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# On The Protection of Key Technologies in The European Union from Chinese FDI

## *-A Discourse Analysis*

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# 1. INTRODUCTION

## 1.1 PREAMBLE

Since the Chinese government started its 'going out' policy to encourage Chinese firms to invest abroad in 1999, Chinese outward Foreign Direct Investment (FDI) has increased very significantly. Up until the 2008 financial crisis, the increase was not huge although generally continuous, but over the course of the decade that has passed since, Chinese investment abroad has increased exponentially. This enormous increase in Chinese investments abroad, in turn led to policy debates in many developed economies.

Although FDI is generally welcomed with open arms by receiving countries –and certainly by firms- due to its many positive effects on the economy, the idiosyncratic characteristics associated with Chinese investments have led many policymakers and –commentators in these receiving economies to preach caution, advocating a more strategic approach to mitigate risks as much as possible. In many developed economies, such as the United States (US), Canada, and Australia, this has resulted in a tightening of the regulation surrounding many areas of investment, and in the implementation of investment screening mechanisms that have the authority to block investments in critical infrastructure and/or key technologies (New York Times, 2016).

Like in many of these other developed economies, this last decade has seen a dramatic increase of Chinese direct investment in the European Union (EU) and its member states. Annual Chinese outward FDI in the 28 EU economies has grown from 700 million Euros in 2008 to 35 billion Euros in 2016 (MERICS, 2018, p. 10). Chinese investments in Europe have declined since their peak in 2016 but they are still very significant, especially in the context of globally declining investment flows[1].

Mostly since investments peaked in 2016, the perceived need for protection from Chinese investments has become an important, and at times mediatized policy debate in the EU. Like elsewhere in the world, the sustained Chinese investment spree has raised concerns regarding security risks, and a potentially negative economic impact. In many cases these concerns point at the role of the Chinese government in particular. Often observers fear a loss of 'key technologies' to China. Certain high profile 'key technology' cases have received a lot of attention in the media. Notably in Germany public debate was shaken by the Chinese investment spree. The takeover of robotics manufacturer KUKA – a world-leading robotics innovator- by the Chinese conglomerate MIDEA stirred opinion, as many asked whether they should fear a sell out of the crown jewels of the German economy. According to some observers, this was indeed the goal of a coordinated effort by the Chinese government. In the aftermath of the KUKA takeover for instance, the chief of the German domestic intelligence agency, Hans-Georg Maassen, said: "Why spy when you can use liberal economic regulations and just buy companies and then disembowel them or cannibalise them to gain access to their know-how?" (Maasse quoted in: Reuters, 2018a).

[1] The 2018 World Investment Report by the United Nations Conference on Trade and Development (UNCTAD) calculated that global flows of foreign direct investment fell by 23 per cent in 2017, with only a very modest recovery predicted for 2018 (UNCTAD, 2018)

The questions raised in the context of these high-profile cases have eventually led different EU member states to take action, by creating (or expanded existing) regulatory frameworks for the screening of inward FDI. Staying with the case of Germany; the German government already had veto power over investments that are perceived to threaten national security, which involve 25 per cent or more of the equity of a German company by an entity from outside the EU. In August of 2018 Peter Altmaier, the Minister of Economy, announced the threshold to be lowered to 15 per cent (Financial Times, 2018).

Although this tightening of regulations has dealt with some of the concerns raised by some policymakers, and for instance H.G. Maassen, not all of the stakeholders in this debate agree that Germany would need more control on foreign direct investment. In an article for a one of the biggest German financial newspapers, German business leaders criticized the plans of the government to tighten regulations. The Association of German Chambers of Commerce, The BDI Federation of German Industries, and the VDMA German engineering industry association said FDI safeguards jobs and innovation in Europe, and warned that the definition of important concepts such as 'key technologies' were too broad (Handelsblatt, 2017).

Also, not all of the EU member states share the strategic concerns that were raised by several policymakers in countries like Germany, at least not to the extent that they have created a similar investment screening mechanism. At the moment of writing only 14 out of 28 EU member states have a security screening mechanism for inward investment in place. In spite of this, the policy debate eventually also reached the highest levels of the EU.

In early 2017, France, Italy, and Germany wrote a joint letter, in which they argued that in order to address certain concerns, a common European approach to investment control was needed (BMWI, 2017a). Soon after, with the explicit support of some of the EU's biggest economies, the European Commission (EC) adopted a proposal for regulation, establishing a framework to screen foreign direct investment (FDI) inflows into the EU on grounds of security or public order. In its proposal, the commission specifically raised concerns about certain foreign investors -notably state-owned enterprises- taking over European companies with key technologies for strategic reasons (EPRS, 2018). This new EU framework for the screening of FDI eventually got approved by the European Council and the European Parliament two years later, and has officially entered into force on 10 April 2019 (EC, 2019a).

In concrete terms, we can observe that, contrary to some other developed economies, the protection of key technologies from Chinese FDI in the EU has only recently (in 2016) become a hot policy debate. Moreover, we can observe here that there are some interesting dynamics at work in this European debate that are worth investigating. First, although this policy debate is relatively new in the EU, it seems to be part of a global trend to think about Chinese investments in a strategic way. Second, the concept of 'key technologies' is used by different stakeholders, but seemingly only rarely defined in detail. Third, there is the convoluted relationship between Chinese firms and their investments, and the Chinese state. Fourth, there seem to be differing interests and a different sense of urgency about the need for FDI protection between a group of larger EU member states and the EC, and a loose group of smaller states.

To analyse these different dynamics, the research of this thesis will conduct a discourse analysis of the research question: "*Should the EU protect European key technologies from being acquired by Chinese entities through Foreign Direct Investment?*"

The goal of this research is not to be able to present the reader with a simple *yes* or *no* answer. Rather, this thesis will aim to provide a balanced answer that takes different views across the political, geographic spectrum into account. Finding the answer to this research question is not the goal of this research. Rather, the goal is to see what different stakeholders and commentators in this policy debate answer to this question. To this end, it will analyse respectively the **purpose** of the actors involved (China and the EU), the (perceived) **necessity** of the EU protecting key technologies from Chinese FDI, the **risks** related to the protection of key technologies in the EU. By using the method of discourse analysis the aim is to provide the reader with a good overview of what the different views in this emerging policy debate are, and how this view is constructed, in what context. Because the lack of academic literature out there on the debate as such, the research will be build on recent academic work from several related subjects, including on the drivers behind outward FDI, the strategic importance of technological innovation, and strategic thinking in the EU.

## 1.2 Literature Review

In function of the different dynamics in the EU policy debate on key technology protection we have discerned in the preamble, this literature review delves into the peer-reviewed literature that has been written on these subjects. As such, it will review relevant findings made by scholars on the topics of respectively: the drivers behind FDI (from China); strategic thinking at the EU-level; and the protection of 'key technologies'.

### *1.2.1 On (Chinese) FDI and what Drives It*

Depending on what drives the investment, outward FDI is usually categorized in the literature as one of natural resource seeking, market seeking, strategic asset seeking, or efficiency seeking. Dunning (1980) defines these categorizations as follows. A natural resource-seeking investment is an investment motivated by investor interest in accessing and exploiting natural resources. A market-seeking investment is an investment motivated by investor interest in serving domestic or regional markets. Strategic asset-seeking investment then, is defined as an investment that is motivated by an interest in acquiring strategic assets –such as human resources, brands, or technology, etc.- that could enable a firm to be competitive. Finally, efficiency seeking is a form of FDI that comes into a country with the goal to benefit from factors that would enable a company to compete in international markets. Efficiency seeking is seen to be very important for Emerging Market Enterprises (EME's) that are trying to integrate in the international economic system and move up the global value chain. With regards to China, different authors (Gammeltoft, Pradhan, & Goldstein, 2010; Ning & Sutherland, 2012; Rugman & Li, 2007) have found evidence that strategic asset seeking is an important driver for many EME's, but Chinese EME's in particular. This is confirmed by the cases

Notably Rugman & Li (2007) provide us with some interesting concepts with regards to the Chinese tendency towards strategic asset seeking. Their findings suggest that China's EME's are most likely to be 'knowledge seekers' instead of 'knowledge takers' when they go abroad. In other words, they are more likely to extract knowledge from their investments, rather than transfer knowledge to it. This runs against Rugman (1981) his earlier findings that Western multinationals tend to transfer knowledge and technology to the receiving end of the FDI, as they seek to expand their 'Firm Specific Advantages' by going abroad. According to the authors China's EME's will lack such Firm Specific Advantages for many years to come. Their capacity to engage in FDI is said to be more related to 'Country Specific Advantages' –such as market size, and the presence of readily available funds- than it is to Firm Specific Advantages. The rise of Chinese companies -such as Huawei- who rely heavily on globalized Research & Development networks offers an important nuance to this theory, but they could very well be the exception rather than the norm.

Recent research teaches us why strategic asset seeking through outward FDI can be a viable one for EME's. Authors including Linjie Li et al. (2016) & Piperopoulos, Wu & Wang (2018) studied the dynamics involved, and have found that outward FDI has a significant effect on the domestic productivity of these firms, and their technological innovation performance respectively. Both studies also found the effects to be considerably more significant when the investment was targeting developed rather then developing economies. This would explain to a degree the recent popularity of US- and EU firms as targets for Chinese investments.

The impact outward FDI has on domestic productivity and innovation is particularly important from a geo-strategic point of view to China as a state because of its status as a rising economic power. Technological innovation has long been recognized as a key factor in international relations, and in power transition theory more recently. Robert Gilpin recognized already in the 1970's that there is a tendency for techniques and technology to diffuse from the dominant power to other powers within the system or on its periphery. As a result, Gilpin argues, the centre of innovation and economic activity may also shift from one to another part of the system, or its periphery (Gilpin, 1981, pp. 180 – 182).

Where Gilpin's was still a fairly broad and descriptive insight, Kenedy & Lim (2018) have recently focused their research on how rising- and dominant powers interact within this technological realm. In their piece, the authors argue that –assuming a rising state its goal is to continue developing- rising powers face an 'innovation imperative'[2] because the stage of their development compels them to engage in a range of innovation activities (Kenedy & Lim, 2018). That particular stage of economic development they mention is the middle-income stage.

In other words, innovation is imperative if a rising power wants to avoid what institutions such as the World Bank have called the 'middle-income trap;' a situation in which "*Middle-income countries are struggling to remain competitive as high-volume, low-cost producers face rising wage costs*" (World Bank, 2010, p. 27).

[2] The Innovation Imperative is defined as follows: "*the need to acquire and develop new technologies (i.e. innovate) in order to overcome the structural challenges facing middle-income states and continue its international ascent."* (Kenedy & Lim, 2018, p. 2)

Because of the middle-income trap, convergence between rising and dominant powers is far from guaranteed, as developed economies are often able to maintain their lead by improving the efficiency with which capital and labour are allocated through innovation. Hence, if China is to catch up with the dominant economic powers in the international economic system, it will need to innovate and continue doing so. The opposite is true as well. If developed economies such as the EU and the US want to remain dominant economic powers, they must avoid at all costs to be out-innovated by China.

### *1.2.2 On Strategic Thinking in the European Union*

We have observed in the introduction that the EU appears to have only recently begun thinking about Chinese investments in a strategic manner. Although some member states already had a more strategic outlook on inward FDI, the EU as a polity of its own seemingly did not. Therefore, this section of the literature review looks at the peer-reviewed literature on strategic thinking in the EU. When can we originate strategic thinking at the EU-level? What other areas before investment elicited strategic thinking at the EU-level?

Strategic thinking in the EU has traditionally been left almost exclusively to its member states. Until very recently there was no coordinated European effort towards strategic thinking. Asked whether there was a strategic crisis in the EU in 2011, Thomas Renard (A research fellow with EGMONT Institute for International Relations) said there could not be a crisis, since there were a lot of strategies in the EU, but no strategic thinking at the EU-level (Thomas Renard quoted in: Mocanu, Sebe & Andreica, 2011, p. 6).

