Acknowledgements

I acknowledge the multitude of facets to the issue that I have decided to write on. The complexity of it, however, sproned me to think about a number of perspectives that, even if not mentioned on the thesis, have considerably widened my knowledge and critical skills.

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Abstract

5G, the fifth generation of telecommunication systems, is a technological advancement that is expected to revolutionize our society. 5G, compared to 4G, implies an exponential transfer of data through the networks. With increased interoperability, our societies will also become progressively more vulnerable to attacks to 5G networks. Existent studies claim that the Chinese enterprise Huawei, one of the biggest telecom provider on the market, could engage in sabotage and espionage and put entire countries at security risks. The United States, in a trade and technology competition with China, have undertaken a striking lobbying strategy against Huawei, addressing the international community, including European Governments. The issue turned into a geopolitical dilemma, and the European Union finds itself in a difficult position. This qualitative study analyses and compares the German, Italian and Hungarian approaches to the issue of Huawei through an economic and security approach and tests the theory of intergovernmentalism on European integration. First, this study established the EU position on the Huawei issue through the analysis of official EU documentation. The findings show that the European Union shares security concerns on the utilization of Huawei services in 5G networks and published a Toolbox, where it is asked to EU Member States to autonomously assess the risks posed by 5G vendors and differentiate the supply chain. Furthermore, the comparison illustrates the emergence of different National approaches on the issue of Huawei, but detects that the three EU Member States ultimately follow the directions of European institutions. The conclusion reinforces intergovernmentalism as a theory that supports European cooperation on the issue of 5G and highlights the intergovernmental nature of the EU Toolbox.

«The Covid-19 made us experience years worth of digital innovation and transformation in the space of a few weeks. This acceleration is just beginning. But Europe must now lead the way on digital - or it will have to follow the way of others, who are setting these standards for us» (European Commission President Ursula von der Leyen's discourse at the European Parliament plenary of September 16, 2020).

«We will invest in alliances and coalitions to advance our values. We will promote and protect Europe's interests through open and fair trade. We will strengthen our partners through cooperation, because strong partners make Europe strong too» (European Commission President Ursula von der Leyen's discouse at the European Parliament plenary of November 27, 2019).

Keywords

5G networks, Huawei, cybersecurity, US-China trade war, European integration, Germany, Italy, Hungary, EU Toolbox, intergovernmentalism, comparative study.

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List of abbreviations

4G	4th generation mobile network
5G	5th generation mobile network
BDI	Federation of German Industries (Bundesverband der Deutschen Industrie)
BSI	German Federal Office for IT Security (Bundesamt für Sicherheit in der Informationstechnik)
BND	Foreign intelligence agency of Germany (Bundesnachrichtendienst)
BRI	Belt and Road Initiative
CEE	Central and Eastern Europe
CEO	Chief Executive Officer
CSDP	EU Common Security and Defense Policy
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
IoT	Internet of the things
IT	Information Technology
M5S	Italian Five Stars Movement
MoU	Memorandum of Understanding
NATO	North Atlantic Treaty Organization
NSA	US National Security Agency
OSCE	Organization for Security and Co-operation in Europe
PD	Italian Democratic Party
PPP	Private Public Partnership
SEED	Support for Eastern European Democracy
SPD	German Social Democratic Party
UK	United Kingdom
USA (US, U.S.A.)	United States of America
WTO	World Trade Organization

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1.0 Introduction

The fifth generation of telecommunication systems, or 5G, represents the future of technological advancement and, to some extent, is already a tangible reality in certain European cities. However, its deployment will be expanded in the next years as it will be utilized for the realisation of the Internet Of the Things (IoT), a system of internet-connected objects that are able to gain and transport data over a wireless network. 5G is expected to revolutionize almost all sectors of our society, as it will be applied to industries such as the ones encompassing infrastructure, transport, health, security and manufacturing. Society will therefore transform into being increasingly dependent on the networks. 5G technologies are ment to deliver enormous network capacity, ultra low latency and enlarged availability through a multi-Gbps peak data speeds. This implies a persistent transfer of data through the network. During this process, there is a risk that 5G providers could collect, capture, copy, modify and delete this data[1]. Consequently, society as a whole will become increasingly more vulnerable to attacks on 5G networks, and "the damage potential of such incidents could be catastrophic as connectedness and dependence increase" (Björk et al; 2020, p.6).

