee (2019), these effects may arise when investors expect to benefit from positive spillovers from existing investors in the host economy – in particular, from the accumulation of capital within the same localities, for example, in the form
of a skilled workforce or higher productivity. The accumulation of FDI itself may be one of the factors that attract potential investors and lead to a further increase of FDI in each area. Thus, a positive coefficient related to this variable would confirm the existence of such effects.

In choosing the key proxy variable for the *China effect* (*FDI_China*), we follow the study of Fung et al. (2009), who investigate the host FDI position of the Chinese economy with regard to the CEE region. Since our analysis is, in contrast, focused on the host position of the CEE countries, we modify the proposed methodology and operationalize the concept of the *China effect* through the regression coefficient related to the proxy variable *FDI_China*, which denotes FDI from China as % of GDP, which can indicate the effect of Chinese FDI on EU-15 FDI in the CEE countries. The sign of the estimated coefficient for the proxy variable *FDI_China* should indicate which type of effect will dominate in the given sample of the examined CEE countries—substitution or the complementary one. In case of a negative estimate of the coefficient, the Chinese FDI would act as a substitute for investment from the EU-15 market, and the *Chinese effect* would be confirmed. On the contrary, if a positive estimate of this coefficient were confirmed, the Chinese investment would thus act as complementary to the EU-15 investment and our assumptions would not be met.

To avoid omitted variables bias, we also include a set of control variables consisting of selected localization determinants of FDI—labor costs (*Wage*), trade openness of the host country (*Trade*), a dummy variable related to the adoption of the common currency (*Euro*), and an indicator of institutional quality—government effectiveness (*Effectiveness*).

The rationale behind this model specification is as follows. Low labor costs may attract foreign investors due to expected cost savings. This factor should play a key role especially in the case of vertical FDI, where investors are looking for low production costs in host countries (see, for example, Fung et al. 2009). Based on the above, we assume a negative relationship between the *Wage* variable and the dependent variable *FDI_EU15*.

On the other hand, greater trade openness may provide an incentive for foreign investors, especially in emerging economies (Horstmann–Markusen 1992). Reducing trade restrictions may thus lead to a higher accumulation
of foreign capital in the host economy. Therefore, in the case of this control variable, we expect a positive relationship between the Trade variable and the dependent variable FDI_EU15.

By including the third control variable, Euro, we take into account the entry of the CEE countries into the monetary union. The adoption of the single currency by the CEE countries is generally expected to increase their trade and investment cooperation within the EU, and thus may lead to an increase of FDI into these countries.

In addition to traditional determinants, we examine the institutional quality of the host economy, proxied by the government effectiveness, which can play a role in investment decisions, especially in emerging economies (see, for example, Bevan – Estrin 2004; Carstensen – Touval 2004). In theory, political and institutional stability, transparency, and government effectiveness increase the attractiveness of host countries from the view of foreign investors (Ly – My – Lee 2019). For this reason, we expect a positive relationship between the variable Effectiveness and the dependent variable FDI_EU15.11

EMPIRICAL DATA AND ESTIMATION RESULTS

We estimate the given econometric model for a sample of 15 CEE countries which are currently a part of the 17+1 Initiative: Albania, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Montenegro, Northern Macedonia, Poland, Romania, Slovakia, Slovenia, and Serbia.12 The data were collected for the longest time period for which data for the given countries were available, i.e., the period 2010–2018. To preserve data consistency, we do not combine various FDI datasets, and uniformly rely on the Eurostat database, which provides foreign direct investment positions (FDI stocks) of partner countries in the CEE countries. Despite the unavailability of longer time series, we fully cover the period of the existence of the 17+1 Initiative, which has been established in 2012.13 Data on control variables – labor costs (Wage), trade openness (Trade) - are also provided by Eurostat, while the data for the institutional quality indicator (Effectiveness) published by the World Bank has been retrieved from the Worldwide Governance Indicators database. Descriptive statistics for all the considered variables are available in Table 1.
While looking at FDI variables, it is evident that the EU-15 market has dominated in the CEE region during 2010–2018, since the mean value of FDI_EU15 reaches almost 35% of GDP and the maximum of 147.928% of GDP. The average Chinese FDI presented a considerably lower value (0.080%) with a maximum of 1.097% of GDP, although it increased significantly because of the establishment of the 17+1 Initiative in the last years.

