

## **Chinese Foreign Direct Investments in Hungary from the Perspective of BRI, International Capacity Cooperation, and Made in China 2025**

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### **Abstract**

This study analyses Chinese investments in Hungary from the perspective of three initiatives (Belt and Road Initiative, International Cooperation in Industrial Capacity and Equipment, and Made in China 2025) which are in line with China's "Go global" strategy and among other things aimed at promoting the spread of Chinese companies and products abroad. The findings show a vivid cooperation between China and Hungary in automotive, ICT, renewable energy, chemical, transportation/logistics and banking sector through the three abovementioned initiatives.

**Keywords:** *China, Hungary, FDI, Belt and Road Initiative, Made in China 2025, International Capacity Cooperation*

## 1. Introduction

In a very short period of time China has become one of the largest FDI source countries. Beside inward FDI to China, the topic of outward FDI from China has started to attract more and more attention from scholars. With its geographical limitation, this fascinating phenomenon serves as a topic for this study, focusing solely on Chinese FDI in Hungary, the most significant host country of Chinese FDI in the CEE region.

In the academic literature, Chinese investments in Hungary are often investigated in a broader geographical context and from the perspective of the Belt and Road Initiative (BRI). The publications (Matura, 2016; 2017a) of European Think-tank Network analyse Chinese investments in the EU, including Hungary. Liu (2013), Matura (2017b), Zhang (2018), Szunomár *et al.* (2018), Lukács and Völgyi (2018a), Matura (2019) and Szunomár *et al.* (2020) investigate Chinese investments in Hungary under China-CEE relations. Some publications (Matura, 2018; Lukács and Völgyi, 2018b) have a narrow focus on bilateral relations between China and Hungary. Chinese investments in Hungary are often researched alongside political and other economic (trade, infrastructure development) relations. In addition, there are some publications (Szunomár and McCaleb, 2016; 2018; Sass *et al.*, 2019) which compare Chinese investments with other Asian investments in Hungary or the CEE region. The aforementioned publications provide an insight into the trends, activities, motivations and modes of market entry of Chinese companies in Hungary. This study contributes to the academic literature with a unique sectoral analysis of Chinese investments in Hungary from the perspective of the Belt and Road Initiative, International Capacity Cooperation, and Made in China 2025.

In Section 2 of this paper, the evolvement of China's outward FDI policy and outward FDI are overviewed. Section 3 focuses on three initiatives (Belt and Road Initiative, International Capacity Cooperation, Made in China 2025) which are – *inter alia* – aimed at promoting foreign expansion of Chinese companies in line with the “Go global” strategy. Section 4 contains an analysis of Chinese investments in six sectors of the Hungarian economy depicted through bilateral cooperation in the three initiatives mentioned above. Finally, the study is closed with some conclusions.

## **2. China's Outward FDI Policy and Trends of Outward FDI**

Before 2000, China's OFDI policy had been widely restricted since, as a developing country with capital shortage, it focussed mainly on enhancing FDI inflows. Only after its 2001 accession to the WTO has China started to gradually relax its OFDI policy. The so-called “Go global” strategy was announced in China's Tenth Five-Year Plan (2001-2006). “The essence of this strategy is to promote the international operations of capable Chinese firms with a view to improving resource allocation and enhancing their competitiveness” (UNCTAD, 2006: 210). The “Go global” strategy “encourages enterprises to participate in international economic and technological cooperation of various forms, including outbound investments, international EPC (engineering, procurement and construction) projects, and labour service cooperation” (Hu, 2018: 71). “Although the “Go global” strategy was proposed in 2000, the rules for its implementation were not introduced until 2004” (Wang and Gao, 2018: 623) which implicated the take-off of Chinese OFDI from 2.86 billion US dollars in 2003 to 12.26 billion US dollars in 2005. Moreover, there was a further increase of OFDI to 55.91 billion US dollars in 2008.

During the global financial and economic crisis, the boom period of Chinese OFDI started to evolve. Between 2009 and 2016, Chinese OFDI grew from 56.53 billion US dollars to 196.15 billion US dollars. Since 2012, China has been among the top 3 FDI home countries in the world. In 2016, China became the second largest source country of FDI behind the USA. A number of companies in developed countries experienced problems during the global financial and economic crisis, opening the door for Chinese companies to increase their investments. In response to the growing enthusiasm for overseas investments, further relaxation measures were introduced in 2009, 2011 and 2014, leading to a “registration-based and approval-supplemented” stage of the system managing China’s OFDI. In other words, most OFDI projects simply required registration and “only projects involving sensitive industries or countries or with Chinese investment of over 1 billion US dollars needed to obtain official approval” (Wang and Gao, 2018: 624-625). The boom period of Chinese OFDI can also be characterized by changes in target sectors, countries and motivations. There has been a growing share of developed countries in Chinese OFDI. The initial dominance of the energy and mining sector has started to fade and sectors such as high technology manufacturing and services have become more attractive for Chinese companies. These changes also reflect China’s industrial upgrading and economic transformation from an export, manufacturing and investment-driven growth model to a consumption, innovation and service sector-driven one. “Chinese FDI outflows are driven by multiple objectives such as seeking market expansion, resources and assets, brands, technology and know-how. Acquiring resources and energies used to be the priority, but in recent years acquiring high-quality assets, and access to global marketing channels, advanced technologies, products and brands (in developed countries) have become predominant motives” (Meng *et al.*, 2018: 13).