Huawei is one of the biggest existing 5G suppliers and enjoys a high share of the market in this field. It is an excellent and cheap alternative to other 5G providers, including the European Nokia and Ericsson. "Like its technological advantage, Huawei's affordable pricing is more likely an outcome of China's Government industrial policy and accompanying funding instruments" (Beckvard et al; 2019, p.7). At the same time, however, the affordability of Huawei products comes with diffidence on reliability. Existing studies claim that European Governments can potentially put their data privacy at risk if they provide network access to the Chinese telecom provider Huawei. The company is suggested to have close ties between its personnel and the People's Republic of China's security apparatus (Björk et al; 2020), and there are recent links between Huawei staff members and espionage allegations (Beckvard et al; 2019, p. 8). Besides, the Chinese telecom company has been accused of "intellectual property thefts and of ignoring international sanctions against authoritarian states" (Björk et al; 2020, p.10). There is, moreover, a particular concern with the Chinese Cyber Security Law of 2017, which legally binds Chinese firms to pass data and comply with the Chinese intelligence and security services on all matters, inclusing the ones on an international level. (Björk et al; 2020, p.9).

In 2018, the United States prohibited the use and purchase of telecommunications and surveilance products by Huawei and other Chinese companies (Beckvard et al; 2019). Following this move, the US, everyday more engaged in a trade and power competition with China, put into place a striking attempt to call countries all over the world to ban Chinese telecoms equipment supplier Huawei, because of security and espionage concerns[2]. The issue

[1] The implementation of 5G systems requires a strong collaboration between network operators and network solutions providers. The final systems often require an enormous combination of inputs furnished by multiple parties.

[2] Discussions on the risk of sabotage revolve around the «kill-switch» scenario, under which China, through Huawei network equipment, could shut down 5G infrastructure. Espionage, on the other hand, refers to the risk of the Chinese company to deliver sensitive information to the Chinese Government (Björk et al; 2020).

turned into a geopolitical conflict among states. Major newspapers followed with catchy articles capturing the attention of people around Europe. While some reported the necessity to follow Trump's alarming directions to strictly ban Huawei because of concrete cyberespionage concerns, others expressed the biased American attempt to persuade European Governments to ban Huawei exclusively because of the US-China trade war on technology. "The Trump administration has told the German Government it would limit intelligence sharing with Berlin if Huawei would have been allowed to build Germany's next-generation mobile-internet infrastructure", wrote the Wall Street Journal in March 2019 (Germano et al, 2019). A headline of Bloomberg news published at the beginning of 2019 stated that "Ren Zhengfei, Huawei's billionaire founder, broke years of public silence to dismiss U.S. claims of the company helping Beijing to spy on Western governments" (Bloomberg News, 2019). Moreover, Ms. Meng Wanzhou, financial director of Huawei and daughter of the founder Mr. Ren Zhengfei, was arrested in Canada with accusations of violations of the American sanctions on Iran. The Global Times wrote "Washington has resorted to a despicable rogue approach to stop Huawei's advancement". China Daily also followed with "The United States are doing everything they can to contain Huawei's expansion because the company is the most advanced spearhead of Chinese technologies" (Santelli, 2018).

Europe therefore finds itself in a rather uncomfortable position, pushed to take a stance with one of the sides of the power struggle. The European Commission issued a non-binding recommendation on March 26, 2019, for Member States to "take concrete actions to assess cybersecurity risks of 5G". Since then, the EU has created a "toolbox" for 5G security aimed at ensuring a coordinated approach to next generation wireless network rollouts. However, up to this day, there is a lack of a real unified EU approach to Huawei.