According to Sven Biscop (2016, p. 1), the acknowledgement of the importance of strategic thinking at the EU-level can be traced back to the publishing of the *EU Global Strategy for Foreign and Security Policy* in 2016[3] -about one year before the EC drafted its proposal for investment screening. This strategy was written by the European External Action Service (EEAS) –the EU's foreign affairs department- and is the EU's take on a 'grand strategy'. In this text the EEAS expresses its ambition for 'strategic autonomy' at the EU-level. In other words, it thinks the EU must be able to serve common EU interests with common means. That is not to say that it has not tried to serve specific common strategic interests with common means before that point, but from that point onwards the EU has publically nurtured the ambition to do so in a more coordinated and single-minded manner. The fast-changing international environment and the shifting power dynamics of the last decade are named as important reasons for the development of strategic thinking at the EU-level, as some of the EU's largest economic powers, and former world powers have seen their relative power in the world decline.

One specific area where the EU's strategic thinking has already been closely studied, and where strategic thinking has arguably already been present for a longer period of time than in investment, is energy. According to Goldthau & Sitter (2015), when it comes to energy, the combination of generally more neo-liberal economic policies domestically in many European countries, and the fall of the communism allowed the European Community (the predecessor of the EU) to create a liberal European single market, and subsequently project its liberal market model abroad.

[3] Find the official publication through the following link: https://eeas.europa.eu/topics/eu-global-strategy

Since the turn of the century however, the world around the EU has become more geo-strategic again, mostly because of the increasingly active international politics of Russia and China, both of which are states that project a different market model. According to the authors, the EU has largely remained a liberal actor, but only largely, because at times now it acts in a strategic, geopolitical way. This is often the case in pipeline politics where, in dealing with the dominant supply of Russia's Gazprom, the EU regularly makes ad hoc exemptions to its open market rules.

For Goldthau & Sitter (2015, p. 1468) these exemptions are a necessary compromise to the EU its Market oriented approach in energy politics, but through conducting a case study of the 'Southern Gas Corridor' –a EU-funded pipeline project in the Caspian sea that aims to diversify the EU its gas imports- Siddi (2019) argues that the EU has more chance to achieve energy security by relying on its traditional liberal market approach, due to the high costs associated with geopolitics (SGC is expensive and Russia is building a new pipeline to circumvent it). It needs to behave as a market power by improving competition in its domestic market, through further integration and regulation. According to the author recent energy market reforms have already seen progress in this respect. For him, the EU needs to make full use of the strategic advantages posed by its liberal market model, rather than regularly making exceptions to that model.

### *1.2.3 On the Protection of Key Technologies*

One of the most crucial, but perhaps also most difficult questions to answer if one were to create protection from inward FDI in key technologies, would be how to define 'key technologies.' Without a clear definition it is not legally clear what needs to be protected, and why they should be, which could in turn lead to less legal certainty for potential investors. The literature review for this research has not found any peer-reviewed literature on critical technology protection, and the regulation around it. Hence, the first paragraph will explain the basic thoughts of the literature that surrounds the closely related 'critical infrastructure protection' concept.

The concept of 'critical infrastructure protection' does provide some insight in what kind of infrastructure of a country can be considered so critical for it's functioning that it needs to be protected (NRC, 2002). All of the works I consulted in this literature however, focus on 'infrastructure' as such, and usually do not mention the protection of critical 'technologies.' Merabti, Kennedy & Hurst (2011, p. 1) for instance, list a number of different types of critical infrastructure, such as the electricity grid and telecommunications network infrastructure, but do not mention anything that relates to the term technologies. De Bruijne & van Eeten (2007, p. 1) describe critical infrastructure as an amazingly heterogeneous set of so-called 'large technical systems' that are considered to be vital. According to the authors, these technical systems include energy, information technology, telecommunications, health care, transportation, water, government and law enforcement, and banking and finance. These are systems on which an array of assessments has argued that the collapse of services from them would be disastrous for entire economies and societies.

During the Clinton administration a 'National Critical Technologies List' was composed in the United States (US). In the report, 'critical technologies' are defined as technologies that are so fundamental to national security or so highly enabling of economic growth that the capability to produce these technologies must be retained or developed in the United States. The criticality of a technology is said to derive from the importance of the outputs of the system of which the technology is a constituent part, as well as from the significance the technology has for enabling that system.

Using this definition, seven categories were described, each containing different technology areas and sub-areas (White House, 1995). Although this National Critical Technologies list was developed during the Clinton administration, it was never written into US law, and as such never enforced, but only served as indication.

## 1.3 METHOD & RESEARCH DESIGN

### *1.3.1 METHOD*

The research of this thesis takes the methodical form of a discourse analysis. This is a useful tool for the analysis of those political meanings that are behind written and spoken text. This kind of analysis can help us learn how specific actors construct an argument, and how this argument fits into wider social practices. More importantly, it helps researchers demonstrate with a degree of confidence what kind of statements actors try to establish as self-evident and true (Schneider, 2013).

The method used in researching the protection of key technologies in Europe from being acquired by Chinese companies is composed of two layers. The first layer is based on the toolbox provided by Schneider (2013). Adapting the toolbox of Schneider according to the needs of the research, this first layer describes the structural process of the research as a whole, starting with the first act of research and ending with the last. The process I followed started by **establishing a general context**, by first reading what different stakeholders said with regards to the need for the protection of key technologies, followed by a review of the existing peer-reviewed literature.

Subsequently I **explored the production process**, in particular I did research on the authors of different texts, but also on what medium and genre the texts belonged to. I used a very basic way of **coding** by sorting all of the sources I found in a range of folders on my computer based on the type of text. After that **I collected discursive statements** and examined superficially what was said in those texts. Where relevant, I then **identified cultural references as well as rhetorical mechanisms** that stood out. Finally, I **interpreted the data** I collected, by attributing meaning to them, based on the context.

The second layer is based on the work of Fairclough (1989), and explains the process of the analysis itself. These are the basic steps that I have used for the analysis of this research. Fairclough (1989, p. 26) proposes three stages of Critical Discourse Analysis:

1. **Description**: The first part of the analysis is about explaining what the formal properties of the text in question are
2. **Interpretation**: The second part of the analysis focuses on the relationship between text and interaction.
3. **Explanation**: The final part of the analysis examines the relationship between interaction and the social context.

In every chapter I have passed through all three of these stages. Although in the final written result not all of the stages are written chronologically, for both style and structural reasons. Furthermore, not all of the described stages require the same amount of text as the other stages, meaning that sometimes one stage will take a considerable bigger amount of text. This has many different reasons, including its importance in relation to the overall research, the difficulty of explaining the argument in a clear way, etc.

The sources used for the analysis are mostly primary sources. These sources take the form of official government publications and websites, think tank reports, books, as well newspapers, and company publications and websites. To a lesser extent, secondary sources, in the form of peer-reviewed books and articles, are also used in the analysis. Generally, these sources are used to provide important context regarding a specific topic.

### *1.3.2 RESEARCH DESIGN*

In its attempt to look at the policy debate surrounding "*Should the EU protect European key technologies from being acquired by Chinese entities through Foreign Direct Investment?,"* this thesis will analyse three basic factors: purpose, necessity, and risk. Each of these factors will be the subject of one research chapter:

**Chapter1: Acquiring & Protecting Key Technologies: Who does what, to serve which Purpose?**

In accordance with its title, this chapter will analyse who does what, in order to serve which purpose. The analysis will be done at the polity level. This means that in practical terms it will look respectively at the role the Chinese state plays in promoting the acquisition of key technologies abroad; and what policies the EU, and to a lesser extent its member states, have implemented to protect its key technologies from being acquired by foreign entities. In view of the insights offered by Kenedy & Lim (2018) in the literature review, it is expected that both polities are likely to act in the way they do because they recognise the strategic importance of innovation.

In other words, the overarching purpose for china, as a rising state, is expected to be to act on its 'innovation imperative': to acquire and create new technologies in order to meet its growth objectives and continue its international ascent. The analysis here will focus largely on Chinas' industrial policy 'Made in China 2025' and its 'going out policy' to facilitate Chinese companies to develop their business abroad. We expect the EU to protect the key technologies that were developed in its comparatively more advanced wealthy states so that it can maintain the innovation gap with China. The analysis here will focus largely on the new EU Investment Screening mechanism, and the debate that preceded it.

**Chapter 2: EU-Protection of Key Technologies: a Necessity?**

The second chapter analyses the main arguments for the EU to protect its key technologies from inward FDI through the means of investment screening. Four arguments, made by the EC Commissioner for investment Jyrki Katainen (2019). in a book on Chinese investment, are under investigation here. The first argument is the lack of investment reciprocity with China. The second argument is that Chinese outbound investment could be supported by subsidies, therefore un-levelling the playing field for private investors in Europe. The third reason, is that a third country could potentially obtain influence over the EU's technological edge, when an investor is state owned and/or the beneficiary of public subsidies, putting its 'security and public order' at risk. The fourth and final reason is the need for increased transparency on the inflow of FDI in the EU, and on member states' FDI screening decisions.

**Chapter 3: EU-Protection of Key Technologies: Wherein Lies the Risk?**

This chapter analyses what the potential risks of regulating Chinese direct investment in European key technologies would be. The general fear with Chinese and European entrepreneurs here is that investment screening mechanisms lead to a less predictable investment environment, which could decrease incoming investment flows. This could mean less technological innovation, and in turn less economic growth. First, we will look at the case of the United States, where this debate has already been going on for a longer period of time, and recently has picked up again in the context of the Sino-US trade conflict and the new foreign investment law FIRMA. Subsequently we will analyse the discourse on the risks of foreign investment protection in Europe.

# 2. RESEARCH

## 2.1 RESEARCH CHAPTER ONE:
## ACQUIRING & PROTECTING KEY TECHNOLOGIES: WHO DOES WHAT, TO SERVE WHICH PURPOSE?

In accordance with its title, this chapter will analyse who does what, in order to serve which purpose. The analysis will be done at the level of the polity, meaning that it will look respectively at the role the Chinese state plays in steering the acquisition of key technologies abroad; and what policies the EU, and to a lesser extent its member states, have implemented to protect its key technologies from being acquired by foreign entities. In view of the insights shared by Kenedy & Lim (2018) in the literature it can be expected that both polities are likely to act in the way they do because they recognise the strategic importance of innovation.

### *2.1.1 THE PEOPLE'S REPUBLIC OF CHINA*

Chinese investments in European key technologies have soared in recent years. In 2017 Chinese conglomerate Midea bought German robotics maker Kuka (Reuters, 2018a). In 2018, Geely bought a 10 per cent stake in carmaker Daimler (Bloomberg, 2018); and Advanced Technology & Materials (AT&M) acquired Aerospace supplier Cotesa (Reuters, 2018c). These are only a few examples of Chinese firms buying (stakes in) European firms with advanced technologies. This section will look at how China defines key technologies and what the role of the Chinese state is in the promotion of recent technology acquisitions in the EU.

In order to analyse the role of the Chinese state in the acquisition of key technologies abroad, we commence by looking at its official discourse on key technologies, to get a better understanding of the official Chinese conceptualisation of the concept. According to Triolo et. al (2018) the Chinese state its definition usually shifts depending on the context and on technological developments. But, there are clear indications as to what considerations are included in China's notion of key technologies. Chinese president Xi Jinping has on multiple occasions been very clear that strategic economic interests are an important consideration in defining what technologies are 'key'.

In some specific contexts the concept even seems to include more than just economic considerations. In a speech at the Wuhan World Internet coference in April 2018, Xi said: "*core technologies are important instruments of the state*" (Xi Jinping in: Creemers, Triolo & Webster, 2018). In a commentarial piece, some of the authors involved in the translation of this speech into English note that what they have translated as "important instruments" implies both a tool and a weapon (Triolo et. al, 2018). This view of core technologies in service of the state is a reoccurring theme in China's official discourse: it is also found throughout the Made in China 2025 strategy, which will be analysed below.

So, what is the role of the Chinese state in promoting investments in key technologies in the EU?

