Chinese Foreign Direct Investment in High-Technology Sectors of the European Union

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Abstract. Purpose: The purpose of the article is to determine the current trends of Chinese foreign direct investment in high-tech sectors of the EU countries.

Design/Methodology/Approach: The authors used the scientific works of Russian and foreign scholars specializing in Chinese investment. In carrying out the study, systematic and historical approaches were used to study the trends of Chinese FDI in the EU. Furthermore, statistical, logical and visualization methods were also incorporated.

Findings: It is shown that if initially Chinese investors invested in almost all the industries and sectors in which they were interested in, ranging from the extractive industry to the entertainment industry (e.g. purchase of sports clubs), nowadays Chinese investment policy has become more specialized only in some sectors. Today, China is primarily interested in high-tech industries. As a result, the main goal of Chinese investors is to acquire leading European and American companies engaged in these industries. Chinese investors are supported by the government and the “Made in China 2025” strategy is being fully implemented. One of the key objectives of this strategy is China’s global dominance in technology. Over the last four years Chinese investors made around 30 transactions in high-tech sector in the EU countries. As a result, China has been given access to critical technology that can lead to increase China’s role in global technology market.

Originality/Value: The authors describe the current trends of the Chinese investment policy in the technology, analyze the largest Chinese mergers and acquisitions in this sector and draw conclusions about those high-tech sectors in which China is most interested today. On the one hand, Foreign direct investment in the high-tech sector contributes to the development of technology in China, and on the other hand, leads to the loss of the position of European companies in the global technology market.

Keywords: Foreign Direct Investment (FDI) · Investment policy · Made in China 2025 · M&A · European Union · High-tech sector · Chinese investments

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1 Introduction

China has long been not regarded by developed countries as an ordinary developing country. Despite the statements of a number of politicians that suggest that the leading EU and US countries are open to cooperate with China, the opposite situation is seen.
Today China is perceived as a strategic competitor that needs to be restrained. Only twenty years ago economists observed with interest and enthusiasm the implementation of China’s “Going Out” strategy. Conversely, today China’s new investment policy is no longer admired, but leads to growing concerns among economists and politicians around the world. The “Made in China 2025” program has wide public resonance. For the first time the “Made in China 2025” program was announced by Chinese Prime Minister Li Keqiang in 2015. The goal of the program is to upgrade industrial capability of China. According to this program, the Chinese government has prioritized 10 strategic sectors in which China must achieve global leadership in the next 10 years: new information technology, numerical control tools, aerospace equipment, high-tech ships, railway equipment, energy saving technologies, new materials, medical devices, agricultural machinery and power equipment (Institute for Security & Development Policy, 2018).

This program is designed for 10 years and after its completion China is supposed to become a world leader in high-tech industries. Moreover, in the future the Chinese government plans to completely abandon high-tech import, replacing it with its own high-tech production. China does not intend to produce intermediate goods anymore; its strategic goal is to produce finished innovative technologies.

2 Materials and Method

The analysis of the investment policy of China is provided by Russian scientists such as Gelbras V.G. (2007), Nosov M.G. (2018), Vinogradov A.O. (2016), Andronova I.V. (2019) and others. Even more research of Chinese investments can be found at the works and scientific articles of foreign economists, in particular, Philippe Le Corre and Alain Sepulcher (2016) that analyzed China’s FDI in Europe in their book China’s Offensive in Europe. A detailed analysis of Chinese FDI is carried out by the American Enterprise Institute and Heritage Foundation. However, the latest trends of Chinese investment in the EU, particularly in the context of the “Made in China 2025” program, have not been studied sufficiently and require more extensive research.

3 Results

Currently, the “Made in China 2025” program is in the stage of active implementation. It is worth saying that in addition to the goal of achieving leadership in 10 high-tech industries by 2025 the Chinese government sets an even more ambitious and long-term goal. So, in line with this goal China will become a global technological superpower by 2049 (Holzmann and Zenglein 2019).