1.1 Research question

The EU find itself in a puzzling situation, facing pressure from the US and China. EU Member States collaborate closely with the US on security and intelligence matters, whereas China is arising as a technological superpower attracting European telecommunication operators through its competitiveness on the market. The EU is currently working towards the creation of a coordinated EU-wide approach. Nevertheless, very different positions emerge.

In this paper I will focus on the cases of three EU Member States, namely Germany, Italy and Hungary and their approaches towards Huawei as a 5G provider. I will make use of European integration theory posed by intergovernmentalism to analyze the ongoing process of European cooperation on the field of 5G cybersecurity and, more specifically, the creation of a unified European response to the US allegations on Huawei posing a threat to European security.

The main research question of this paper will therefore be:

Does Huawei pose an obstacle to a secure and unified European approach to 5G?

In order to answer the main question, a set of sub-questions are addressed:

-*What is the European strategy for 5G deployment?*

-What concerns does the EU identify on Huawei as a 5G provider and how does the EU plan to contrast them?

-What are the differences and similarities between the approaches of Germany, Italy, and Hungary on Huawei as a 5G provider, and what can explain their insurgence?

1.2 Justification of the study

This thesis is justified on three grounds. Firstly, the lack of empirical research alone indicates the necessity of further investigating on the topic. Even though the issue of Huawei as a threat to national security is presented in a few academic papers, the focus on the emergence of different national approaches at the EU level is not extensively debated. There is also a scarcity of literature summarizing the EU approach to 5G specifically oriented towards the issue of Huawei. This shortage of literature might partly be explained by the fact that the issue is very recent since it has become object of extensive political debates at the EU level not more than five years ago.

Because of its modernity, the topic of this thesis is highly relevant to the current debates taking place at the EU level and could serve as value to add to the understanding of a potential common EU approach o Huawei as a 5G provider. Highlighting the similarities and differences between the approaches of Germany, Italy and Hungary will serve to explain the causes behind difficulties that the EU is experiencing in building a true common and secure European approach to 5G. The EU's strategy to 5G will be presented, together with evidence of the concerns that the EU has identified with Huawei as a 5G provider. EU solutions to the security threat concerns will be summarized, and the three countries' willingness to align to those will be presented.

Thirdly, my study is an attempt to build on the theory of intergovernmentalism in the field of European integration. By addressing the EU's attempt to cooperate in this specific policy area and highlighting the emergence of different EU National approaches, I will provide evidence supporting that European cooperation is merely the result of the Nation States' evaluation of proper economic benefits. The case studies confirm that States engage in European policy harmonization if they asses that potential joint gains are large.

Finally, I have decided to specifically focus on Germany, Italy, and Hungary for two main reasons. Germany and Italy are two core western European countries that entertain a special relation with China, mostly based on economic grounds. China policies have been widely discussed in the German and Italian political spheres and shifts in approaches to China are well documented. Information and studies on their approaches towards Huawei are also relatively easy to find. German sources are widely available in English, whereas for Italy, I personally speak the language and translation of original sources was therefore facilitated. The study on Hungary, on the other hand, is particularly relevant for the scope of this thesis, as its geopolitical close ties with China are rather unique compared to the rest of Europe. The Hungarian Prime Minister's ideas on the future geopolitical order are firmly centered on the Chinese transition as the world superpower. Following literature and differentiated integration theory suggesting ideas on a "federal core Europe" (Larsen et al; 2020), (Thym, 2016), it will be fruitful to compare two "core" European countries with a more "peripheral" one and

highlight their respective views on a comprehensive European strategy. I have, however, encountered some difficulties with finding English sources on Hungarian politics. The translation of articles and documents from Hungarian to English thus resulted more time consuming.