From the record level (196.15 billion US dollars), Chinese OFDI dropped back to 158.29 billion US dollars in 2017, and further decreased to 129.83 billion US dollars in 2018. “The decline was the result of policies to clamp down on OFDI, in reaction to significant capital outflows during 2015-2016” (UNCTAD, 2018: 48). “Authorities feared that a number of private company acquisitions were motivated by the desire to transfer money abroad – especially in case of acquisitions outside of the buyers’ core area of business” (Casanova and Miroux, 2020: 96). “In late 2016, the Chinese government identified several areas of “irrational investment” and started to curb overseas investments (especially M&A) in certain industries, including real estate, hotels, cinemas, entertainment and sport clubs” (UNCTAD, 2018: 48). In August 2017, Chinese authorities issued the “Opinions on Further Guiding and Regulating the Direction of Overseas Investments” to classify OFDI into “encouraged”, “restricted” and “prohibited” categories.

In addition, in December 2017, new measures (“Administrative Measure for Outbound Investment by Enterprises”) were launched to provide clearer and more streamlined regulations for OFDI. They created a Chinese OFDI regime “largely based on filing and ex post monitoring and supervision – gradually leaving the investment decision to the enterprise itself” (Casanova and Miroux, 2020: 98). Only investments in sensitive industries/countries need to obtain an approval. In case of investments above 300 million US dollars in non-sensitive industries/countries, only a report has to be submitted before the implementation. If the total investment amount is less than 300 million US dollars, no approval, record-filing or reporting is required.

**Table 1** Classification of Overseas Foreign Direct Investments of Chinese Companies

<b>encouraged</b>	overseas investment in infrastructure projects that facilitate the communications and connections that are beneficial to the Belt and Road Initiative; overseas investment in projects that will facilitate the export of high standard industrial capacity, high quality equipment and technical standards; investment in and cooperation with overseas new and high technological and advanced manufacturing enterprises, and establishment of offshore R&D centres; participation in the exploration and extraction of offshore oil and gas, mining and other energy resources; overseas investment and cooperation in agricultural projects; investment in commerce and trading, the cultural sector, logistics and other service sectors in an orderly manner, establishment of offshore branches and service networks of qualified financial institutions
<b>restricted</b>	overseas investment in sensitive countries and regions where China has not established diplomatic ties, are at war, or are restricted by bilateral or multilateral treaties or agreements of which China is a signatory; overseas investment in real estate, hotels, cinemas, entertainment and sports clubs; overseas establishment of equity investment funds or investment platforms without actual, specific industrial projects; overseas investment using outdated production equipment that does not meet the technical requirements of the investment recipient country; overseas investment that does not meet the environmental protection, energy consumption and safety standards of the recipient country
<b>prohibited</b>	overseas investment involving the export of core technology or product from the military industry without the approval of the government; overseas investment involving the use of technology, techniques or products that are banned from export by the government; overseas investment in industries such as gambling and pornography; overseas investment that is banned by international treaties concluded with or signed by China; other overseas investments that endanger or may endanger national interests and national security

Source: KPMG (2018: 70).

In 2018, the Chinese government continued to curb overseas investment in real estate, hotels, cinemas, entertainment and sports clubs etc., with tightened foreign exchange controls. “Investment policy uncertainties and tightened investment screening regulations also weighed on Chinese OFDI to the United States and the EU” (UNCTAD, 2019: 45). In spite of significant decrease in OFDI, China was the second largest FDI home country in 2018.

In sum, we can say that in recent years, market has been given a bigger role in the decision-making on overseas investment and the Chinese government’s guiding and regulation for overseas investment of Chinese companies has been based on the model of “encouraged development plus negative list” (Paul, Weiss, Rifkind, Wharton & Garrison LLP, 2017: 2) (see Table 1).

### **3. Recent initiatives related to outward FDI**

In line with the “Go global” strategy, several initiatives such as Belt and Road Initiative (or One Belt, One Road), International Cooperation in Industrial Capacity and Machinery Manufacturing, and Made in China 2025 have been launched after the global financial and economic crisis when the Chinese economic growth started to slow down. These initiatives support, *inter alia*, the global spread of Chinese companies and products and help the industrial restructuring and upgrading of the Chinese economy. They especially target those overseas investments which are listed in the encouraged category (see Table 1).