The promotion by the Chinese state of the acquisition of key technologies abroad is at the crossroads between two separate, yet intertwined, strategies of the Chinese government. On one hand there is the 'Made in China 2025' strategy (CM 2025), on the other hand there is the 'going out' strategy.

CM 2025 is a 10-year plan that was launched in 2015, which aims to upgrade China's industry in order to move the country up in the global value chain (see: Chinese State Council, 2015)[4]. Around 150 scientists, supervised by the Ministry of Industry and Information Technology, and twenty other cabinet-level agencies were involved in the development of this plan. As such, this comprehensive government strategy includes strategic goals, concrete tasks, as well as different support mechanisms that aim to transform Chinese industry.

In its aim to upgrade China's industry, CM 2025 outlines 10 critical sectors, including New Energy Vehicles, Rail Transport Equipment, Automated Machine Tools and Robotics, and Energy Equipment. And Innovation and key technologies play a central role here. This is evidenced in part by the frequency with which these phrases are mentioned throughout the text. Over 38 pages 'innovation' is mentioned 79 times, 'key technologies' 6 times, and 'core technologies' is mentioned 10 times (IoT One, 2015). More than the frequency with which they are mentioned though, these concepts form an essential part of the content of the strategy, and what it aims to achieve. Both of these concepts are deemed to be essential differentials of China's industry, and economy. They are both problem and solution in the task of upgrading the industry and economy. Phrases such as "*innovation is weak and external dependence for key technologies and advanced equipment is high"* are described as problems that need to be solved if *"China to become an advanced manufacturing power"* (Iot One, 2015, p.4). In other words, if China is to become an advanced manufacturing power its companies need to develop a strong capacity for independent innovation, and need to develop/acquire their own key technologies; they form an essential part of what this strategy aims to achieve.

The contents of CM 2025 also find resonance in China's broader official discourse. As illustrated above, one of the core goals of CM 2025 is to promote the development/acquisition of key technologies by Chinese companies. This core goal has been a long-standing and recurring theme in China's public debate ever since CM 2025 was published. Often the very highest levels of government have addressed the theme. In 2016 President Xi mentioned the phrase 'core technologies' at least 28 times, stressing that "*core technologies are a national treasure, and we must rely on indigenous innovation, self-reliance and self-strengthening concerning the most crucial and the most core technologies"* (Xi in: Creemers, 2016). Xi re-iterated his stance in 2018, claiming that key technologies are crucial to the promotion of China's high-quality economic development and maintaining national security (Xi in: Xinhua, 2018). All seven members of the Politburo Standing Committee, as well as leaders of major state-owned enterprises, attended this speech, which in accordance with the conventions of the Chinese state signals to a large extent the importance of it to its audience (Triolo et. al, 2018).

More then just government officials, the emphasis on the development/acquisition of key technologies also spilled over to the public discourse of the strongmen of some of China's biggest – private- technology companies. Jack Ma, founder of Alibaba, said: "*A real company is not determined by its market value or market share, but by how much responsibility it takes and whether it has mastered core and key technologies*." (Jack Ma in: SCMP, 2018b).

[4] Given my insufficient comprehension of Manadarin, an English translation of the CM 2025 Strategy will be used for the remainder of this research (see: IoT One, 2015).The translation I use was conducted by IoT One. They are a research organisation that provide advise to many international firms and organisations, including General Electric, Philips, and Bayer.

At the same event, Tencent Holdings chairman Pony Ma went on to say: "*it is becoming increasingly urgent for Chinese enterprises to make breakthroughs in the ownership of core technology*" (Pony Ma in: SCMP, 2018b).

In order to achieve this core goal of acquisition/development of key technologies by Chinese companies, CM 2025 also prescribes a range of policies that put "*the socialist system to good use and mobilize all social forces"* (Iot One, 2015). These policies illustrate that, more than simply facilitating innovation, the state wants to steer where technological innovation will take place. Apart from Institutional Reform, other important foci include: Financial Support Policies, Fiscal and Taxation Policy and Multi-level Talent Cultivation Systems. More concrete policies include: subsidies from the Export-Import Bank of China for the 'going out' of manufacturing industries (IoT One, 2015, p. 33), the "perfection" of financial and taxation preferential policies to support small and micro businesses and optimize special funds for small and medium enterprises (IoT One, 2015, p. 36), and the implementation of government purchasing policies supporting innovation (IoT One, 2015, p. 34). In the context of the central government's efforts to restructure different SOE's in 2016 we find further indication of what is meant by "*putting the socialist system to good use",* as the state council wrote: "*SOEs should be encouraged to carry out acquisitions and mergers with a focus on development strategies and a goal of attaining key technologies and core resources.*" (Chinese State Council, 2016).

Another important government strategy to consider in our analysis is the Going out strategy. The going out strategy was launched in 2001 as part of the Tenth Five Year Plan, and was a turning point in China's relations with the rest of the world. During this period China started its evolution from mostly drawing inward foreign direct investment into the country, to promoting outward capital flow by implementing a range of policies to inspire Chinese firms to invest abroad –albeit to a limited extent. In the beginning 'going out' policies were only directed at selected SOE's, but in 2004 the Chinese government's decision to relax regulations and approval procedures prior to that year also included giving permission to private firms to invest abroad for the first time (Buckley et al. 2007). Chinese investments abroad have since evolved from a relatively small amount of investments in natural resources like oil, to a much larger number of investments in a broad range of sectors. Over the last few years then, investments in high-tech industries have started to gain a lot of momentum, for instance the Internet sector with the foreign expansion of Baidu, Alibaba, Tencent, etc. (Shen, 2017). One of the ways in which the Chinese government guided foreign investments made by Chinese companies was through the Catalogue of Countries and Industries for Guiding Investment Overseas. In this catalogue the state listed the desired regions, countries and sectors for international expansion. Investments that were in line with the list would receive preferential treatment in the form of state support: including financial assistance, approval to acquire foreign currency, and tax and duty advantages (NDRC, 2007).

In 2017, the global flows of Foreign Direct Investment fell sharply by 23 per cent. Chinese FDI in the EU declined as well during that time, dropping about 17%. Considering the global context, the decline in Chinese investments to the EU was considerable, yet not enormous. During the same period, completed Chinese FDI went down 92% in US (UNCTAD, 2018).

The slowdown in Chinese global investment was largely attributed to actions taken by Chinese regulators, but also to actions of US regulators. During 2017, US Congress in the process of toughening the national security investment screenings, and became increasingly critical of technology transfers the US to China.

Furthermore, the Trump administration also threatened with additional restrictions for Chinese investors referring to a then on going investigation into Chinese intellectual property practices (Baker McKenzie, 2018).

Before the actions by US Congress, in the last months of 2016, the Chinese state had severely restricted what it called "irrational" outbound investment, in order to contain capital outflows, after the outflows had grown to an average of more than 50 billion US dollars per month in 2016. These initially informal policies were subsequently codified around mid-2017 with the implementation of a new OFDI regime based on lists of encouraged, restricted and prohibited investments. This new system in effect replaced the old system of the guiding investment overseas catalogues. Chinese outbound FDI was further hampered by a government campaign to reduce leverage and increase stability in the financial sector, the main targets of which were large private conglomerates, as many of them had become very active overseas dealmakers in recent years (MERICS, 2018, p. 29).

These crackdowns on outward FDI had the potential to lead to questions regarding the Chinese state its commitment to the going out of Chinese companies, but the Chinese Ministry of Commerce, was quick to reaffirm its position on Chinese companies going out in light of declining outward FDI flows, stressing that would "*continue to support and promote qualified Chinese companies, including private ones to "go global" steadily, leverage their unique advantages and walk steady and far in their international operations."* (MOFCOM, 2017). The real targets of these investment curbs –the so called "irrational projects"- were overseas investment in property, hotels, entertainment, sports clubs and movie industries (MOFCOM, 2017). "Qualified Chinese companies" to engage in FDI are therefore to be interpreted as firms that invest in sectors the government wants to develop, that is sectors that are on the aforementioned 'encouraged list', of investments that the Chinese government wants to stimulate, such as in CM 2025 sectors.

One very concrete example of an industry on the encouraged list is the robotics industry, an important target industry of CM 2025, and as such a priority for the Chinese government. This is also the industry of the case of German company Kuka being taken over by Chinese Midea, which was briefly mentioned in the preamble. In early 2016 the state council announced a "*plan to triple industrial robot production by 2020"*. Special funds from the central budget would be allocated to support research and subsidies (Chinese State Council, 2016b). Additionally, local and provincial governments also considered the robot industry as a key sector for development, and started competing to attract the best companies. Looking at the local level, 36 cities launched a total of 77 supportive policies in 2014, and 2015 alone, according to the China Robot Industry Alliance (CRIA, 2016). But, several provinces were also lavish with subsidies. At around the same time, from 2015 to 2018, the Guangdong provincial government – Midea's home province- offered a total of 943 billion RMB in subsidies to encourage automation among local manufacturers (He & Chen, 2018). Eventually, China tripled its robot production by 2017 already. Reaching its target three year ahead of schedule (Xinhua, 2018). Given the fact that most of the domestically produced robots were on the medium- to low-range end of the value chain however, several companies started making strategic acquisitions abroad to obtain higher end technologies. Among these companies were Jiangsu Hagong, Midea, and many more.

### *2.1.2 THE EUROPEAN UNION*

Chinese investments in the EU had built up gradually over the years since the going out policies started. But even though 2015 was already a record year for Chinese investments in Europe, with around 20 Billion EUR, calls for protection of key technologies and key industries only came to prominence in the public debate in 2016. That year recorded 35 billion EUR of completed Chinese FDI transactions, or an increase of 77 per cent over a single year. The investments were made in many different industries, but technology and advanced manufacturing assets were the biggest targets, with real estate investment declining sharply in comparison with 2015 (Merics, 2018). The popularity of CM 2025 sectors for Chinese FDI was particularly striking. In May 2018, a study by the Bertelsmann Stiftung listed all of the Chinese M&A transactions in Germany between 2014 and 2017. The list showed that at least 64 per cent of Chinese investments in Germany over those three years were in sectors the Chinese government is prioritising as part of its CM2025 strategy (Jungbluth, 2017).

The most public debate in the EU over Chinese investments in key technologies also took place in Germany -the biggest EU-recipient of Chinese FDI in 2016. In particular, the takeover of German robotics manufacturer Kuka by Chinese appliances maker Midea led to a lot of strong public statements on the need for protection. After it became clear that Midea was intent on significantly increasing its stake in the company, seen as a crown jewel of the German industry, Deutsche Welle reported that the trade union IG Metall made an attempt to find alternative buyers for Kuka shares to remain German-owned (DW, 2016a); a thought which then German Economy Minister Sigmar Gabriels publically applauded (SZ, 2016). In the end no credible alternative buyers were found, and the German government approved the takeover after a review had found no evidence that it would harm security or public order. In response to this decision however, a spokesperson of the German Economy Ministry said the Minister would be looking to start a debate about how Europe would deal with "*unfair competition*" in the future (DW, 2016b).

The catalyst that subsequently pushed this theme to a European level was initiated five months later. In February of 2017, the Ministers of Economy of France, Italy[5], and Germany wrote a joint letter to EU Commissioner of Trade Cecilia Malmström. In this letter, they explained their concerns regarding a lack of reciprocity and a possible sell-out of European expertise. Threats, so they claimed, "*they were unable to combat with effective instruments*". In their view, in order to address the concerns they raised, a common European approach to investment control was needed (BMWI, 2017a).

Following this letter, and taking note of this increasing tendency of several EU policy makers of the highest level, several business associations rang a public alarm bell (see: Handelsblatt, 2017). According to the Mechanical Engineering Industry Association (VDMA) -the largest industry association in Europe- the reasons voiced by German and EU policymakers to expand the right of the state in limiting the freedom of investment "*could not justify the huge intervention into entrepreneurial freedom and constitutionally protected private ownership"* (VDMA, 2017, p. 2).

[5] Italy's newly elected government in 2018 changed its stance and now positions the country as a trade and investment partner to China.