In order to achieve such successes and in the near future to compete in high-tech production with such countries as Germany, South Korea and Japan, China puts a priority on improving the quality of its products. Therefore, Chinese direct investment in the high-tech sector of the leading countries is growing rapidly. China has more than once been accused of industrial espionage, but today the Chinese government has
decided to go through official channels and gain access to innovation officially through foreign direct investment (FDI).

The seriousness of China’s high-tech intentions is confirmed by statistics. The interest to Chinese investment abroad is rising, because of record levels of Chinese investment in EU countries over the past ten years. An analysis of the main mergers and acquisitions operations over this period allows us to realize how the goals and intentions of Chinese investors in the EU countries have changed in recent years.

According to the data of Fig. 1, the total foreign direct investment flow from China to the EU countries has increased rapidly since 2013. In 2017, foreign direct investment flows in the EU reached record levels – more than 48 billion US dollars (Andronova and Sokolan 2018). We decided to consider in detail investments in such priority sectors for China as transport, technology and energy. The first investments in the technology sector were made in 2009, and this was the only operation in this sector in the year: the Chinese company Unicom acquired a 1% of the shares in the Spanish corporation Telecom. It was some kind of strategic alliance, because in return for a 1% stake, the Spanish telecommunications company received about 8% in Unicom (Robins 2009).

In 2011, for more than 60% of Chinese investments were in the energy sector of the EU countries: the main deals were signed in France and Portugal. It is worth noting that most of the investments in the EU energy sector in recent years have been directed to the alternative energy subsector. Moreover, Chinese investors mainly tried to buy more than 50% of the shares (controlling stake) of European energy corporations. In 2013, 20% of Chinese FDI in the EU countries were directed to the transport sector. Up until 2015, Chinese investments have been mainly directed to the transport and energy sectors. What is worth noting that, in 2015 15.2 billion US dollars were invested in the transport sector (or 47% of all Chinese FDI in the EU over year), 1.76 billion US dollars...
dollars (5.4%) were invested to the energy sector and nearly 2 billion US dollars (6.1%) were invested to the technology sector.

Nevertheless, Chinese FDI in these sectors were significantly reduced in 2017 (in this period, Chinese investors were seriously interested in the banking sector in Germany and the UK). However, in 2018 there was again an increase in investments in all three studied sectors, especially in the transport sector.

After the announcement of the “Made in China 2025” program, a record increase in foreign direct investment in the technology sector of the EU countries was observed in 2016–10.87 billion US dollars (23% of overall Chinese FDI in EU). During the period from 2009 to 2015 ( inclusively), the amount of annual investments amounted to 7.1 billion US dollars. But over the next four years, the amount of Chinese investment amounted to 18.98 billion US dollars. So, it was an obvious result of the “Made in China 2025” program.

It is not surprising that a significant growth of Chinese investment alarmed the governments of several EU countries. By early 2019, the EU had developed an EU-wide investment screening system (Hanemann et al. 2019). The new rules of screening of foreign investment contains a wider list of vulnerable sectors, where foreign investments should be screened. New screening covers only acquisitions and direct investments, but it does not apply to portfolio investments or to greenfield investment. The new EU-wide framework covers transactions that may impact on national security and public order. The list of vulnerable sectors includes critical infrastructure, critical technologies and dual-use items (aerospace, artificial intelligence, nanotechnologies etc.), supply of critical inputs (energy, raw materials), access to sensitive information, media (Hanemann et al. 2019). Thus, the new investment policy of the EU countries was one of the key factors of reducing the total volume of Chinese investments in 2019 in region. On the one hand, we have China, which has revised its investments and selected priority investment sectors, on the other hand, the EU governments, which have tightened investment policies specifically in the sectors of interest to China (Andronova and Sokolan 2019). Nevertheless, despite the reduction in the total volume of Chinese investments in 2019, we focus on the fact that the transport sector accounted for 43% of Chinese FDI in the EU.

Let’s move on to a detailed analysis of the technology sector of the EU countries. First of all, we determine the technology sector of which countries are of interest to Chinese investors. According to Fig. 2, the majority of technology sector investments come to some countries such as the UK – 6.48 billion US dollars (25% of total investments in the EU technology sector), Germany – 6.01 billion US dollars (23%), The Netherlands – 5.8 billion US dollars (22%) and France –3.37 billion US dollars (13%). In addition, Chinese investors are interested in the technology sector in Spain, Hungary, Italy, Greece and Finland.