#### ***3.1. The Belt and Road Initiative***

The Belt and Road Initiative is a joint designation for the Silk Road Economic Belt and the 21st Century Maritime Silk Road, contemporary versions of the centuries old Silk Road trade routes which were launched

by Chinese President Xi Jinping in 2013 (Yu, 2017). “Many specific details of the Belt and Road Initiative were announced only in March 2015 when Vision and Actions on Jointly Building the Silk Road Economic Belt and the 21st Century Maritime Silk Road was promulgated” by China’s National Development and Reform Commission, the Ministry of Foreign Affairs and the Ministry of Commerce. According to this document, the BRI is designed to enhance connectivity between Asia, Africa and Europe. It mentions five types of connectivity: policy coordination, infrastructure connectivity (priority area), unimpeded trade, financial integration and people-to-people relations. (In this study we do not deal with social connectivity, namely, the people-to-people relations). “The Belt and Road was originally identified to cover 65 countries along the routes” (Wang, 2019: 92). “Now more than 130 countries are reported to have signed BRI agreements with China. These also include countries in Central America and the Pacific – far beyond the traditional Silk Road routes” (*The Economist* Corporate Network, 2019: 3). There are some significant economies such as the USA, Western and North European countries, Japan, India, and Australia which try to avoid this kind of open endorsement of the BRI.

*Building infrastructure* (transport, energy, telecommunication etc.) is designated as a priority area in the Belt and Road Initiative and represents a hub for the other areas. *Policy coordination* means that countries along the Belt and Road should coordinate their economic development strategies and policies, and jointly provide policy support for the implementation of practical cooperation and large-scale (infrastructural) projects (NDRC, 2015). The realization of this infrastructural connectivity requires *financial cooperation* among countries and tremendous financial resources. New multilateral development banks such as the Asian Infrastructure Investment Bank,



New Development Bank and several new funds such as the Silk Road Fund, China-ASEAN Investment Cooperation Fund, and the China-Central and Eastern Europe Investment Cooperation Fund have been established under Chinese leadership and partly or wholly with its financial contribution. These financial institutions or aforementioned funds have become parallel sources of financing for development to the Western/Japanese-dominated multilateral development banks such as the World Bank, Asian Development Bank, European Bank for Reconstruction and Development (EBRD), and the European Investment Bank (EIB). Banks in the former group complement the activities in the latter group. Moreover, it is often the case that they work together on co-financing/joint projects. Chinese state-owned banks such as the Bank of China, China Development Bank, and the Export-Import Bank of China, or the Chinese sovereign wealth fund, China Investment Corporation, directly or indirectly<sup>1</sup> provide financing for the development of economic cooperation among the Belt and Road countries. The development of infrastructure connectivity (as a priority goal) cannot only enhance trade, but also investment relations. *Trade and investment facilitation* includes elimination of trade and investment barriers (through bilateral and plurilateral free trade agreements, bilateral investment treaties and simplification of customs clearance procedures), the creation of free trade zones, business and trade cooperation zones, and industrial parks. China encourages domestic companies to invest in infrastructure or industrial sectors in BRI countries.

### ***3.2. International Cooperation in Industrial Capacity and Equipment Manufacturing***

In line with the goals of the BRI, the initiative of International Cooperation in Industrial Capacity and Equipment Manufacturing, the guiding document of which was issued by the State Council in May

2015, encourages Chinese companies to go abroad and “individually, or by collaborating with foreign counterparts, to carry out overseas business operations in various forms, including project contracting and investing and building factories” (Xu, 2019: 311). China has entered into bilateral and multilateral capacity cooperation arrangements with several countries and regional organizations (e.g. EU, ASEAN, MERCOSUR, Africa Union and 17+1 cooperation). Key sectors of capacity cooperation are iron and steel, non-ferrous metal, railways (e.g. high-speed railways), electric power (e.g. nuclear power stations), telecommunications, construction materials, chemical engineering, textiles, automobiles, engineering mechanics, aerospace and aviation, ship and ocean engineering. In most of these sectors, Chinese companies have created industry alliances which have been encouraged by the NDRC to go abroad. Capacity cooperation supports the global spread of Chinese companies and products and helps the industrial restructuring (among others, transfer of excessive capacities – in manufacturing, infrastructure and related industries – abroad) and upgrading of the Chinese economy. From the perspective of partner countries, we can say that China facilitates the industrial growth of developing countries and fulfils their growing demand on infrastructure. In the case of developed countries, there is a need for facility maintenance and upgrade in the infrastructure sector which can be met by Chinese companies (Ernst & Young, 2016). In addition, China promotes third-party market cooperation with companies from developed countries. This type of cooperation combines China’s production capacity with developed countries’ advanced technology and equipment for joint bidding of projects in third-party countries (developed or developing countries) (KPMG, 2016; Qiu, 2015).

Industrial capacity cooperation is often related to overseas economic and trade cooperation zones and industrial parks, the founding of which started in 2006. “From 2013 to 2018, 82 overseas economic and trade cooperation zones and industrial parks were established in 24 countries” (BRF Advisory Council, 2019: 8).