The country-specific evidence (see Figure 1) reveals that among the examined CEE countries, EU-15 FDI has been mostly allocated to Hungary (average: 77.870%), followed by Estonia (average: 61.173%). The Central and Eastern European countries which are now a part of the EU have attracted significant FDI inflows in the early 2000s, mostly from the Western market- and efficiency-seeking investors. The labor (both costs and skills), along with geographical proximity to the core Europe, membership in the EU, political stability, and the legal environment have been considered as the main FDI drivers (see, e.g., Bruno et al. 2016; Jirasavetakul – Rahman 2018; World Bank 2018). However, it should be added that these countries have reoriented their production from labor-intensive to technology- and knowledge-intensive activities in the last years.

### Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Min.</th>
<th>Mean</th>
<th>Max.</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI_EU15</td>
<td>112</td>
<td>0.520</td>
<td>34.133</td>
<td>147.928</td>
<td>25.783</td>
</tr>
<tr>
<td>FDI_China</td>
<td>111</td>
<td>-0.036</td>
<td>0.080</td>
<td>1.097</td>
<td>0.135</td>
</tr>
<tr>
<td>Wage</td>
<td>135</td>
<td>62.100</td>
<td>97.578</td>
<td>164.300</td>
<td>16.402</td>
</tr>
<tr>
<td>Trade</td>
<td>135</td>
<td>71.400</td>
<td>122.189</td>
<td>190.500</td>
<td>32.225</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>135</td>
<td>-0.329</td>
<td>0.513</td>
<td>1.192</td>
<td>0.447</td>
</tr>
</tbody>
</table>

Source: own calculations based on data from Eurostat and the World Bank.
FIGURE 1: CHINESE AND EU-15 FDI IN THE CEE COUNTRIES

EU-15 FDI, % OF GDP (2010–18)

CHINESE FDI, % OF GDP (2010–18)

Note: We depict the average value for the Chinese and EU-15 FDI stocks during 2010–2018 for each of 15 examined CEE countries. Source: Own calculations based on data from Eurostat. © EuroGeographics for the administrative boundaries.
In contrast, Chinese resources seem to be mainly invested in Western Balkan countries, such as North Macedonia (average: 0.313%) and Serbia (average: 0.186%). The Western Balkan region has experienced a turbulent period marked by civil wars and financial crises, which caused them to take their first steps into the transition process later compared to the EU member CEE countries. Even though the Western Balkan countries still lack the EU membership or the physical infrastructure which could attract further FDI, this region followed an export-led growth path driven by FDI inflow in the last decade. Along with FDI, China provides development loans of significant amounts to this region to help finance large-scale infrastructure projects as a part of the China–Europe Land–Sea Express Route.

From among the considered CEE countries, Lithuania reached the lowest average value of EU-15 investment (16.712%) and the second-lowest average value of Chinese FDI (0.007%). The latter reflects our previous claims about China’s weakening ties with Lithuania, which have recently prompted this Baltic country to withdraw from the 17+1 Initiative. An even greater deterioration of Lithuania’s relations with China can be expected after the statement of the highest Lithuanian officials that they will strive for good and strong trade linkages with Taiwan (LAU 2021). At the same time, Lithuania encourages other states to do the same and look for other ways to communicate with China (SEE, E.G., ANDRIJAUSKAS 2021). By doing this, Lithuania warns of the negative impact of the Chinese presence in the CEE region, which can be divisive for the member states in the European area.