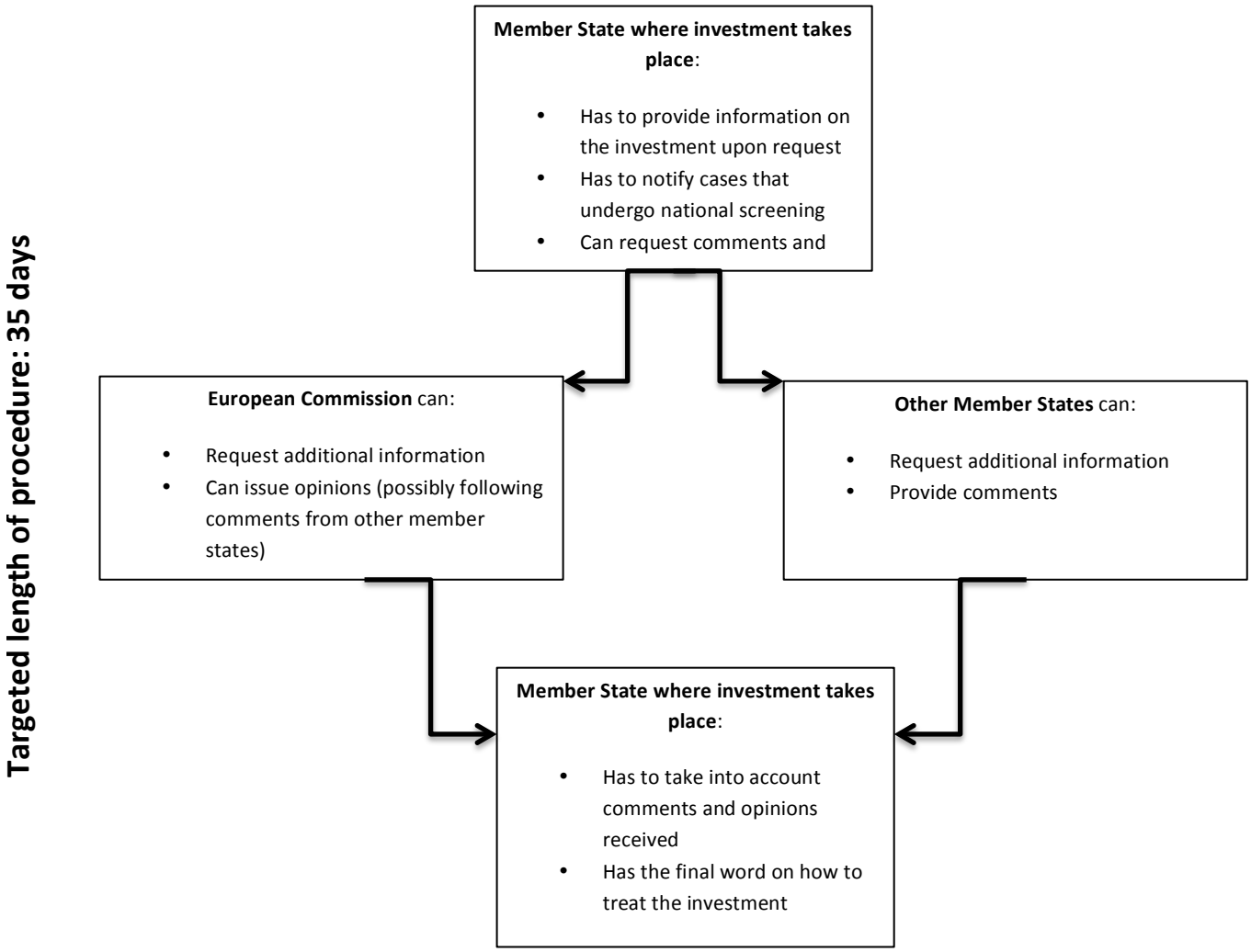
In spite of reservations from many business leaders though, with the political weight of these three economic powers –and founding members- behind a common EU approach for the protection of European expertise from investment by 'unfair' foreign competitors, the European Commission (EC) – the executive branch of the EU- was able to act relatively quickly in drafting a proposal to address the concerns made by the three Ministers of Economy.

Once the first draft was ready, concerns were raised again. This time by the leaders of several EU-member states: despite the agreement amongst the biggest economic powers, the support from other member states was far from overwhelming. At the first summit where the draft was proposed to the member states, the Nordic and Benelux countries as well as Ireland and some Eastern European states objected. According to Irish Prime Minister Varadkar these "*trading nations*", wanted to avoid "*any effort to use this proposal as a Trojan horse for protectionism*" (Varadkar quoted in: EU Observer, 2017).

Eventually, on 13 September 2017 EC President Juncker announced in his State of the Union that the EC was adopting a (redacted) proposal for regulations establishing a framework for the screening of FDI inflows into the EU on grounds of security and public order (EC, 2017). The European Parliament and the Council, reviewed the EC Proposal over the following 18 months, before adopting the proposal on 19 March 2019. The new EU legislation finally entered into force 10 April 2019 (EC, 2019a). It is not fully clear how much the proposal of the first summit was redacted in the end.

The new EU regulations ordinate the creation of a cooperation mechanism in which both member states and the EC are able to request the exchange of information and raise concerns related to specific investments in a given member state. The regulations also give the EC the power to issue opinions when an investment would undermine the security or public order of more than one member state, or the EU as a whole.[6] Finally the regulation also obliges each member state to submit an annual report on incoming investments (EU REGULATION 2019/452). In practical terms, the screening mechanism works as follows: (see next page)

[6] This means if EU-funded projects or programmes are undermined. As such EU REGULATION 2019/452 also includes a 'list of projects or programmes of Union interest'. These projects range from the innovation strategy 'Horizon 2020' to GPS-alternative 'GALILEO'




Source: (EC, 2019a, p. 2)

Definitions of what falls under the 'security and public order' umbrella are on the vague end of the spectrum throughout the legislative text. Although the general thought here echoes the same notion we saw in our review of critical infrastructure protection literature. That is the notion of infrastructure that is so important for a given state that its loss would have significant impact on the functioning of that state; infrastructure therefore that needs to be protected. However, the new EU regulation also adds technologies and inputs (such as energy, and food security) to that list respectively:

"*In determining whether a foreign direct investment may affect security or public order, it should be possible to consider all relevant factors, including the effects on critical infrastructure, technologies and inputs which are essential for security or the maintenance of public order, the disruption, failure, loss or destruction of which would have a significant impact in a Member State or in the Union."* (EU REGULATION 2019/ 452).

Apart from critical technologies, infrastructures, inputs, the law also lists access to sensitive data, and the freedom and pluralism of media as factors to be taken into consideration when reviewing an investment.

However, the regulation states explicitly that it is up to the member state where the investment takes place to determine whether a given investment poses a threat to security and public order. As a consequence, although the text describes the protection of them, it is important to consider that key technologies are not clearly defined or listed, and that the technologies that are listed in the legislative text only serve as indications. Some indications on possibly sensitive technologies are given, but there is no specific or exhaustive list of which exact technologies are so critical for 'security and public order' that they need to be protected. The regulation does indicate that 'key technologies' "*include artificial intelligence, robotics, semiconductors, cyber security, aerospace, defence, energy storage, quantum and nuclear technologies as well as nanotechnologies and biotechnologies*" (EU REGULATION 2019/452).

The Federation of German Industries (BDI), which was already critical for the need for investment screening mechanisms before the new regulation was even proposed, recently lamented the broad and non-exhaustive nature of these definitions. In a policy paper, they call for clear definitions of the screening criteria, and reject the extension of the definition of national security to include the protection of 'key technologies' (BDI, 2019, p. 14).

In conclusion, the new regulation represents a European answer to calls for the protection of key technologies, following the investment boom leading up to 2016. But ultimately the EU member states still retain most of the power to decide whether or not a given technology poses a threat to public order and security and in consequence needs protection from foreign FDI. This seems to be the result of a compromise between two groups of EU member states that was made following a European summit: one group advocating a classical liberal market approach, the other a slightly more strategic approach.

At the moment of writing 14 EU member states have a screening mechanism for incoming FDI in place. A comprehensive analysis of these mechanisms is beyond the scope of this research, but – based on a recent study by the Mercator Research Institute for China Studies (Merics) and Rhodium Group- Appendix 1 lists for all EU member states what screening mechanisms they had in place, and whether they have recently expanded, or plan to expand, the scope of that mechanism.

## 2.2 RESEARCH CHAPTER TWO:

## EU PROTECTION OF KEY TECHNOLOGIES: A NECESSITY?

Jyrki Katainen –the Finish vice-president of the EC and Commisioner for investment- wrote a Chapter in a book on Chinese outbound investment that was published in 2019 (Katainen, 2019). In this text he describes the context surrounding Chinese investment in the EU, and explains why the EC has proposed to create a EU regulatory framework for investment screening. In doing so, Mr. Katainen broadly describes four reasons why the creation of a EU investment screening mechanism is a necessity for the protection of the EU's key technologies and critical infrastructures. The first reason is the lack of investment reciprocity with China, "*a concern that has been raised more and more as Chinese investments continued to grow in the EU, while EU businesses continued to be subject to several limitations in China"* (Katainen, 2019, p. 18).

The second reason is that Chinese outbound investment could be supported by subsidies, therefore un-levelling the playing field for private investors in Europe. The third reason, like the second, is related to the role of the state in foreign investments: when an investor is state owned and/or the beneficiary of public subsidies, a third country could potentially obtain influence over the EU's technological edge, putting its 'security and public order' at risk. The fourth and final reason that can be discerned is the need for increased transparency on the inflow of FDI in the EU, and on member states' FDI screening decisions. According to the commissioner, this is important because "*even though national security remains the responsibility of member states, there is also a single EU market where capital freely flows*" (Katainen, 2019, p. 19).

The reasons Katainen describes are not his own –nor the EC its- invention. All four are arguments that were made in the public debate that was held in think tank reports and different European media. This second research chapter will look at which actors have made these arguments; try to reconstruct how these arguments have been used in interaction, where possible; and how they relate to the broader social and political context.

### *2.2.1 Investment Reciprocity, or the Lack Thereof*

More than just Commissioner Katainen personally, the EC officially called achieving a more balanced and reciprocal (trade and) investment relationship a key challenge for future EU-China Relations in its 2019 EU China Strategic Outlook, released one month before the annual EU-China Summit. The financial services sector is set as an example here: where Chinese fintech and online payment companies, banks, etc. continue to invest in the EU, their European competitors are denied to do the same on the Chinese market (EC, 2019b). Other EU policymakers of the highest level have on multiple accounts also echoed the concerns about a lack of reciprocity. During a joint press conference in Paris in attendance of Chinese President Xi Jinping -concluding a bilateral summit between China and France- EC President Jean-Claude Juncker, German chancellor Angela Merkel, and French President Emmanuel Macron expressed the need for more reciprocity between Europe and China. Merkel stressed that "*a certain amount of reciprocity from China was needed to seal an EU-China investment agreement next year*" (Merkel quoted in: Financial Times, 2019). Juncker reinforced this by saying: "*European companies should find the same degree of openness in China's market as Chinese ones find in Europe*" (Juncker quoted in: Financial Times, 2019).

All of these statements show a degree of unity between EU-leaders on this specific subject that is not often displayed when it comes to taking a stance on the EU's external relations. Given the complexity of decisionmaking for the EU's external relations, definitely in cases with shared competences between the EU and its member states –as is the case with investment- it has historically been notoriously difficult to come to a unified stance (See: Menon, 2014). Noting the fact that the demand for more reciprocity with China is voiced more or less *uni sono* by European policymakers, what exactly do they mean with this perceived lack of investment reciprocity, and why does it warrant the protection of European key technologies according to EU policymakers? The following paragraphs will explain briefly what is meant by this conept and how it is important to trade- and investment relations.

According to Blau (Quoted in Keohane, 1986, p. 5), reciprocity implies "*actions that are contingent on rewarding reactions from others, and that cease when these expected reactions are not forecoming*".