### ***3.3. Made in China 2025***

China’s State Council launched the ten-year industrial masterplan of Made in China 2025 in May 2015, the main aims of which are to improve manufacturing innovation, deeply integrate informatization and industrialization (smart manufacturing), strengthen the industrial base, foster Chinese brands, enforce green manufacturing, promote service-oriented manufacturing and manufacturing related service industries, restructure the manufacturing industry, internationalize manufacturing, and promote breakthroughs in key sectors (Ernst & Young, 2016). It “requires China to shift away from energy, heavy industry (iron, steel, non-ferrous metals, basic machinery, and traditional automobiles) and construction towards more sophisticated industries” (OECD, 2018: 81). In line with the international capacity cooperation, Made in China 2025 supports the restructuring and upgrading of the Chinese economy. It targets the following high-tech industries: new generation information technology, high-end digital control machine tools and robots, aerospace and aeronautic equipment, oceanographic engineering equipment and high-tech ships, advanced railway transportation equipment, energy efficient and new energy vehicles, electric power equipment, agricultural machinery equipment, new materials, biopharma and high-tech medical devices (State Council, PRC, 7th July 2015). In the aforementioned domestic high-tech industries, Chinese authorities intervene in order to benefit and facilitate the economic dominance of Chinese enterprises

and to disadvantage foreign competitors. The cornerstone of Made in China 2025 is the replacement of foreign technology with Chinese technology at home. The external dimension of this industrial masterplan includes the government's support for the international expansion of Chinese high-tech companies through foreign direct investments or the expansion of their exports. Chinese companies are highly encouraged to accelerate the acquisition of high-tech companies with core technologies abroad in order "to speed up China's technological catch-up and to leapfrog stages of technological development" (Wübbecke *et al.*, 2016: 7).

In the next section, we investigate Chinese investments in Hungary with a special focus on the realization of the goals of the Belt and Road Initiative, International Cooperation in Industrial Capacity and Equipment Manufacturing and Made in China 2025, which encourages Chinese companies to expand their activities abroad.

#### **4. Chinese Foreign Direct Investments in Hungary**

As mentioned above, China has become one of the world's largest FDI home countries in a very short period of time. China's outward FDI stock is concentrated in Asia (67%), followed by Latin America (15.3%), Europe (6.4%), North America (5.6%), Africa (2.9%) and Oceania (2.8%) (Li, 2018). The three top destination countries, Hong Kong (57.5%), Cayman Islands (7.7%) and British Virgin Islands (6.5%) have had a relatively high share (71.7%) in China's total outward FDI which can be explained by offshore and round-tripping activities. This means that Chinese FDI outflows to these countries are redirected to a third country or channelled back to China. At the same time, we have to highlight the growing share of developed countries (especially the USA and the EU) in Chinese outward FDI stock since 2009. CEE member

countries of the EU, including Hungary, host only a tiny part of China's total OFDI in the EU. Between 2000 and 2017, only 4.5% of Chinese FDI transactions in the EU took place in CEE member countries. According to the data (2000-2017) of Rhodium Group, Hungary is the leading destination country for Chinese OFDI in the CEE region (Hanemann and Huotari, 2018). However, China has only a small share in Hungary's total inward FDI stock. In 2017, China accounted for 2.1 percent of total inward FDI stock of Hungary and was the fourth largest Asian investor in Hungary behind South Korea, Japan, and India.<sup>2</sup>

Despite its low share, we can state that Chinese companies started to increase their presence in Hungary after 2004 when the country joined the EU and more significantly after 2009. The 2008 financial turmoil with the subsequent global economic downturn and the 2010-2011 European sovereign debt crisis together gave a "window period" to Chinese companies to increase further their investments in the CEE region (Liu, 2012), the economic growth of which had been traditionally dependent on the FDI from the EU-15. Of CEE countries, Hungary (beside Poland) was picked up as a key country by Chinese investors from where they started to expand their investments and used it as a "bridgehead" to invest in the whole region (*ibid.*). China's approach was welcomed by the Hungarian government which was urged by the above-mentioned crises to reduce the country's economic dependence on the EU and diversify its economic relations. The Hungarian government launched the so-called "Eastern Opening" policy in 2012 (but which had already been formulated in 2010), in which China had an outstanding role and one of the aims of which is to increase FDI from Asia.

China's outward foreign direct investments have been encouraged by several (push and pull) factors. The government policy is one of them which is an important push (home country) as well as a pull (host country) factor for Chinese companies. China's state led economic

model including outward the FDI policy presented above, underpins the significance of government policy as a push factor. Regarding government policy as a pull factor, the recent findings of Völgyi and Lukács (2021) show that the Hungarian government's "Eastern Opening" policy has been playing an important role in Chinese investments in Hungary. In the last decade, there has been an increase in the number of high-ranking bilateral/regional (17+1) political meetings between China and Hungary where negotiations on Chinese companies' Hungarian investments have been frequently conducted. In addition, with the expectation of attracting more Chinese FDI, Hungary was the first European country to officially sign a MoU on the Belt and Road Initiative with China in 2015, and to create a BRI working group with China. The Hungarian government has also concluded strategic cooperation agreements with Chinese companies located in the country to further deepen their engagement with Hungary and increase their investments.