To examine this possible Chinese effect on the EU-15 FDI in the CEE region, we provide the estimation results for the baseline model in Table 2 (columns (I) – (VI)). In all the considered model specifications, the estimate of the dynamic variable, i.e., the lagged dependent variable $FDI_{EU15}$, is positive and statistically significant. This means that the agglomeration (clustering) effects have been confirmed for this sample of 15 CEE countries. We can therefore assume that the previous FDI from the EU-15 countries in the CEE region seems to be an important factor in investors’ localization decisions. For the EU-15 investors, it can be perceived as a positive signal of the business environment or as a benefit bringing economies of scale due to allocated investments in the past period.
TABLE 2: ESTIMATION RESULTS

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<tr>
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<th>(I)</th>
<th>(II)</th>
<th>(III)</th>
<th>(IV)</th>
<th>(V)</th>
<th>(VI)</th>
</tr>
</thead>
</table>
| FDI_EU15
|       | 0.958*** | 0.956*** | 0.547** | 0.657*** | 0.436*** | 0.573*** |
|         | (0.101) | (0.101) | (0.189) | (0.156) | (0.112) | (0.086) |
| FDI_China
| Wage
| -2.352** | -1.244 | -2.744* | -1.987* |
|         | (0.955) | (1.470) | (1.471) | (0.965) |
| Trade
| 0.552* | 0.513 | 0.225 |
|         | (0.275) | (0.331) | (0.393) |
| Euro
| 0.119* | -0.144** |
|         | (0.062) | (0.055) |
| Effectiveness
| 1.096 |
|         | (1.240) |
| Constant
| 17.867 | 15.266 | -147.470* | -71.413 | -179.311* | -128.434* |
|         | (14.653) | (14.694) | (68.443) | (90.101) | (99.511) | (66.166) |
| N. of observations
| 97 | 97 | 97 | 97 | 97 |
| N. of instruments
| 4 | 6 | 8 | 10 | 11 | 13 |
| Time effects
| YES | YES | YES | YES | YES | YES |
| Arellano-Bond test
| AR (1) (p-value) | 0.048 | 0.049 | 0.119 | 0.019 | 0.042 | 0.055 |
| AR (2) (p-value) | 0.116 | 0.103 | 0.209 | 0.283 | 0.601 | 0.274 |
| Hansen test (p-value) | 0.543 | 0.815 | 0.113 | 0.663 | 0.062 | 0.242 |

Note: Robust standard errors in parentheses. *p < 0.1, **p< 0.05, ***p< 0.01.

Source: Own calculations based on data from Eurostat and the World Bank.

Our results are consistent with the existing empirical literature dealing with the determinants of FDI in recipient economies (see, for example, Katsaitis – Doulos 2009; Ly-My – Lee 2019). In particular, we confirm the previous findings of Carstensen and Toubal (2004), who find that previous FDI plays a non-eligible role in the location choice of foreign investors in the CEE countries. Moreover, Campos and Kinoshita (2003) identify that inward FDI in the Eastern European and Baltic countries is mostly explained by this agglomeration effect, whereas such an effect has not been confirmed for other transition economies in a sample of the former Soviet Union countries – namely the members of the Commonwealth of Independent States (CIS); here, the natural resource abundance is essential since the CIS members receive FDI mostly in the resource sector.15

Turning now to the variable of interest FDI_China, we cannot fully confirm our hypothesis (H1) and expectations regarding the threat of Chinese FDI to the EU-15 market. Even though the effect of Chinese investment on FDI from
EU-15 countries appears to be negative, the empirical results do not confirm its statistical significance (with the exception of the model specification (III); however, such a result is not robust). Despite the growing Chinese soft power in recent years in multiple CEE countries, it seems like the Chinese effect does not dominate; i.e., the Chinese investment does not yet substitute for EU-15 investments. In the meantime, analogous evidence can be found for Pax Sinica vs. Pax Americana on a global scale, where the American soft power remains more prominent (see, e.g., Wu 2018). Similar findings, albeit from a trade openness perspective, are presented by Silgoner et al. (2015), who conclude that China, as a global competitor, does not threaten the export performance of the CEE countries in the EU-15 market, as expected.