Although the origins of the concept go back a few centuries in the context of trade relations, reciprocity has more recently been one of the core principles of the post-war international economic order, lead by the US. This international economic order was founded with the establishment of the General Agreement on Tariffs and Trade (GATT) in 1944; the predecessor of the World Trade Organisation. To illustrate the importance of the principle here: in the preamble of the GATT, countries that signed up for the agreement expressed their desire "for *reciprocal* and mutually advantageous arrangements directed to the substantial reduction of tariffs and other barriers to trade" (GATT, 1944).

In short, the principle has been key to several important trade agreements. In terms of global investment however, the principle is much less commonly recognised in international treaties, mainly because it often has proven very difficult to find agreement on a set of common rules.

The EU itself for instance, is based on the free movement of capital, which in many ways exemplifies a form of anti-reciprocal investment, as capital is allowed to move completely freely between borders without any requirements for a country to let as much investment flow to a country as what it receives from that same country. The difference between the EU's investment relations with China and EU member states amongst each other is that China does not underwrite the same rules as the EU and its member states. China unilaterally restricts foreign investments in many of its industries. These investment restrictions take both official and un-official forms:

China is officially restricting investment access to important industries through its laws. This is reflected in the Organisation for Economic Cooperation and Development (OECD) its 2018 FDI Restrictiveness Index. This index analyses the regulatory openness of a different countries, looking at investment rules. Specifically, it takes into account four types of restrictions: foreign equity restrictions; discriminatory screening or approval mechanisms; restrictions on key foreign personnel and operational restrictions.

With 0 being no restrictions, and 1 being completely restricted, China scores 0.251, on an overall average of 0.065. Of the 25 (out of 28) EU member states that are included in the index, only two countries score higher than that average. Those countries are Poland (0.072) and Austria (0.106). Thus, according to OECD statistics the most restrictive EU state recorded in the index is not even half as restrictive as China when it comes to FDI (OECD, 2019).

But apart from the official, legal, discrimination against EU companies wanting to invest in China, European companies have also reported a large amount of other un-official discriminations. In the 2019 European Business Confidence survey conducted by the EUCCC amongst 585 European companies active in China, a significant proportion of European firms have indicated they tend to receive unfavourable treatment compared to domestic Chinese companies. This proportion ranged between 57 and 45 per cent between 2014 and 2019 (EUCCC, 2019, p. 41).

Hence, as several EU policymakers have said on multiple occasions, different indicators –both regulatory and at firm level- are showing that European companies in China do not enjoy the same level of freedom to invest as Chinese companies do in the EU. Many stakeholders and commentators however, do not agree that the protection of key technologies through investment security screening is the right tool to solve economic problems such as a lack of investment reciprocity. European research institute Merics writes that the instrumentalisation of a security screening framework for purely economic goals is a slippery slope and would be "*in violation of Europe's principled openness".*

On top of being an inefficient solution, the EU would risk retaliation from China (Merics, 2018, p. 23). For the Federation of German Industries (BDI) restriction of German or European openness ("reciprocity") can hardly be seen as a suitable way of pointing out the deficits in China's economic policy, definitely since the EU itself benefits from that openness to a great extent as well (BDI, 2017, p. 12). In an editorial, Chinese state newspaper *China Daily* –often closely associated with the central leadership of the Communist Party- joins them to an extent, stating that the decision to create the new investment screening mechanism does not bode well for their strategic partnership, and that it stands in sharp contrast with China's recent efforts to open its market wider to foreign investment by improving its market access (China Daily, 2019a).

According to these statements, investment reciprocity should be attained by bilaterally negotiating an agreement, and a common set of rules. The EU and China have already been negotiating an agreement for several years, and in a joint statement in conclusion of the 2019 EU-China Summit, both trading blocs expressed the common goal to conclude an ambitious and comprehensive investment agreement in 2020 (EEAS, 2019). A MOFCOM spokesman later reaffirmed that the EU and China had committed themselves to make decisive progress before the end of 2019, in order to conclude an investment agreement in 2020 (MOFCOM, 2019). Thus, based on their rhetoric, it seems that both trade and investment blocs are now fully committed to find an agreement soon. But as was noted before, agreeing on a set of common rules to conclude an investment agreement has not been easy for many economies. As two of the biggest trade and investment markets in the world, China and the EU are no exception to this: negotiations for the bilateral investment agreement are now entering the 21st round.

### *2.2.2 Un-Levelled Playing Field*

The second reason why a EU investment screening mechanism is said to be a necessity, is the un-levelled playing field for private investors in Europe as a result of Chinese state subsidies for outbound FDI.

In analysing this argument, it is important to understand what is meant with the term 'level playing field' in a trade and investment context. According to the *Dictionary of Trade Policy Terms* it is "*a term used to describe fair trade, with all adherents playing by the rules*." (Goode, 2006, p. 264). As the definition shows, the concept is rather straight forward, but the dictionary also makes an important note. In one closed economy it is relatively feasible to keep the playing field level, it becomes much more difficult however to achieve when actors from different economies, with different rules, are in play.

That is what many EU business leaders and policymakers alike have pointed out. Certain Chinese companies do not play by the same rules as their European competitors, because they have access to state subsidies. And 'unfair' state subsidies –subsidies that distort competition in the EU market- are forbidden in the EU. Commissioner Katainen was not the first to raise this issue in arguing for a EU-Investment screening mechanism. The Economy Ministers of France, Italy, and Germany made the argument before him in stating that "*an intervention is particularly justified the envisaged direct investment is made possible or is facilitated by state subsidies and this results in a market disturbance*" (BMWI, 2017b).

However, not everyone is convinced that the creation of an investment security screening mechanism is the right way for the EU to protect itself from potential threats resulting from subsidised Chinese purchases of European corporations. Similarly as with the reciprocity argument, according to many actors the usage of the level-playing field argument in a debate on the creation of a security investment screening mechanism is problematic. As in the case of the previous argument that was analysed, the basis of the perceived problematic nature of this argument lies in the fact that economic concerns are becoming part of national security questions.

Vera Jungkind, a foreign trade and regulatory law specialist, explains that the EU and its member states can only block incoming investments when they pose a threat to national security or public order, namely because EU-rules ensure the free movement of capital within the Union (Jungkind quoted in: Handelsblatt, 2017). Ye Bin, a European Studies Scholar at the Chinese Academy of Social Sciences, additionally notes that the new FDI Security Screening framework risks violating these EU rules on the free flow of capital, because of the broad definitions it employs for what is considered to fall under the umbrella of national security or public order (Ye Bin quoted in: China Daily, 2019b).

According to Alicia Garcia Herrero, who is associated with several think tanks and chief economist for Asia Pacific at French investment-bank Natixis, we have to treat this specific problem for what it is: a breach of the EU's competition rules. According to this economist, the EC should expand the application of its competition rules regarding state subsidies to subsidies outside of the EU, and to foreign investors in the EU. She explains that the Gencor-Lonrho case in 1999 shows that EU Commission's powers can go as far as refusing a merger of two foreign companies already approved by the local regulator if it creates a dominant position globally, affecting the good functioning of the European single market. As a result, she argues EU competition policy could become a convenient and more suited substitute for a EU-level investment protection policy in the same way as EU competition policy has long been known for being used for trade policy purposes (Garcia Herrero in: Garcia Herrero & Sapir, 2017). Competition (anti-trust) laws in the US similarly also have extraterritorial reach.

### *2.2.3 Risk of Third Country Influence*

The third argument for the protection of key technologies through investment screening, is also related to the role of the Chinese state in foreign investments: when an investor is state owned and/or the beneficiary of public subsidies, a third country could potentially obtain influence over the EU's technological edge, putting its 'security and public order' at risk.

The head of the German domestic intelligence service H. G. Maassen shares the concern for foreign state influence expressed by Commissioner Katainen, himself stating that letting European firms in key sectors fall under foreign control "*would come at the cost of technological advances and security, and public order in the European Union*" (Maassen quoted in: Reuters, 2018)

Furthermore, in its position paper on CM 2025, the European Union Chamber of Commerce in China (EUCCC) also shares similar grievances, asking whether CM 2025 could in part be a shopping list of technologies that China has not yet been able to develop itself. In their view it is perfectly normal for private companies to make strategic acquisitions, but in the end decisions of this kind should ultimately be determined by the profit motive of that company. Investments made by businesses that respond to a state its industrial policies, or other strategic interests, can be completely at odds with the interests of the economy into which the investment is made (EUCCC, 2017, p. 19).

When looking at how the Chinese companies behind all of these high-tech investments in the EU explain their acquisitions, they generally name (long-term) profit motive for their strategic investments, but -according to my enquiries- sizeable Chinese investors in European key technologies do not frame their investments as part of a government strategy. When Midea announced its acquisition of Kuka, it stressed that the investment was predicated on creating long-term value for both companies, further expanding Kuka's leading position in the sectors of robotics, automation and logistics (Midea, 2016). In a later announcement on a roadmap forward for both companies in China, industrial strategy CM 2025 was explicitly mentioned, but only as a "g*olden opportunity because of the sharp increase in the demand for robots*" (Midea, 2018).

One has to take note here that these companies will generally be well aware of the sensitive nature of CM 2025 and other Chinese industrial strategy. And, although a big key technology investor such as Midea does not name CM 2025 as a concrete goal for its investments, this does not explain how strong the influence of the Chinese government is on the investment decisions of these companies. And according to both Maassen and Katainen, state influence seems to be considerable. In understanding their stance, and in particular that of Maassen as head of the German intelligence service, one other case is particularly important: Aixtron.

Aixtron is a German high-tech firm in the semi-conductor industry. Its share prices tumbled in 2015 when –as it was already struggling with demand for its products- a Chinese client San'an Optoelectronic cancelled a very significant order at the last minute. Consequentially, when in May of 2016 the Chinese private firm Fujian Grand Chip Investment Fund tabled a takeover bid that was around 25% higher than the current share value, the chief executive of Aixtron hailed them as potential saviours. After the German government first approved of the deal however, it reopened the review procedure on Fujian. According to Handelsblatt, this was because US intelligence services provided information on previously unknown security concerns about the bid. According to reporting, Aixtron's technology had defence and nuclear applications, and supplied a major US Defence contractor (Handelsblatt, 2016). Furthermore, the New York Times also reported on an extensive conflict of interests between the Chinese firms involved: San'an and Fujian. Both firms had several state-owned investors in common and retained significant financial obligations towards each other. Although there is no proof of coordination between both, the sizeable financial transactions between both companies are seen as highly problematic. Additionally, one of the biggest investors of both firms was a government fund targeting to build out China's semi-conductor industry (New York Times, 2016)

This case is illustrative of the security concerns related to Chinese state influence, showing that the Chinese state can exert significant influence over private enterprises as well. According to Milhaupt and Zheng (2015, p. 665), making a clear differentiation between SOE's and private enterprises in terms of the control the Chinese government exerts over them is not possible in China's case. For instance, ownership aside, successful businesses generally show links to the Chinese state: their business is often reliant on its share in the Chinese market, they are often close to state power, receive state subsidies and regularly execute official state policy objectives.

As such, local SOE's are often less influenced by the central government than a nationally successful private company. Furthermore, earlier analysis in this research has shown us how the Chinese states uses export controls. These mechanisms can also be employed to exert control over smaller private Chinese firms.

Hence, despite the fact that most of the Chinese companies making investments abroad are quoting long-term profit motives for their strategic acquisitions abroad, the suspicion of government influence over any company, or its decisionmaking, is never far away when it comes to Chinese enterprises.

### *2.2.4 NEED FOR INCREASED TRANSPARENCY*

The final argument for the EU security investment screening mechanism made by Katainen (2019, p. 18), is the need for increased transparency on the inflow of FDI in the EU, and on member states' FDI screening decisions. According to the commissioner, this is important because "*even though national security remains the responsibility of member states, there is also a single EU market where capital freely flows*". This argument was the most important argument that was used by the EC for its security-screening mechanism proposal. But many stakeholders and analysts, ranging from research institutes and economists, to business representatives and policymakers, joined them in this plea (Merics, 2018; Merics, 2019; Sapir in: Garcia Herrero & Sapir, 2017; BDI, 2019; BMWI, 2016).