A more intense cooperation between China and Hungary started at the beginning of the 2010s. Several business proposals were put on the negotiating table in the initial high-ranking political meetings between 2010 and 2013. Of the early Chinese investment plans, some have never entered an implementation phase or have faced a prolonged implementation phase. In the case of planned, but not realized projects, we can highlight the solar cell and panel plant of Hungarian-Chinese joint venture Orient Solar or the European production base of Wujiang Canyi New Lighting in cooperation with Hungarian DML Europe. In addition, in the field of transportation/logistics, some Chinese companies have indicated their business interests in planned or ongoing projects of the Hungarian government and have started negotiations: Hainan Group (acquisition of Hungarian airlines MALÉV), Shanghai Construction Group (development of the airport near Vát (in southwest Hungary)),

China Railway Construction Company (V0 rail ring and downtown-to-airport high-speed train connection in Budapest). These projects have not been realized, but the latter two infrastructure development projects in Budapest have still been under planning, but without any Chinese financing. According to the latest information from the Hungarian Ministry of Innovation and Technology (Schanda, 2020; *VG*, 27th March 2021), they can be implemented and financed from EU budget funds in the near future. Among the prolonged Chinese projects, we can highlight the citric acid factory of Hungarian-Chinese joint venture BBKA Szolnok Biokémia and the Budapest-Belgrade high-speed railway which we touch upon in the following section of our sectoral analysis.

Despite the initial unrealised investment plans, several new Chinese companies have invested in Hungary and Chinese companies located in Hungary have also expanded their investments in recent decades.<sup>3</sup> The Hungarian government (Fidesz-KDNP coalition since 2010) has remained committed to cooperating with China and new investment plans are always put on the negotiating table in high-ranking political meetings. In the subsections below, we analyse Chinese companies' investments in several industries of Hungary such as electronics/ICT, automotive, renewable energy, chemicals, telecommunication, banking logistics, and transportation from the perspective of BRI, International Cooperation in Industrial Capacity and Equipment Manufacturing and Made in China 2025. Chinese companies operating in Hungary are partly/wholly state-owned companies or private companies. Four of these Chinese companies (Huawei, COSCO, Midea and Lenovo), which are listed by UNCTAD among the top 100 non-financial MNEs from developing and transition economies, have investments in Hungary.

#### **4.1. Electronics/ICT**

In the electronics/ICT sector, Huawei, Lenovo and ZTE are relatively early investors from China. Since their market entry in Hungary, they have considerably increased their activities and the country has become a Central European hub from where the whole European market can be supplied with their products or services. In 2009, Huawei located its European Supply Centre to Hungary which has been distributing Huawei products not only to Europe, but also to Russia, North Africa and the Middle East. Foxconn in Komárom and BYD Smart Device in Páty assemble Huawei telecom equipment. In 2013, Huawei opened an enlarged logistics centre in Biatorbágy. Huawei concluded a strategic cooperation agreement with the Hungarian government in 2013 which made Huawei invite its domestic supplier, Comlink to invest and open its first overseas factory in Hungary. In 2012, ZTE began to operate a new European regional network operation centre (NOC) and a call centre and a European mobile phone repair centre one year later. Since 2009, similar to Huawei, Flextronics as an EMS partner has been producing Lenovo PCs, servers and storage devices in Sárvár and supplying Europe, Africa and the Middle East with these Lenovo products. In 2016, Flextronics and Lenovo opened a new server plant in Sárvár.

Beside these market-seeking investments, we have to highlight the role of Huawei and ZTE in the telecommunications infrastructure development in Hungary. Between 2010 and 2015, ZTE participated in the building of the 4G mobile network of Telenor which preferred the Chinese company to its former Swedish partner, Ericsson. Cooperation between Vodafone and Huawei started in 2007 on the global level and in Hungary as well. In 2019, Telenor, with its Chinese supplier ZTE, started to operate its 5G pilot network in the City of Győr where it



concluded a cooperation agreement with Széchenyi István University to enable engineers based at the University to carry out 5G related research (Telenor, 15th May 2019). The other two big operators in Hungary, Vodafone and Telekom have been using Huawei products during the 5G testing phase, but at the moment it is very uncertain whether they will conclude any agreements with Huawei regarding the country-wide development of a 5G mobile network. Members of the Hungarian governments have affirmed several times that they will not discriminate against any suppliers regarding their origin in the case of development of critical infrastructure such as telecommunication networks. The final decision of Vodafone and Telekom depends on their British and German parent companies and home country's regulations. Despite the current uncertainties, we can state that ZTE and Huawei have been significantly contributing to the realisation of one of the priority goals of the Chinese government, namely, the development of telecommunication infrastructure in the countries lying along the Belt and Road. They also fulfil one of the main aims of Made in China 2025 by supporting the global spread of Chinese high-tech products such as 5G mobile communication products which are used in the development of Hungarian mobile network systems. In addition, we have to mention Huawei's latest development in Hungary, namely, the launch in 2020 of a new R&D centre in Budapest, opened on the 15th anniversary of the company's operation in Hungary.