Figure 2: Chinese FDI Stock in the EU-28 Countries (2018)

Source: Own elaboration based on data from Eurostat.
The growing concerns among Western politicians or business managers have not therefore been statistically confirmed in the empirical FDI data on the sample of CEE countries in the period 2010–2018. One possible explanation for this may be the fact that the CEE countries still receive a relatively low share of Chinese investment, so its negative effect cannot be proved to be significant. Even though the CEE governments considered the BRI and the 17+1 Initiative as good opportunities to strengthen trade and investment flows on both sides, some Western European countries such as the Netherlands, Sweden, and Luxembourg have still remained the largest recipients of Chinese investment in recent years (see Figure 2). Nevertheless, it should be noted that Chinese FDI inflows to the CEE region significantly increased in the last years, especially after the financial crisis in 2008. This evidence has been also confirmed by previous empirical works (see, e.g., Éltető – Szunomár 2016), although it may not be visible in relative terms.

For instance, the Chinese investment in the Netherlands accounted for about 40% of the Chinese FDI in the EU-28, whereas Poland received the largest Chinese investment among the CEE countries, though it represents only slightly less than 0.5% of the Chinese FDI. This evidence somewhat suggests that the expectations regarding the FDI cooperation between China and the CEE region have not been met. The current Chinese investment in the CEE region is still limited, but it cannot be ruled out that in the future, the CEE politicians may try to attract more Chinese investment, even at the cost of political favors. At the moment, however, any such political influence driven by Chinese soft power is mitigated by the marked presence of private companies in the region.

<table>
<thead>
<tr>
<th>TABLE 3: TYPES OF CHINESE INVESTMENT IN THE CEE COUNTRIES, % OF TOTAL FDI</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>AL</td>
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<tr>
<td>BG</td>
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<td>HR</td>
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<td>MK</td>
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<td>PL</td>
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<td>RO</td>
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</tbody>
</table>
Is There “a Chinese Effect” On EU-15 Foreign Direct Investment in Central and Eastern Europe?

In addition, most of the Chinese investments in the CEE countries during 2010-18 have not been made as greenfield FDI, but through mergers and acquisitions (M&As) of foreign companies (see Table 3). It is the complete opposite of FDI from other East Asian countries such as Japan or South Korea, which had been already established on the CEE market before China. While Japanese and Korean investments mainly flow in the form of greenfield FDI as a result of internationally recognized brands and the ownership of technologies, Chinese investors seek to gain strategic assets and prefer entering into global production networks through M&As (SZUNOMÁR – MCCALEB 2018).

The prevailing M&As may actually lead to exaggerations of the relatively weak Chinese impact in the CEE region since previous empirical studies pointed out that the effects of M&As were more minor than those of greenfield FDI. For instance, Harms and Méon (2018) find a positive effect of greenfield FDI on economic growth, while M&As with insignificant effects are identified as “useless FDI” by them. This evidence from a sample of 127 countries can be explained by the fact that M&As do not necessarily lead to an expansion of the host country’s capital stock since they partly represent a rent accruing to previous owners. Moreover, negative effects of M&As can appear as well; UNCTAD (2000) calls attention to reductions, closures of local production, and decreased competition due to growing M&As in the host economies.

Not only this but also a method of financing major Chinese infrastructure projects, which are located mostly in the Western Balkan countries, may prevent the existence of the Chinese effect. Most of the costs of these projects are financed through Chinese development and infrastructure loans provided by state-owned entities (such as the Export-Import Bank of China and the China Development Bank), which do not fit into the FDI category. As mentioned in Vladimirov and Rolland (2021), almost

<table>
<thead>
<tr>
<th>Country</th>
<th>RS</th>
<th>CZK</th>
<th>SI</th>
<th>EUR</th>
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</thead>
<tbody>
<tr>
<td>RS</td>
<td>77.778</td>
<td>22.222</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SK</td>
<td>46.154</td>
<td>0</td>
<td>46.154</td>
<td>7.692</td>
</tr>
<tr>
<td>SI</td>
<td>0</td>
<td>0</td>
<td>80.000</td>
<td>20.000</td>
</tr>
<tr>
<td>CEE Average</td>
<td>27.025</td>
<td>9.751</td>
<td>52.458</td>
<td>10.766</td>
</tr>
</tbody>
</table>

Note: The category “Others” includes the following types of FDI: joint ventures, R&D centers, strategic cooperation, unknown. Data for Montenegro are not available.