In concrete terms, the EU said that the existing screening mechanisms of EU member states were fragmented, differing in size and in scope, and therefore ineffective at monitoring the potential (cross-border) impact of incoming FDI flows in the EU, leading to inefficient screening and potentially distorting the good functioning of the internal capital market (EPRS, 2018).

Appendix 1 of this thesis lists all of the different EU member states and the investment screenings they have in place at this moment. As such it gives a clear indication on the difference in scope of all of the mechanisms: a significant group of member states have no security screening at all, and among the group the scope ranges from very limited (such as Romania), to rather extensive (such as Germany). In short, they are very diverse. The new EU legislation aims to address this problem by stimulating the exchange of information and best practices, as well as by setting requirements for Member States who wish to maintain or adopt a screening mechanism. Eventually, this should lead to a more uniform European approach (EC, 2019b)

But, not everyone agrees that the new framework goes far enough in providing more transparency. According to the Academy of China Council for the Promotion of International Trade (CCPIT) –a national Chinese semi-governmental trade and investment promotion agency- the lack of transparency is one of the main faults of the Investment screening mechanism: they claim there is no transparency at all about the screening process itself in many member states, since the processes are generally under condition of confidentiality. In Germany for instance, once the process is underway, the company under review cannot get any status update until the review period has passed. When the review deadline has passed, they receive automatic clearance but cannot obtain any information about the process (CCPIT, 2019, p. 57). Contrary to these demands, the new EU legislation makes a strong point of confidentiality requirements (EC, 2019b)

## 2.3 Research Chapter Three:
## EU Protection of Key Technologies: Wherein lies the Risk?

The final chapter looks into the potential risks of regulating Chinese direct investment in European key technologies. In order to compare the potential risks, we will first look at the case of the US.

### *2.3.1 Comparative case study: the United States*

Because this debate is still young and relatively underdeveloped in the EU, this final section of the analysis of the discourse surrounding the risks related to key technology protection consists of a brief comparative case study of the United States. The US has a longer history of policy debates in this area, and in general has a longer history of strategic thinking.

The US had already thought strategically about inward FDI for a long time. Its investment screening mechanism: the Committee on Foreign Investment in the United States (CFIUS) –an inter-agency body that assists the president in assessing the national security threat of FDI in the US- was founded in 1988 already. But after the US saw a similar surge in Chinese investments in key technologies as the EU in 2016, the debate flared up again -although these rising concerns regarding Chinese investments in US technologies cannot be seen as a separate issue from the rising trade tensions between the two countries during the same period of time. The democratic leader in the senate, Chuck Schumer, for instance lamented the fact that Trump negotiated the temporary purchase of US goods during trade negotiations, while the most important issue in China continuing to steal US "family jewels" went unchecked (Schumer quoted in: Politico, 2018)

Eventually rising concerns on Chinese investment resulted in the Foreign Investment Risk Review Modernization Act of 2018 (FIRMA), a new law that was largely initiated to address specific concerns related to Chinese investment, and sensitively enlarged the powers of CFIUS as many policymakers and many officials from the defence community found it was no longer up to task.

Paul Rosenzweig, a former member of CFIUS under President G. W. Bush, stated for example that today's world is about information, not things, "*And that means everything is critical infrastructure. That, in some sense, means CFIUS really should be managing all global trade*. (Rosenzweig quoted in: Politico, 2018)

Despite its majority in US Congress not everyone agrees with the recent FIRM Act, and the extensive discretionary powers it grants to CFIUS. Not entirely unexpected, the committee has been repeatedly criticised by the Chinese central government for the wide definitions of key concepts, the opaque explanations it gives for its decisions, and the perceived unfair treatment of Chinese enterprises (China State Council, 2018). But, several US business groups including the Information Technology Industry Council, as well as technology companies such as Cisco Systems, and IBM, were also very critical about FIRMA. Most of all they fear that the new law would result in a decrease in available funding for technology firms, and US firms being excluded from using Chinese technologies in areas where Chinese firms are at the forefront of technological innovation, such as Artificial Intelligence (Roll Call, 2018). Since 2018, Chinese investment in the US has declined very sharply, largely because of the on-going trade war, so it could be interesting to see whether this has any effect on US innovation performance.

Martin Chorzempa (2018), an innovation policy expert and research fellow at the Peterson Institute for International Economics, is very critical of FIRMA as well. He has argued that important definitions – such as 'critical technologies' continue to be too wide, inevitably leading to opaque decisions and too much discretionary power for the executive. With him, several policy analysts are now calling for more precise definitions by advocating a "small yard, high fence" approach in key technology protection. Former Secretary of Defence under president Obama Robert Gates originally coined this phrase when talking about export controls. According to these authors, the state is required to be very selective in its choosing of technologies that need protection, while at the same time being aggressive in the enforcement of their protection. Clearer definitions in the area of key technology protection are needed to increase the predictability of decisions and in turn reduce investment uncertainty (Shirk, 2018). For them, being more aggressive in the protection of key technologies also means collecting more data on a host of differentials, most importantly on the ownership, shareholding structure, and client base, etc. of these investors. In China's case, the fact that a company has Communist Party representatives does not mean that the party has full control over its decisionmaking. Government control is much more likely when government-linked investment agencies are significant investors, or when the government is its biggest contractor (Laskai & Sacks, 2018).

### *2.3.2 More Uncertainty for (Chinese) Investors in Europe*

The main concern that is expressed in relation to EU protection of key technologies is that the security screening mechanisms implemented by the EU and its member states to protect key technologies (among other things) increase the deal uncertainty for foreign- and particularly Chinese investors, making inward FDI generally more difficult and, in certain cases, unfeasible. This is stressed by the Chinese state news agency Xinhua, as it warns about the risk of hampered economic growth, stating that by playing tough with Chinese investors, the EC would run the risk of damaging itself, pointing at the continuous struggle of the EU and its member states to achieve economic growth since the financial and debt crises, combined with a continuous struggle to contain debt levels (Xinhua, 2019).

To practically illustrate what is meant in this case with the term 'deal uncertainty': In 2018 a Chinese private firm listed on the stock market of Shenzhen, Yantai Taihai, intended to purchase Germany company Leifeld -an advanced company that produces high-strength metal materials with applications in the aerospace industry, and potentially in the nuclear sector. On July 26$^{th}$ of that year, citing government sources, German newspaper *Wirtschaftswoche* reported that the German Government was going to veto the takeover on the basis of public security concerns (WW, 2018). Only a few days later, one day before the deal allegedly stood to be vetoed, Yantai Taihai publicly announced on the website of the Shenzhen Stock Exchange that its plans for "*restructuring*" were cancelled, because as a listed company, and in light of the "*international situation*" the firm felt obligated to protect the rights of its shareholders (SZSE, 2018).

That illustrates a significant potential risk for Chinese firms wanting to invest in European key technologies. Aside from the operational costs involved, for a listed company the potential reputational harm from being investigated by a government can also have severe consequences on the stock market.

According to CCPIT, the described uncertainty is largely caused by the broad and seemingly open definition of key concepts such as 'public security', 'key technology' in the new EU legislation. The agency claims this can potentially allow member states to abuse these new instruments as instruments of trade protectionism, in which the regulator can block deals in the name of security, "*randomly*

*moving the goalposts*" in the process (CCPIT, 2019, p. 57). Broad definitions allow for more discretionary power for the regulators, possibly decreasing the predictability of the screening decisions and thus increase investor uncertainty.

Throughout this thesis we have already seen that all of the biggest German employers associations, as well as research institute Merics in their reports, would agree with notably the perceived problem of broad definitions of key technologies (among other things) and the broad application of the principle of 'security and public order' (see: VDMA, 2017;BDI, 2019; Handelsblatt, 2017; Merics, 2018). Although, on these Chinese concerns it is important to note that the new legislation does not in any way expand the scope of the existing regulations in the member states. As the analysis of the new legislation has shown earlier, it only establishes a cooperation mechanism with the aim to increase transparency between member states and the commission through the exchange of information, and by issuing comments and opinions. That does not mean that this Chinese concern has no legitimacy, but before the regulation entered into force national governments were already able to take into account the effect on certain technologies in their assessment of the security threat posed by an investment. Even though the new regulation creates a common EU view on the factors that are relevant in assessing the threat to 'security and public order', it does indeed not "fix the goal posts" in between which national regulators are allowed to operate. Like before, national regulators continue to have a degree of discretionary power to decide whether an investment poses a threat to national security or not. The new regulation only requires them to explain why they consider a given investment to be a threat to security and public order upon the request of the EC or another member state.

Compared with the broader international trend of giving a significant amount of power to investment screening bodies, the EU investment environment is still a lot more predicable for foreign investors, and also continues to attract much more Chinese investments (Baker McKenzie, 2018). Furthermore, a survey in the same report by CCPIT indicated that 78 per cent of participating Chinese companies saw the EU as their most important investment destination, compared to 11 per cent for the US (CCPIT, 2019, p. 31).

# 3. CONCLUSIONS

This research has analysed several discourses in the policy debate surrounding the protection of key technologies from Chinese investment. It has analysed respectively the purpose of China and the EU in acquiring and protecting key technologies; the perceived necessity of the protection of key technologies according to EU Commissioner Katainen and others involved in the public discourse; as well the potential risks of protecting key technologies by means of an investment screening mechanism.

In regards of the purpose, the analysis of Chinese official discourse shows that the acquisition of key technologies is a central goal for the Chinese government, and that it is actively supporting 'qualified' Chinese companies to invest abroad. In the case of the robotics industry, different levels of the Chinese government have 'put the socialist system to good use' by means of subsidies and other supportive policies in order to achieve one of these central goals, leading to a disruption in the robotics industry. The analysis of the debate and the new investment screening mechanism in the EU has shown a growing number of policymakers and officials from the EC, and notably France and Germany to be concerned with the protection of European key technologies from being acquired by China, which they see as an important economic rival. In this sense, the purpose of both China and the EU is largely similar to Kenedy & Lim their paradigm, in which technological innovation is increasingly seen as a key element of state power. On the other hand, we can also note that this paradigm is not shared by all member states of the EU. The rejection of the first draft proposal for investment screening by a large group of small-and medium sized member states has indicated that many member states still have more classically European liberal approach to technology and FDI. This internal division in the EU between advocates of a liberal market approach and a strategic approach, and the effect this as on eventual policies warrants more research; investment could be an interesting case.

On the perceived necessity of key technology protection from Chinese FDI: the analysis shows that although there is undisputedly a lack of reciprocity between China and the EU. But both German business associations and several annalists have argued however, that an investment screening mechanism cannot be the right tool to address this issue, describing it as a slippery slope that violates Europe's principled openness (Merics, 2018; BDI, 2019). Instead, this is an issue that should be addressed on a bilateral level. Similar arguments were made in the context of the second reason: although the issue of an un-levelled playing field for private investors in Europe is real, different commentators such as Garcia Herero (2017) have argued that the issue should be addressed in accordance with what it is: a competition issue. That means, by the (broader) application of the EU's competition laws. The arguments made against these first two reasons for investment screening, find resonance in the findings of Siddi (2019) in the field of energy politics. His findings indicated that, rather than using strategic tools in response to strategic efforts by competing powers, the EU would do better to behave as a market power by improving competition in its domestic market and using the power of its market strategically in its relations with other power. This would be an interesting area for future research: are market-based solutions more effective than strategic solutions?

Concerning government involvement in Chinese acquisitions, findings indicate that some Chinese companies quote long-term profit motives for their strategic acquisitions abroad. Although the research on this was too limited to generalise, this explanation does seem to be in accordance with the findings of Linjie Li et al. (2016) & Piperopoulos, Wu & Wang (2018), who found outward FDI to developed economies to have significant effect on the innovation performance and productivity of Emerging Market Enterprises.

Nevertheless, there remains a significant suspicion of government influence over the decisionmaking of these companies –regardless of the fact that they are private or state-owned- because of their opaque financing methods, and ownership structures.