In the telecommunication sector we have to mention another Chinese investment which is related to the BRI. This is the acquisition of telecom company Invitel in 2017 by the China – Central and Eastern Europe Investment Cooperation Fund mentioned above which is mainly sponsored by the Export-Import Bank of China and the Hungarian Export-Import Bank.

## **4.2. Automotive Sector**

In the automotive sector, several foreign subsidiaries operating in Hungary became part of Chinese companies which acquired their parent companies in home countries (e.g. Pex, KACO, Joyson Safety System, Wecast, SEGA). These acquisitions reflect dominant strategic asset seeking motives of Chinese companies in developed countries. Beside acquisitions, we can also find brown-field (BYD), green-field (Himile) as well as JV (Electrobus Europe) investments in the automotive sector. One of the world's leading EV battery manufacturers, Chinese BYD, acquired the Hungarian plant of the South Korean electronics molder Mirae in Komárom in 2008 which decided on disinvestment because of the shutdown of its main vendor Nokia. It was only in 2017 when BYD opened its electric bus factory which is its first facility in Europe and from where it can supply the whole European market. In 2017, it concluded an agreement on a 20 million Euro credit line with the China Development Bank which is aimed to finance the company's further development. Similar to BYD, Himile, the world's largest manufacturer of tyre moulds, opened its first European facility in Hungary in 2016 and has been operating as a European service and manufacturing centre. The other electric bus factory with a Chinese stake is Electrobus Europe. This is a joint venture established in 2018 by Ikarus, a Hungarian company with a long tradition in bus manufacturing, and Chinese CRRC, the world's largest rolling stock manufacturer. The joint venture is based on Ikarus's high quality, European standardized vehicle manufacturing and CRRC's unique knowledge in the area of electric propulsion. Investments of BYD and Electrobus Europe in Hungary represent the international expansion of Chinese new energy vehicle manufacturers, which is encouraged by Made in China 2025. Supplying the whole European market from Hungary is the main motive for these investments.

### 4.3. Renewable Energy

Electric power equipment is another target sector of the strategic industrial plan of Made in China 2025. In this field, for example, the global upsurge of Chinese solar panel manufacturers is obvious. In 2019, seven of the world's top ten solar panel manufacturers were Chinese. The same we could say about the Chinese electric vehicle battery industry in 2017 (Zenglein and Holzmann, 2019), the Hungarian investments of which have just been mentioned above. The first investment in the Hungarian solar industry was the acquisition of a thin film solar modules supplier, Energosolar by Greensolar (subsidiary of Beijing Sevenstar Group) in 2009. Greensolar has obtained the strategic assets of Energosolar such as IP, know-how, and the technical expertise of staff. Since 2009, Greensolar has participated in the development of eight photovoltaic power stations in Hungary. In 2018, the Hungarian unit of Shanghai-based Unisun Energy Group established a ground-mounted solar power facility in Tiszaszőlős (154 km east of Budapest). In 2019, it announced the launch of a new solar photovoltaic project in Hungary (*Budapest Business Journal*, 30th September 2019). In 2019, China National Machinery Import & Export Corporation (CMC), which is a subsidiary of Chinese state-owned company Genertec, invested in the construction of the largest photovoltaic power station in Central Europe which has been built in Kaposvár. The project is designated by the Chinese state media as a new achievement of China's BRI initiative and Hungary's "Eastern Opening" policy (SASAC, 24th June 2019). It „will support the country's climate policy targets, including making Hungary a country that can produce energy in a carbon neutral way by 2050. The investor, CMC is planning to establish a regional centre in Hungary, from which it will manage the preparations for further development in 16 Central and Eastern European countries” (*Emerging*

*Europe*, 18th June 2019). In addition to the solar industry, we can find Chinese investments in the geothermal energy sector. Zhejiang Kaishan Compressor (through its joint venture, KS Orka Renewables Pte. Ltd.) acquired 51% of the shares in Turawell geothermal company to jointly develop geothermal energy in Tura, 30 km from Budapest, in 2016. This project was the first geothermal power station of Zhejiang Kaishan Compressor in Europe. The company would like to further expand in the geothermal power generation market in the CEE region.