Source: Own calculations based on the database from Matura et al. (2021).
$14 billion have flowed into the CEE region along with FDI in the form of Chinese grants, development loans, or concession agreements, of which two-thirds occurred in the past five years. As a result, many Western Balkan countries have become exposed to high levels of debt towards China. For instance, Montenegro, the CEE country with the highest debt exposure to China, whose debt to China amounts to more than 18% of its GDP, and Bosnia and Herzegovina, which has the second highest debt exposure to China, as its debt to it is more than 16% of its GDP, prove that the Chinese economic presence appears to be structurally essential in this region (VLADIMOVO – ARUMI 2021; VLADIMOVO – ROLLAND 2021). As the intergovernmental loans go beyond the macroeconomic and administrative capacity of the government to manage them, the critics also point out the possible “debt traps” arising from the host countries’ inability to repay loans for large-scale infrastructure projects, so Beijing could increase its influence and control over the host country’s government. The contracts often lack transparency and contain clauses which allow Chinese creditors to seize property or assets when the payments cannot be met (SEE, E.G., STANDISH 2021).

A perfect example is the controversial highway project in Montenegro financed through a $1 billion Chinese loan, which was accepted in 2014. While the highway is still under construction, the Montenegrin government is left with a massive debt to China that it is unable to repay. In March 2021, Montenegro called the EU as a candidate country for help in refinancing the loan. While the European Commission refused, claiming that the EU does not repay loans from third parties, it stated that the EU is willing to help with financing the rest of the highway through grants or preferential loans from the European Investment Bank or the European Bank for Reconstruction and Development (STRUPCZERWSKI 2021). Nevertheless, the Western Balkans prefer Chinese over EU resources because in the case of the former, there is no need for compliance with strict EU standards, which is in contrast to the Central European countries being recipients of large EU funding.

In referring to the remaining (traditional) FDI determinants, our results are consistent with the literature dealing with localization determinants of investment behavior in host countries. Firstly, we find that an increase in wages (see the Wage variable in columns (III) – (VI)) leading to higher labor costs in the host country, reduces the attractiveness of
the country from the perspective of a foreign investor, which is consistent with our assumptions and previous empirical studies (see, e.g., Carstensen – Toubal 2004; Rasciute – Puckett – Pentecost 2015). Based on this, we can assume that vertical FDI dominates in the CEE countries, i.e., the EU-15 investors are looking for a cheap labor advantage in the CEE host countries. These results are robust and statistically significant in most of the basic model specifications.

On the other hand, the trade openness of the host country (see the Trade variable in columns (IV) – (VI)) is in a positive relationship with FDI from the EU-15, which indicates that more investment from Western Europe is allocated to the CEE countries with a higher trade openness. This evidence suggests that fewer trade barriers lead to situations where foreign investors increase vertical FDI in the CEE countries by allocating resources to labor-intensive production. The CEE countries’ low production costs and cheap labor provided them with a significant inflow of FDI at the beginning of the 21st century; however, authors writing in the early 2000s pointed out the gradual increase in production costs in the CEE countries after a period of their economic transformation, which may be reflected in their reduced attractiveness for foreign investors in the future (for more on this, see, e.g., Kalotay 2004).

For the membership in the Economic and Monetary Union, that is, adopting a common currency, namely the euro (see the Euro variable in columns (V) – (VI)), we find a negative and statistically significant relationship with FDI from EU-15 countries; i.e., the CEE countries that are not yet members of the monetary union and still use their own currency seem to gain more FDI from the EU-15. These results may be surprising; if we rely on the Optimum Currency Areas theory formulated by Mundell (1961), the member states which already joined the monetary union are expected to form more trade and investment links with their fellow monetary union members, although the evidence suggests that the EU-15 investors prefer countries with lower production costs that have not yet adopted the euro – e.g., Poland, Hungary, or Romania – which has its own logic. The same holds for the Chinese investment in the CEE region.