In total, Chinese investors completed 29 transactions in technology sector of the EU countries from 2009 to 2019. The greatest number of transactions were concluded in Germany (7 transactions), the UK and the Netherlands (5 transactions each country). The majority mergers and acquisitions in the technology sector have completed in the past four years (between 2015 and 2019). Moreover, 13 of the 29 transactions were made in the telecommunications subsector (in monetary terms, 10.63 billion US dollars were invested in telecommunications subsector).
In addition to that, more than half of investments in the telecommunications subsector (5.6 billion US dollars) were directed to the UK, Spain (1.5 billion US dollars) and Hungary (1.41 billion US dollars) took the second and third place, respectively, in the attractiveness of telecommunications subsector for Chinese investors. Also, Chinese investors directed investments in the telecommunications subsector in Italy, France and Greece. The largest investors in this subsector were such major Chinese corporations as Huawei, Jiangsu Shagang led consortium and AVIC (The China Global Investment Tracker, 2020).

More on the largest transactions in the telecommunications subsector. In December 2016, Jiangsu Shagang led consortium (one of the largest private steel enterprise in China (Shagang Group 2020) acquired 49% of the leading international data center Global Switch (UK). Global Switch owns 13 data centers in key connectivity hubs in Europe and the Asia-Pacific region. The company is a leading operator and developer of large-scale networks with multi-user data centers with high network density (Global Switch 2020). Not only did Jiangsu Shagang led consortium become the largest shareholder of Global Switch, but also another Chinese state-owned company AVIC (it is an aircraft manufacturer and part of the Chinese military-industrial complex (AVIC, 2020) in May 2017 bought 25% of this company. Thus, almost 75% of the British corporation is concentrated in China’s hands. This situation was a source of serious concern to the Australian government. Australians immediately decided to transfer all Department of Defense data from data centers owned by Global Switch (Lima 2017). Obviously, in this case (even considering the “Made in China 2025” program) it is difficult to talk only about the one goal of developing high technologies. Especially, of particular concern is the fact that one of the investors (AVIC) is the object of the Chinese military-industrial complex. We can safely say that Chinese investors have more likely geopolitical motives for this transaction.

Fig. 2. The distribution of the amount of Chinese investment in the technology sector by EU countries in 2009–2019. Source: compiled by the authors based on China Global Investment Tracker (2020).
Since 2011 the worldwide known Chinese company Huawei has completed three transactions in the telecommunications subsector in the EU in the amount of 1.53 billion US dollars (the largest deal in the amount of 1.2 billion US dollars was completed in Hungary). All three transactions were kind of greenfield investments, so the Chinese company opened three subsidiaries in the EU. The constructed plant in Hungary is engaged in the production of optical network equipment (MTI, 2011). Furthermore, the divisions of the Chinese corporation are actively providing services and equipment to EU countries for the adaptation of 5G technologies (Hinshaw 2020).

What is most interesting about other operations in the technology sector is the purchase of the German corporation Kuka by Chinese investors. Kuka is the world's leading provider of intelligent solutions in the field of robotics and automation technologies (Kuka 2020). This whole transaction started when the Chinese company Midea group (China's leading technology company, a leader in the production of Robots, Industrial Automation, Consumer Appliances (Midea 2020) sequentially bought 5% of the shares in 2015, then, through its subsidiary Guangdong Midea, the company acquired another 5% in February 2016 and 3% in May 2016 year. The Chinese company made the final purchasing transaction in August 2016, having bought 82% of Kuka's shares in the amount of 4.68 billion US dollars. As a result, the Chinese company controls a 95% stake in Kuka. The German government did not approve of the transaction, but nevertheless, they did not intervene in the process of the transaction. However, the Chinese corporation had to sign a long-term contract to maintain existing management in Kuka (Taylor 2016). This acquisition can be called a kind of Chinese response to the industry 4.0 strategy. This strategy was first announced in 2011 in Germany. Despite a significant slowdown in Kuka’s growth over the past few years, China is projected to provide 40% of the global market for industrial robots in the next few years (Sullivan 2018).