#### ***4.4. Chemical Sector***

From February 2010 to October 2011, in three stages, Wanhua acquired 96% share of BorsodChem located in Kazincbarcika, Northeast Hungary which was rescued from shutdown. With the integration of BorsodChem into its group, Wanhua has become the world's third largest isocyanate producer and increased its European presence through BorsodChem subsidiaries. Since then, Wanhua has been continuously investing in the development of BorsodChem in Hungary: Wanhua opened its new TDI plant in 2011. This investment was financially backed by Bank of China. In 2016, Wanhua and Huawei signed a strategic cooperation agreement on developing smart manufacturing systems. "According to the agreement, Wanhua will be establishing its European information centre in Hungary in the interests of increasing the level of quality of its regional production technologies to the highest possible level and developing its operations. Cooperation between the two Chinese companies, which are among the front runners on the world market, will also introduce state-of-the-art production technology based on big-data, cloud-based technology and communication between machines, the so-called "fourth industrial revolution" in the European region" (MTI, 29th July 2016). In 2017, Wanhua announced that it would build a technologically advanced, environmentally-friendly

chlorine plant, the construction of which would be financed through a 79 million Euro credit line provided by the China Development Bank and transmitted by the Hungarian Development Bank. The projects just mentioned are in line with Made in China 2025 goals of developing smart manufacturing and enforcing green manufacturing, but in this case in Hungary, not in China's domestic economy.

Wanhua has also established an industrial park next to the Kazincbarcika plant. In 2014, Wanhua concluded a strategic cooperation agreement with the Hungarian government which pledged to give government support to companies investing in the industrial park. This industrial park was designated as Sino-Hungarian BorsodChem Economic and Trade Cooperation Zone and put on the list of state-level economic and trade cooperation zones of China published by the Ministry of Commerce and Ministry of Finance of the PRC. Wanhua invested 200 million euros in infrastructure development to lure further biotechnology and chemistry companies. In 2018, 50 companies were operating in the zone (*CRI*, 17th May 2018), which has become one of the flagship projects of the BRI and the initiative of International Cooperation in Industrial Capacity and Equipment Manufacturing, which supports foreign direct investments of Chinese companies and their cooperation with foreign companies in chemical-related industries.

Another state-owned chemical company, China BBKA Group is also present in Hungary. In 2011, it launched a joint venture (BBKA Szolnok Biokémia) with MFB Invest which is a subsidiary of the Hungarian Development Bank.<sup>4</sup> Later, this project became part of Chinese-Hungarian cooperation on the Belt and Road Initiative and, according to the project plans, China BBKA Group will be the supplier of the technology and complete sets of biochemical equipment, meaning that this projects will drive the export of Chinese biochemical equipment to Hungary, which encourages international capacity cooperation

(ACEH, 2018a). In November 2017, the Hungarian Development Bank announced that it would negotiate with the China Development Bank about a credit which would cover partly the financing of the building of the citric acid factory of BBKA Szolnok Biokémia (MFB, 29th November 2017). Following an agreement on the financing, in April 2020, the construction of the citric acid factory began in Szolnok.

#### **4.5. Transportation, Logistics**

The transportation and logistics sector has been closely related to trade and infrastructure connectivity which is targeted by the BRI. The geographical location of Hungary makes the country play an important role in the development of a China-Europe land-sea express passage under the BRI. As we mentioned above, several market-seeking Chinese companies prefer to invest in Hungary from where they supply the whole European market. Their Hungarian affiliates have been functioning as a regional hub of their European activities. The development of a China-Europe land-sea express passage also includes efforts to increase bilateral trade flows between China and Europe via Hungary. The first overseas Chinese trade and logistics cooperation zone in Europe recognized by the Ministry of Commerce of the PRC was established in Hungary in 2015, after more than a decade of preparatory work (ACEH, 2018b). “The so-called Central European Trade and Logistics Cooperation Zone (CECZ) consists of Budapest China Mart (an exhibition centre), two logistics parks in Csepel Port (Budapest) and in Bremen Port, and is aimed at facilitating bilateral trade. The logistics park in Csepel also serves Chinese Railway Express cargo trains which have been operating between Changsha and Budapest since April 2017. Central European Trade and Logistics Cooperation Zone will be connected to the China-Europe land-sea express passage starting from China's Eastern coastal city of Shanghai/Ningbo, via Shenzhen in South

China, to Piraeus port in Greece by ship, and from there all the way to Budapest by rail” (Lukács and Völgyi, 2018a: 15). As a part of the development of this passage, we have to highlight the flagship infrastructure project of the Budapest-Belgrade railway modernisation under the BRI. This also represents the international capacity cooperation in the field of high-speed railway construction between Hungary and China. In 2015, China signed separate deals with Hungary and Serbia to construct and revamp a rail link between Budapest and Belgrade. A joint venture (Kínai-Magyar Vasúti Non-profit Zrt.) was established by the Hungarian railway company, MÁV and China Railway International Corporation (CRIC) and China Railway International Group (CRIG) which is in charge of the call for bidding, contracting, project management, and monitoring related to the modernisation of the Budapest-Belgrade railway (MÁV, 2017). In Serbia, the construction of the railway line was started in 2017. But on the Hungarian side there was a delay in the construction “which was caused by a preliminary infringement proceeding launched by the European Commission in May 2016 to clarify the details of the deal concluded by China and Hungary in 2015. The European Commission was investigating whether Hungary was complying with EU procurement rules, which require public tenders for large transport projects. In May 2017, the agreement on the relevant rail link was modified by the Hungarian Parliament and then an open bidding was announced in November 2017” (Lukács and Völgyi, 2018a: 18). Two consortia (CRE Consortium, STRABAG-CCCC 2018 Consortium) applied for the public tender. The Hungarian-Chinese CRE Consortium consisting of RM International, China Tiejiju Engineering & Construction, and China Railway Electrification Engineering Group (Magyarország) (representing China Railway Group) won the public tender and signed the contract in 2019 (Opus Global, 2019). The value