Finally, we control for the institutional quality in the model; however, we do not find a statistically significant relationship between the
institutional quality indicator of government effectiveness and FDI from the EU-15 countries in the given sample of the CEE countries in the period 2010–2018 (see Effectiveness in column (VI)), which might be explained by these post-transition economies having a similar institutional quality. It is also possible that the agglomeration effects may overcome the importance of other factors. As noted by Campos and Kinoshita (2003), once the investment is settled and the host country attracted the first investors, the process is self-reinforcing, without a need for changing the institutional environment or the policy towards investors.

CONCLUSION

The aim of this paper was to empirically test for the Chinese effect, i.e., the substitution effect which can arise between the EU-15 and Chinese investment in the CEE region because of the strengthened political orientation of CEE authoritarian populist and illiberal elites towards China, which can, in turn, undermine the compliance of these countries with the EU norms and standards. By estimating an econometric model of FDI from the EU-15 market and China to 15 CEE countries during 2010–2018, a period which fully covered the period of the existence of the 17+1 Initiative, we do not confirm that the current FDI linkages between the CEE countries and China disrupted the investment from the EU-15 market in the CEE region. The effect of Chinese FDI on the EU-15 investment seems to be negative, although the results are not statistically significant and thus, we are not able to fully confirm the hypothesis based on regional discussions. Despite the increasing Chinese soft power and FDI in the CEE region, it seems that the investment from China does not substitute for the EU-15 investment there. Our findings may result from the fact that the Chinese investment activities are not mainly based on greenfield FDI but on M&As and provided loans for infrastructure projects. Moreover, the level of Chinese FDI in the CEE region is still relatively low. Despite the creation of the 17+1 Initiative, the Western European countries still represent the largest recipients of Chinese investment. We can therefore assume that the Chinese effect has not emerged yet since the expectations regarding the FDI cooperation between China and the CEE region have not been met.

Our results are in line with evidence from related strands of the literature. For instance, the analysis of trade openness by Silgones et al. (2015)
in a similar way suggests that China as a global competitor does not yet threaten the export performance of the CEE countries in the EU-15 market. To the best of our knowledge, this analysis represents the first attempt to examine the EU-15–China relationship in regard to the CEE region from the investment perspective, by which we contribute to this yet unexplored area of research. Even though the expectations regarding the Sino-CEE cooperation have not been met yet and the recent pandemic crisis has put the Chinese reputation at risk as well, it can be assumed that China’s activity would intensify, especially in the EU candidate countries (Albania, Northern Macedonia, Montenegro, Serbia, and Turkey), i.e., in countries that are not yet so strictly oriented towards the EU and where the Chinese soft power is prominent. A good example of this is Serbia, where Chinese investors have recently bought steel plants and made investments in transport infrastructure. An analysis involving a longer time period, which is not available at present, may reveal such tendencies, and we admit that the relatively short timeframe of this paper represents one of its shortcomings. Moreover, the Chinese loans which play an important role in the Western Balkan countries should be examined in a separate analysis and this can be a subject for future research.

We can expect that there may be an increase in the Chinese influence over these non-member countries of the Western Balkans which participate in the 17+1 Initiative in the next several years, which may lead to the abandonment of the idea of their joining the EU if their accession process becomes too prolonged. The following policy implications emerge: the EU officials should, therefore, in their own interest, seek to avoid such a scenario and reinforce the EU’s soft power in this region. The promotion of the EU funding for strategic infrastructure projects may serve as a counter-weight to China’s active debt diplomacy, which turned out to have negative consequences for the Western Balkans in the form of a macroeconomic imbalance and increased indebtedness. A coherent concept with a stronger degree of coordination between the CEE countries in cooperation with China can be beneficial as well.
ENDNOTES

1 The EU-15 represents the group of EU member states which accessed the EU before 1 May 2004. It includes the following 15 countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

2 For the purpose of this paper, we refer to the substitution effect as “the Chinese effect”. To the best of our knowledge, this issue has not been examined in the empirical literature yet. However, a similar term (“China effect”) has been used in studies investigating the effect of China as a global leader on global innovation (see Woetzel et al. 2015) or the impact of trade and investment with China on the US economy (see Britton – Mark 2006).