The second largest technology deal was the purchase in 2016 of a division of the Dutch company NXP Semiconductors. This company manufactures semiconductor components and microprocessors. The buyers were Jiaanguang Asset Management Co (a Chinese corporation that invests and manages mergers and acquisitions (Bloomberg, 2020) and Wise Road Capital (company has membership in CIC China Investment Corporation and invests in high-tech sectors (Wise Road Capital 2020). The deal amounted to 2.75 billion US dollars and also became the largest foreign semiconductor transaction in the world (China Jianyin Investment Limited 2015). It is worth noting that Chinese investors did not stop there. In December 2018, the Chinese company Wingtech Technology, which is the world's leading company in the field of semiconductors and telecommunications equipment, acquired a controlling stock in Nexpexitra (formerly NXP Semiconductors) from Jiaanguang Asset Management Co. (Manners 2019). A Chinese company needs Nexpexitra to develop new technologies and to adopt 5G in China and beyond. In December 2019, Goodix Technology, a Chinese company in human-machine interaction technology, integrated circuits and semiconductors development, acquired a subsidiary of NXP, specializing in voice and audio solutions for smartphones (Gerven 2019). Thus, Chinese investors have serious intentions in developing such high-tech industries as semiconductors, microcircuits and smart solutions. From the side of the Netherlands, there is no concern about investments yet and on the contrary the national producer is interested in expanding the company's activities in foreign markets.
In July 2018, the state-owned Chinese corporation Tsinghua Holdings Co., specializing in advanced technologies (integrated circuitry, chips), innovation services and scientific and technical financing (Tsinghua Holdings 2020), acquired 100% of the shares of the leading French technology company Linxens, which provides component-based solutions for identification and security (Linxens 2020). The deal cost the Chinese side 2.57 billion US dollars. Despite the fear that the deal might be blocked by an EU decision, it was successfully completed and the Chinese company gained access to important technological developments in the production of Microconnectors for smartcards and antennas and inlays for applications such as contactless payment, transport (Wu and Chakravarti 2018).

Also, it should be noted that Chinese investors are paying attention to different European startups. At the beginning of 2019, the world-famous Chinese company Alibaba (the world's largest online B2B trading platform) bought a German start-up Data Artisans for 103 million US dollars. The German startup is engaged in a promising high-tech avenue. This start-up has worked with large data volumes and has created an open source framework for enterprise-scale data processing. The German company provides services for such well-known corporations as Netflix, Uber, ING and Alibaba itself. The Chinese company is currently interested in developing new software that can process large amounts of data (Merriman 2019).

4 Conclusion

Today China is actively implementing the “Made in China 2025” program. For the last ten years, transport and energy have been the priority sectors for investment. Moreover, in the energy sector, Chinese investors bought shares of companies engaged in alternative energy sources. Since 2016, Chinese investors have actively begun to direct foreign direct investment in the technology sector of the EU countries. China’s main priority subsectors have been telecommunication technologies and the development of semiconductors. Therefore, the main investment flows were directed to leading European companies in these subsectors.

In fact, many European leading companies (acquired by Chinese investors) in the field of semiconductors and software are suppliers of goods and services to other leading technology companies, including potential competitors of Chinese corporations. That means that China receives not only access to innovative technologies, but also the opportunity to directly influence its competitors. China intends to develop 5G technology, develop new software, innovations for smartphones, etc. Many European companies do not prevent their takeover by China, as they themselves are interested in entering the great Chinese market. China’s investment activities in the technological sector, as well as Chinese investments in general, cause concern in a number of EU countries. As a result, this leads to more stringent control over investments in EU countries. Six months ago, it was safe to say that the prospects for Chinese investment would be very unclear, and EU countries would actively protect their vulnerable sectors. However, the current situation at the beginning of 2020 is about to take some steps of its own. After the coronavirus, many EU countries will face a number of problems, for the solution of which they will need money. For China, it is an ideal opportunity to
buy EU corporations that are priority for it and fulfill the goal set in the “Made in China 2025” program on time.

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