of the modernisation of the Hungarian part of the 350 km rail link stands at 2.1 billion US dollars, 85 percent of which will be financed with a loan from the Export-Import Bank of China. The remaining part will be financed by the Hungarian state. The completion of the construction project is expected by the end of 2025. The Budapest-Belgrade railway project is the first cross-border infrastructure development of China in the CEE region.

In 2019, Ocean Rail Logistics S.A., part of China COSCO Shipping Group acquired a more than 15% stake in Rail Cargo Terminal-BILK, a Hungarian member of Austrian Rail Cargo Group (*Magyar Logisztika*, 26th November 2019). This investment will also contribute to the development of the China-Europe sea-land express passage. It will support the rail transport of Chinese goods from the port of Piraeus to the centre of Europe.

#### **4.6. Banking**

Chinese projects mentioned above reflect the active participation of Chinese state-owned banks (such as Bank of China, Export-Import Bank of China, China Development Bank) in the financing of investments of Chinese companies in Hungary. The Bank of China opened its first CEE subsidiary in Budapest in 2003, which was followed by the launch of a second branch in Budapest in 2012. In 2014, Bank of China launched its CEE headquarters in Budapest and established branch offices in Austria, the Czech Republic and Romania. In February of 2020, the Hungarian National Bank announced that the world's second largest bank by assets, the China Construction Bank, would open a branch office in Budapest mainly to finance corporate investments.



## **5. Conclusions**

China is one of the world's largest FDI source countries. The phenomenon of rapid expansion of Chinese FDI has become tangible in most of the countries in the world. In this respect, Hungary, a small CEE economy, but which is the main FDI target country in the CEE region for Chinese companies, is no exception. This study attempts to find some implications of three initiatives supporting the "Go global" strategy and launched by the Chinese government (BRI, International Capacity Cooperation, Made in China 2025) on Chinese FDI in Hungary. Investigating six sectors of the Hungarian economy, we find evidence for vigorous cooperation between Hungary and China through these three initiatives. The Belt and Road Initiative, launched in 2013, has a broad concept and in general encourages Chinese companies to invest in infrastructure or industrial sectors in BRI countries. So, it can be said that, by providing a broad framework for cooperation, BRI also covers the two other initiatives. Nevertheless, it is a common practice that the Chinese and Hungarian governments highlight some investments, coined as flagship projects under the BRI in Hungary e.g. Budapest-Belgrade high-speed railway, Sino-Hungarian BorsodChem Economic and Trade Cooperation Zone, Central European Trade and Logistics Cooperation Zone, CMC photovoltaic power station. In relation to the initiative of International Cooperation in Industrial Capacity and Equipment Manufacturing, we find one project in railway construction (Budapest-Belgrade high-speed railway) and the other one in the chemical industry (Wanhua/BorsodChem industrial park). In the first case, Chinese companies participate in project contracting (infrastructure development). In the second case, the chemical company Wanhua established an economic and trade cooperation zone to attract further foreign direct investments of Chinese companies and to support their cooperation with foreign companies in chemical-related industries.

In relation to the initiative of Made in China 2025, we can mention Chinese projects in the ICT, automotive (electrical vehicles), renewable energy and chemical sector. ZTE and Huawei contribute to the development of Hungarian mobile network systems with their 5G mobile communication products. In this way, they support the global spread of Chinese high-tech products. Regarding Chinese electric power equipment manufacturing (renewable energy) which is another target sector of Made in China 2025, we have to mention the growing investments of Chinese companies building photovoltaic power stations in Hungary. In the Hungarian automotive sector, two electric bus factories (BYD, Electrobus Europe) represent the international expansion of the Chinese new energy vehicles manufacturing sector promoted by Made in China 2025. Two recent projects of chemical company Wanhua are in line with the goals of Made in China 2025 to develop smart manufacturing and enforce green manufacturing. From the sectoral analysis we can conclude that the market entry and expansion of Chinese companies in Hungary are actively supported by Chinese state-owned banks.

## Notes

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1. Through the Silk Road Fund, China-ASEAN Investment Cooperation Fund, or the China-Central and Eastern Europe Investment Cooperation Fund.
2. Ultimate investors' data from the Hungarian Central Bank.
3. See further details in the publication of Völgyi and Lukács (2021).
4. Szolnok Industrial Park also has a 3.87% stake in BBKA Szolnok Biokémia.

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