3 The original 16+1 Initiative with the goal of enhancing the cooperation between China and the CEE region included: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Montenegro, Northern Macedonia, Poland, Romania, Serbia, Slovakia, and Slovenia. At the 8th CEE-China Summit in Dubrovnik (April 2019), the original 16+1 Initiative has been extended to the 17+1 Initiative by the accession of Greece, and this enlargement should have helped to create a transport corridor that would connect China and Europe (Xu 2019).

4 At the same time, there is no mention of China in the European Commission’s press release about the Global Gateway, although this infrastructure spending plan seems to be an alternative to the BRI/17+1. A similar finding applies to the EU framework for screening of foreign direct investment (FDI), which has been operating since October 2020 with the aim to coordinate FDI actions within the EU member states.

5 Among the CEE countries, the most Confucius Institutes have so far been established in the Visegrad Group – six in Poland, five in Hungary, three in Slovakia, and two in the Czech Republic.

6 The analysis presented in the paper is focused on the member countries of the Visegrad Group, with the exception of Hungary; Hungary was excluded from the study due to the fact that no Chinese energy investments were present there at the time of the research, nor did any Chinese investor announce its intention to invest in the energy sector in Hungary.

7 From among the CEE countries, Estonia, Latvia, Lithuania, Slovakia, and Slovenia have already adopted the common currency – the euro.

8 The presented methodology enables us to quantify the relationship between the EU-15 and Chinese investment in the CEE region. However, we are not able to reveal any causal links between the strengthened political orientation of the CEE authoritarian populist and illiberal elite and Chinese FDI, as such links were suggested in discussions in academia/policy communities.

9 While transforming variables, we follow the approach of Eichengreen and Irwin (1995), who suggest adding value 1 before calculating logarithms of FDI due to the existence of zero/negative values (the same approach is also used by, e.g., Katsaitis and Doulos [2009] and Ly-My and Lee [2019]).

10 In our analysis, we consider both equity and debt instruments as included in our FDI variable. However, grants, and development and infrastructure loans provided by the Chinese government, where a direct investment relationship does not exist, cannot be included since it would introduce heterogeneity to the analysis (e.g., due to the different driving forces and effects of FDI and grants/development loans).

11 The institutional quality indicator published by the World Bank has been scaled by min-max normalization to simplify interpretation (the original indicators range from -2.5, which represents the worst possible institutional quality, to 2.5, which indicates the best possible result for the institutional quality of the country).

12 Bosnia and Herzegovina is also a part of the 17+1 Initiative; however, due to the unavailability of data for it, this country has been excluded from the data sample.

13 To estimate the econometric model, the generalized method of moments (GMM) is used - in particular, the system GMM estimator developed by Blundell and Bond (1998), which is intended to be used for the estimation of such short panel data. In the GMM system,
the number of individual units (i.e., countries) should be greater than the number of time units (i.e., years) – N>T. We therefore fulfill this condition (15>9) and the GMM estimator is suitable for this model specification.

14 At the 0.05 level of significance, the use of one lag of the dependent variable is sufficient (the Arellano-Bond test) and the instruments are valid (the Hansen test). At the same time, the number of instruments does not exceed the number of individual units (i.e., the CEE countries).

15 Campos and Kinoshita (2003) consider the following members of the CIS group: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

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NOTE

We would like to thank the two anonymous reviewers for their constructive and helpful comments on the previous version of the manuscript.

This work was supported by the Scientific Grant Agency VEGA under Grant No. 1/0394/21.

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