The new EU legislation is also said to be aimed at addressing the lack of transparency between different member states, this is done by stimulating the exchange of information and best practices, as well as by setting requirements for Member States who wish to maintain or adopt a screening mechanism. In a recent report by CCPIT however, Chinese investors continue to point a lack of convergence between regulations in different member states.

The discourse on the risks related to the protection of key technologies focuses mainly on an increase in investment uncertainty. Most actors, both in the US and the EU, point at the broad definitions through which regulators enjoy too much discretionary power. Shirk; Laskai & Sacks (2018) acknowledge this problem, advocating a 'small yard, high fence' approach with narrow definitions and strong enforcement. A more extensive analysis of the verifiable impact of investment screening mechanisms on both investment certainty, and inward FDI seems required here. An interesting differential could be the scope of the definition employed by regulators.

This research has focused mainly on the discourse surrounding key technology protection. In doing so, it has contributed to the literature by providing an overview of the different discourses, building on different theoretical insights, on strategic thinking in the EU and on the drivers behind outward FDI for both firms and polities. This is by definition a very broad undertaking, and therefore the research lacks detailed analysis on many different topics to make conclusions with a high degree of certainty. Different subjects that were highlighted in these conclusions therefore warrant additional, more focused research.

# 4. BIBLIOGRAPHY


Baker McKenzie (2018). *Chinese Investing Nine Times More in Europe Than North America as Policies Force Divergence*. Baker McKenzie, retrieved on 06/11/2018 from: https://www.bakermckenzie.com/en/newsroom/2018/07/chinese-fdi-h1-2018

BDI. (2017). *Requirements of a Bilateral Investment Treaty Between the EU and China*. Position Paper.

BDI. (2019). *Partner and Systemic Competitor – How Do We Deal with China's State-Controlled Economy?*. Policy Paper: China.

Biscop, S. (2016) All or nothing? The EU Global Strategy and defence policy after the Brexit, *Contemporary Security Policy*, 37:3, 431-445.

Boomberg. (2018). *China's Geely Buys $9 Billion Daimler Stake*, retrieved on 11/05/2019 from: https://www.bloomberg.com/news/articles/2018-02-23/china-s-geely-is-said-to-be-buying-9-billion-stake-in-daimler

Buckley, J.L. Clegg, A.R. Cross, X. Liu, H. Voss and P. Zheng (2007). The Determinants of Chinese Outward Foreign Direct Investment, *Journal of International Business Studies* 38, 499–518.

Bundesministerium Wirtschaft (BMWI). (2017a). *Schreiben DE-FR-IT an Malmstroem*, retrieved on 31/10/2018 from: https://www.bmwi.de/Redaktion/DE/Downloads/S-T/schreiben-de-fr-it-an-malmstroem.pdf?__blob=publicationFile&v=5

Bundesministerium Wirtschaft (BMWI). (2017b). *Proposals for ensuring an improved level playing field in trade and investment*, retrieved on 31/10/2018 from: https://www.bmwi.de/Redaktion/DE/Downloads/E/eckpunktepapier-proposals-for-ensuring-an-improved-level-playing-field-in-trade-and-investment.pdf?__blob=publicationFile&v=4

de Bruyne, M. & van Eeten, M. (2007). Systems that Should Have Failed: Critical Infrastructure Protection in an Institutionally Fragmented Environment. *Journal of Contigencies and Crisis Management*, 15(1).

China Council for the Promotion of International Trade. (2019). *EU Investment Environment Report*. CCPIT Academy: Beijing.

China Daily. (2019a). *EU self-harming by shutting door on Chinese investment*, retrieved on 25/06/2019 from: http://www.chinadaily.com.cn/cndy/2018-11/20/content_37284749.htm

China Daily. (2019b). *FDI screening set to hit SOEs*, retrieved on 25/06/2019 from: http://www.chinadaily.com.cn/global/2019-02/18/content_37437572.htm

China Robotics Industry Alliance. (2016). *大□□助机器人政策□□ □□潜藏危机*. retrieved on 24/06/2019 from: http://cria.mei.net.cn/news.asp?vid=3413

Chinese State Council. (2015). *国□院□布《中国制造 2025》*: Beijing.

Chinese State Council. (2016a). *Major tasks set for promoting SOE restructure*. Retrieved on 22/04/2019 from: http://www.scio.gov.cn/32618/document/1485581/1485581.htm.

China State Council. (2016b). *China to triple industrial robot production by 2020*. Retrieved on 22/06/2019 from: http://english.gov.cn/state_council/ministries/2016/04/27/content_281475336534830.htm

Chinese State Council. (2018). *The Facts and China's Position on China-US Trade Friction*. Information Office of the State Council The People's Republic of China: Beijing.

Chorzempa, M. (2018). Confronting China through CFIUS Reform: Improved, But Still Problematic. *Peterson Institute for International Economics*, Retrieved on 08/06/2019 from: https://piie.com/blogs/trade-investment-policy-watch/confronting-china-through-cfius-reform-improved-still

Creemers, R. (2016). Xi Jinping gives speech at Cybersecurity and Informatization Work Conference, retrieved on 30/03/2019 from: https://chinacopyrightandmedia.wordpress.com/2016/04/19/xi-jinping-gives-speech-at-cybersecurity-and-informatization-work-conference/#more-4072

Creemers, R.; Triolo, P. & Webster, G. (2018). *Translation: Xi Jinping's April 20 Speech at the National Cybersecurity and Informatization Work Conference*, Retrieved on 30/03/2019 from: https://www.newamerica.org/cybersecurity-initiative/digichina/blog/translation-xi-jinpings-april-20-speech-national-cybersecurity-and-informatization-work-conference/

Dunning, J. H. (1980). Toward an Eclectic Theory of International Production: Some Empirical Tests. *Journal of International Business Studies*, Vol. 11, No. 1 (Spring - Summer, 1980), pp. 9-31.

DW. (2016a). *Germany may head off Chinese takeover of robotics firm Kuka*, Retrieved on 22/05/2019 from: https://www.dw.com/en/germany-may-head-off-chinese-takeover-of-robotics-firm-kuka/a-19298463

DW. (2016b). *Berlin approves Kuka sale to Midea*, Retrieved on 22/05/2019 from: https://www.dw.com/en/berlin-approves-kuka-sale-to-midea/a-19479483

DW. (2017). *Germany wants EU to tighten foreign takeover rules*, retrieved on 29/06/2018 https://www.dw.com/en/germany-wants-eu-to-tighten-foreign-takeover-rules/a-40202009

DW. (2018). *Exit the Dragon? Chinese investment in Germany*, retrieved on 22/06/2018 from: http://www.dw.com/en/exit-the-dragon-chinese-investment-in-germany/a-42457712

European Commission (EC). (2019a). *EU foreign investment screening regulation enters into force*, Retrieved on 14/05/2019 from: http://trade.ec.europa.eu/doclib/press/index.cfm?id=2008

European Commission (EC). (2019b). *JOINT COMMUNICATION TO THE EUROPEAN PARLIAMENT, THE*

*EUROPEAN COUNCIL AND THE COUNCIL - EU-China – A strategic outlook*. Retrieved from: https://ec.europa.eu/commission/sites/beta-political/files/communication-eu-china-a-strategic-outlook.pdf

European External Action Service. (2019). *Joint statement of the 21st EU-China summit*, retrieved on 24/06/2019 from: https://eeas.europa.eu/delegations/china_en/60836/Joint%20statement%20of%20the%2021st%20EU-China%20summit

EU Observer. (2017). *Macron's investment screening idea watered down by leaders*, retrieved on 23/06/2019 from: https://euobserver.com/economic/138341

European Parliament Research Service (EPRS). (2018). EU framework for FDI screening. *Briefing EU Legislation in Progress*: Brussels.

European Union Chamber of Commerce in China (EUCCC). (2017). *China Manufacturing 2025: Putting Industrial Policy ahead of Market Forces*: Beijing.

European Union Chamber of Commerce in China (EUCCC). (2019). *European Business in China: Business Confidence Survey*. Beijing.

Fairclough, N. (1989). *Language and power*. London: Longman.

Financial Times. (2018). *Germany plans further foreign investment curbs*, retrieved on 11/11/2018 from: https://www.ft.com/content/6ff764e8-9a1c-11e8-ab77-f854c65a4465

Financial Times. (2019). *EU leaders urge China to open up domestic market,*

Gammeltoft, P., Pradhan, J., Goldstein, A. (2010) "Emerging multinationals: home and host country determinants and outcomes", *International Journal of Emerging Markets*, Vol. 5 Issue: 3/4, pp.254-265, https://doi.org/10.1108/17468801011058370

Garcia Herero, A. & Sapir, A. (2017). *Should the EU have the power to vet foreign takeovers?*., retrieved on 12/01/2019 from: http://bruegel.org/2017/09/should-the-eu-have-the-power-to-vet-foreign-takeovers/

Gilpin, R. (1981). Equilibrium and Decline. In *War and Change in World Politics* (pp. 156-185). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511664267.006

Goode, W. (2007). M. In *Dictionary of Trade Policy Terms* (WTO Internal Only, pp. 269-292). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511910050.015

Handelsblatt. (2016). *U.S. Said to Intervene in Aixtron Deal*, retrieved on 25/06/2019 from: https://www.handelsblatt.com/today/politics/handelsblatt-exclusive-u-s-said-to-intervene-in-aixtron-deal/23541918.html?ticket=ST-3872624-mrmeQYg9vhDIsfdMXw9T-ap2

Handelsblatt. (2017). *EU Raising the Drawbridge*, retrieved on 29/06/2018 from: https://global.handelsblatt.com/politics/eu-raising-the-drawbridge-828909

He, H. & Chen, C. (2018). 'Made In China 2025': a peek at the robot revolution under way in the hub of the 'world's factory'. *South China Morning Post* .

IoT One. (2015). *Made in China 2025《中国制造 2025》: Translation*. Retrieved from: www.Iotone.com

Jian Li et al. (2016). Outward foreign direct investment and domestic innovation performance: Evidence from China. *International Business Review* 25 (2016) 1010–1019.

Jungbluth, C. (2017). Is China Systematically Buying Up Key Technologies? Chinese M&A transactions in Germany in the context of "Made in China 2025". *Global Economic Dynamics*, Bertelsmanstiftung.

Katainen, J. (2019). Chinese Investments in the EU. In: Wenniges, T., & Lohman, W. (Reds.). *Chinese FDI in the EU and the US : Simple rules for turbulent times*, Singapore : Palgrave Macmillan.

Keohane, R.O. (1986). Reciprocity in international relations. *International Organization*, 40(1).

Kennedy, A. & Lim, D. (2018). 'The Innovation Imperative: Technology and US-China Rivalry in the Twenty-first Century', *International Affairs* 94(3): 553-572.

Lanskai, L. & Sacks, S. (2018). The Right Way to Protect America's Innovation Advantage: Getting Smart About the Chinese Threat. *Foreign Affairs*, Retrieved on 08/06/2019 from: https://www.foreignaffairs.com/articles/2018-10-23/right-way-protect-americas-innovation-advantage

Linjie Li et al. (2017). Does outward FDI generate higher productivity for emerging economy MNEs? – Micro-level evidence from Chinese manufacturing firms. *International Business Review* 26 (2017) 839–854.

Menon, A. (2014). Divided and Declining? Europe in a Changing World. *The Journal of Common Market Studies*, Volume 52, Issue S.

Merabti, Kennedy & Hurst. (2011). Critical Infrastructure Protection: A 21st Century Challenge. *International Conference on Communications and Information Technology* (ICCIT).

MERICS. (2018). EU-China FDI: Working towards reciprocity in investment relations. *MERICS Papers on China*: Berlin.

MERICS. (2019). Chinese FDI in Europe: 2018 Trends and impacts of new screening policies. *MERICS Papers on China*: Berlin.

Midea. (2016). *Midea and Kuka Sign Investment Agreement*, retrieved on 27/06/2016 from: http://www.midea.com/global/about_midea/News/201607/t20160708_205032.shtml

Midea. (2018). *Midea and KUKA Announce Roadmap for Robotics and Automation in China*, retrieved on 27/06/2019 from: http://www.midea.com/global/about_midea/News/201803/t20180322_210382.shtml

Milhaupt, C.J. & Zheng, W. (2015). Beyond ownership: State capitalism and the Chinese firm. *Georgetown Law Journal* 103 (3): 665–722.

Mocanu, S.; Sebe, M. & Andreica, G. (2011). Strategic Thinking in the EU - Aspiration or Reality, 11 *ROMANIAN J. EUR. AFF*. 12.

MOFCOM. (2017). *Press Conference: Foreign Investment*, retrieved on 10/05/2019 from: http://english.mofcom.gov.cn/article/pressconferencehomepage/foreigninvestment/201711/20171102676171.shtml

MOFCOM. (2019). *Regular Press Conference of the Ministry of Commerce (April 11, 2019)*, retrieved on 25/06/2019 from: http://english.mofcom.gov.cn/article/newsrelease/press/201904/20190402856214.shtml

National Development and Reform Commission. (2007). *MOFCOM, Ministry of Foreign Affairs and NDRC on Releasing the Third Edition of Guidance Catalogue on Outward Investment Industries*. Beijing: NDRC. http://www.sdpc.gov.cn/zcfb/zcfbtz/2007tongzhi/t20070227_118707.htm.

New York Times. (2016). *Rush of Chinese Investment in Europe's High-Tech Firms Is Raising Eyebrows*, retrieved on 24/06/2019 from: https://cn.nytimes.com/business/20160918/china-germany-takeover-merger-technology/en-us/

Ning, L. and Sutherland, D. (2012). Internationalization of China's private-sector MNEs: An analysis of the motivations for foreign affiliate formation. *Thunderbird Int'l Bus Rev*, 54: 169-182. doi:10.1002/tie.21449

NRC. (2002), Making the Nation Safer, The Role of Science and Technology in Countering Terrorism, *National Academies Press*, Washington DC.

OECD (2019), FDI restrictiveness (indicator). doi: 10.1787/c176b7fa-en (Accessed on 09 June 2019)

Piperopoulos, P., Wu, J. & Wang, C. (2018). Outward FDI, location choices and innovation performance of emerging market enterprises. *Research Policy* 47 (2018) 232–240.

Politico. (2018). *How China acquires 'the crown jewels' of U.S. technology*, retrieved on 25/06/2019: https://www.politico.com/story/2018/05/22/china-us-tech-companies-cfius-572413

Reuters. (2018a). *Germany risks losing key technology in Chinese takeovers: spy chief*, retrieved on 22/06/2018 from: https://www.reuters.com/article/us-germany-security-china/germany-risks-losing-key-technology-in-chinese-takeovers-spy-chief-idUSKBN1HI2IS

Reuters. (2018b). *Germany moves to protect key companies from Chinese investors*, retrieved on 12/10/2018 from: https://www.reuters.com/article/us-50hertz-m-a-kfw/germany-moves-to-protect-key-companies-from-chinese-investors-idUSKBN1KH0RB

Reuters. (2018c). *China's AT&M seals takeover of German aerospace supplier Cotesa: Handelsblatt*, retrieved on 10/05/2019 from: https://www.reuters.com/article/us-cotesa-m-a-at-m/chinas-atm-seals-takeover-of-german-aerospace-supplier-cotesa-handelsblatt-idUSKCN1II2IS

Rugman, A. (1981). *Inside the Multinationals: The Economics of Internal Markets*. Columbia University Press, New York.

Rugman, A. & Li, J. (2007). Will China's Multinationals Succeed Globally or Regionally? *European Management Journal*, vol. 25, issue 5, 333-343.

Shen, H. (2017). *State Capitalism or China Inc.? The Going Out of China's Internet industry*. Carnegie Mellon University.

Shirk, S. (2018). How to Shield Silicon Valley: When it comes to critical technologies, the U.S. needs to vet Chinese buyers more carefully. *Bloomberg*, retrieved on 08/06/2019 from: https://www.bloomberg.com/opinion/articles/2018-07-03/how-the-u-s-should-defend-its-high-tech-from-china

Siddi, M. (2019). The EU's Botched Geopolitical Approach to External Energy Policy: The Case of the Southern Gas Corridor, *Geopolitics*, 24:1, 124-144.

South China Morning Post (SCMP). (2018b). *Chinese internet leaders Jack Ma and Pony Ma call for 'core technology' ownership after US ban on ZTE*, retrieved on 13/05/2019 from: https://www.scmp.com/tech/china-tech/article/2142869/chinese-internet-leaders-call-core-technology-ownership-after-us-ban

Stillar, G. (1998). *Analyzing everyday texts discourse, rhetoric, and social perspectives* (Rhetoric & society (Thousand Oaks, Calif.); v. 3). Thousand Oaks, Calif. ; London: SAGE.

Shenzhen Stock Exchange. (2018). *台海努尔核电设备股份有限公司于止筹划重大 重事的公告*, retrieved on 23/06/2018 from: http://www.szse.cn/disclosure/listed/bulletinDetail/index.html?079f12e7-b8bc-43d8-8bee-abf76c3b573e

Suddeutsche Zeitung. (2016). *Deshalb ringt Gabriel um Roboterbauer Kuka*, retrieved on 22/05/2019 from: https://www.sueddeutsche.de/wirtschaft/roboterindustrie-darum-ringt-gabriel-um-roboterbauer-kuka-1.3013083

Triolo, P. Et al. (2018). *Xi Jinping Puts 'Indigenous Innovation' and 'Core Technologies' at the Center of Development Priorities*, retrieved on 30/03/2019 from: https://www.newamerica.org/cybersecurity-initiative/digichina/blog/xi-jinping-puts-indigenous-innovation-and-core-technologies-center-development-priorities/

UNCTAD. (2018). *World Investment Report 2018: investment and new industrial policies*. Retrieved on 06/11/2018 from: https://unctad.org/en/Pages/DIAE/World%20Investment%20Report/World_Investment_Report.aspx

Verband Deutscher Maschinen- und Anlagenbau. (2017). *VDMA Position on Investments from China*. Retrieved on 7/05/2019 from: https://www.vdma.org/documents/105628/789861/VDMA+Position+on+Investments+from+China/e81a0fba-3180-442f-b19e-9f7ea6129476

White House. (1995). *National Critical Technologies List*. Retrieved on 11/11/18 from: https://clintonwhitehouse1.archives.gov/White_House/EOP/OSTP/CTIformatted/AppA/appa.html

WirtschaftsWoche (2018). *Bundesregierung will Firmenverkauf an Chinesen verhindern*, retrieved on 23 June 2019 from: https://www.wiwo.de/politik/deutschland/sicherheit-gefaehrdet-bundesregierung-will-firmenverkauf-an-chinesen-verhindern/22852910.html

World Bank. (2010). "Escaping the Middle-Income Trap." In vol. 2 of *World Bank East Asia and Pacific Economic Update: Robust Recovery, Rising Risks,* 27–43.Washington, DC: World Bank.

Xinhua. (2017). *Spotlight: EU mulls screening foreign investment, but faces policy dilemma*, retrieved on 22/06/2019 from: http://www.xinhuanet.com/english/2017-09/13/c_136604404.htm

Xinhua. (2018a). *Xi stresses improving innovation capabilities for key, core technologies,* retrieved on 04/05/2019 from: http://www.xinhuanet.com/english/2018-07/14/c_137322614.htm

Xinhua. (2018b). *China's industrial robot production surpasses 100,000*, retrieved on 24/06/2019 from: http://www.xinhuanet.com/english/2018-10/02/c_137507308.htm

# 5. APPENDIX

| Country | Year of Change | Status quo, recent or upcoming changes |
|---|---|---|
| Austria | | The Ministry of Economic Affairs has to review and approve acquisition of 25 per cent or more of a controlling interest by non-EU, non-EEA and non-Swiss persons in an Austrian enterprise engaged in "protected sectors" including defence, telecommunications, energy, water supply, hospitals, traffic infrastructure and education. |
| Belgium | | None |
| Bulgaria | | None |
| Croatia | | None |
| Cyprus | | None |
| Czech Republic | | Considering setting up a dedicated mechanism or strengthening investment review. |
| Denmark | | Considering setting up a dedicated mechanism or strengthening investment review. |
| Estonia | | |
| Finland | | Ministries of Trade/Industry and Defence approve foreign investments. If they consider "important national interests" to be jeopardized, ministries defer the decision to the Council of State. |
| France | 2018 | In November 2018, a new decree in France expanded the list of sensitive sectors in which foreign investments are subject to review and approval by the Ministry of Economy. The list now includes areas such as cybersecurity, artificial intelligence, robotics and semiconductors as well as space operations. Further legal changes are expected in 2019 (with the relevant law, "Plan d'Action pour la Croissance et la Transformation des Entreprises," currently still under review) |
| Germany | 2017-2018 | In July 2017, the German federal government adopted amendments to its Foreign Trade and Payments Ordinance in order to allow for wider control of foreign corporate take- overs with a focus on critical infrastructures. In December 2018, German authorities further changed investment screening rules so as to review any transaction in which a non-European foreign company plans to buy more than ten per cent of a German firm in sectors such as defence, critical infrastructures and the media. |
| Greece | | None |
| Hungary | 2018-2019 | In October 2018, the Hungarian government adopted new regulations that require 2019 investing companies with non-EU shareholders to obtain government |

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| | | approval before acquiring assets in national security-related areas, including dual-use technologies and critical infrastructures. |
| Ireland | | None |
| Italy | 2017 | In October 2017, Italy's cabinet passed a decree to strengthen disclosure requirements for foreign investors acquiring significant stakes in Italian companies and expanded the "golden powers," under which transactions in certain strategic sectors can be vetoed, to "high-tech" companies, such as those dealing with data storage and processing, artificial intelligence, robotics, semiconductors, dual-use technology, and space/nuclear technology. |
| Latvia | 2017 | In March 2017, Latvia strengthened its investment policy related to national security, establishing a mandatory review mechanism for transfer of ownership in companies and facilities "with significance to national security," or in national and European critical infrastructures. |
| Lithuania | 2018 | In January 2018, the parliament adopted an updated version of the "Law on Enterprises and Facilities" to require notification and facilitate vetting of investments in certain economic sectors or in certain protected zones. |
| Luxembourg | | None |
| Malta | | None |
| The Netherlands | 2018 | The Dutch government is considering adopting a sector-specific foreign investment control regime. Debates about and legislative proposals for the telecommunication sector have advanced the most, but other sectors involving vital infrastructure might follow. |
| Poland | | In addition to approval requirements in specific sectors, foreign investors planning to buy a stake of 20 per cent or more in a so-called strategic Polish company need approval from the Ministry of State Treasury. The Council of Ministers maintains a list of strategic companies that can be amended by regulation. |
| Portugal | | Portugal maintains a general safeguard clause in its investment regulation that requires an assessment of compliance with statutory requirements and preconditions established under Portuguese law for non-EU investments that could affect public order, security and health. |
| Romania | | Romania is listed in several EU documents as not having a screening mechanism in place, but the Supreme Defence Council can review referred mergers and acquisitions for potential threats to national security after notification from the Romanian Competition Council. |

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| Slovakia | | None |
| Slovenia | | None |
| Spain | | Foreign investors need to obtain prior approval by the Council of Ministers in defence sector, gambling, broadcasting and air transportation. The Council of Ministers can also intervene on an ad hoc basis if investments affect, or may affect, public powers, public order, security or public health-related activities. |
| Sweden | | Considering setting up a dedicated mechanism or strengthening investment review. |
| United Kingdom | 2018-2019 | In June 2018, the UK government expanded its powers to review M&A transactions. The "share of supply test" was amended and turnover thresholds for review have been lowered from GPB 70 million to GPB 1 million for military, dual-use and advanced technology (computing, quantum technology) sectors. A significantly broader and dedicated national security M&A regime is expected to come into force in 2019. |

Source: (Merics, 2019, p. 16-17)