1.3 Method and sources

This thesis offers a cross-national qualitative comparative study between the strategies of Germany, Italy, and Hungary towards Huawei as a 5G provider in their respective countries. The main concern of cross-national comparative research is to "observe social phenomena across nations, to develop robust explanations of similarities or differences, and to attempt to assess their consequences, whether it be for the purposes of testing theories, drawing lessons about best practice or gaining a better understanding of how social processes operate" (Hantrais, 1999, p. 93). The comparative method was chosen because it presents the best alternative to highlight similarities and differences between the three countries' approaches and conclude possible patterns that could explain the countries' willingness or unwillingness to participate to European cooperation on the matter. Moreover, intergovernmentalism theory will be applied and tested in every country case, so to prove or dismantle its validity in its application to three European countries with different cultures, economies, and political and strategic views on the EU, the US and China. The units of observation will therefore be the three EU countries. As Hantrais (1999) explains, the advantage of examining a particular social (or political) phenomenon using member countries of an international organization as the contextual framework is that "they explicitly share a common reference point". However, at the same time, they "exhibit cultural and social diversity at national and subnational level, due to the specific ways in which their legal, political, economic and socio-cultural systems have developed and operate" (Hantrais 1999, p.99).

Every chapter discussing the case of a single State will present the country's bilateral relations with the US and China; national stakeholders' stances on the issue of Huawei and finally, the Government's position on Huawei as a 5G provider. This structure was constructed to contextualize the country's position vis-à-vis the trade war between the US and China. Moreover, the structure served to highlight patterns of possible differences between stakeholders' business-rooted opinions on Huawei, and the Governments' use of security agencies' findings mixed with political ideologies and alignment to American or Chinese influence of power. This was done through the extensive use of online newspapers' articles; academic articles and reports written by think-tanks. [3]

It is acknowledged, however, that comparative studies present a set of limitations. Firstly, me, the author of this thesis, decided what aspects of the three countries to focus on, selecting particular units of analysis rather than others. The comparative study, by its nature, constructs a reality that disregards the "totality that appears infinite, formless and chaotic"

[3] I originally had planned to conduct interviews with EU policymakers from the three different countries, which contacts I gained through my internship experience at the European Economic and Social Committee. However, the stricter guidelines from NSD (the Norwegian center for research data) on data collection made the planned interviewing process too complex and time consuming for what I had on my disposal. I therefore decided to drop interviews and increase research on newspapers and think-tank work.

(Azarian; 2011; p. 123). In fact, the sole selection of the variables to take into consideration resulted to be complicated. I could have decided to focus on different countries or different countries' aspects to explain their approaches to Huawei. This thesis therefore aims at bringing my designated observations into the sphere of awareness, rather than at concluding that the comparative study has been used as a tool to conclude uncontestable and self-evident discoveries. Moreover, cross-national analysis of European political spheres can be imperfect as the countries' level of transparency on how and why decisions are taken, vary considerably. This was indeed noticeable when comparing Germany, a traditionally known State that values transparency and citizens' awareness and close possibility of observation of the political sphere; with Italy and Hungary, where these conditions are known to be less emphasized. Thirdly, finding the cause or causality is rarely easy as it is impossible to control the variables in the case studies, as political decisions are made by people, whose behaviors are not always explained or justified. Nevertheless, the comparative method successfully allows us to study cause-and-effect relationships under conditions where experimental manipulation is difficult or impossible.

Before analyzing the three different countries, however, the European strategy to 5G will be presented, in order to provide a foundation of what commitments all the Member States have already decided in the matter of 5G. For validity and reliability reasons, only official EU legislation will be taken into consideration (taken from the official website of European Union law EUR-Lex). Subsequently, the EU identification of concerns on the potential threat that Huawei networks could pose will be quoted, together with EU calls of action on Member States to limit those possible threats. Chapter 3 will therefore highlight EU institutions' calls for Member States' cooperation, whereas Chapter 4, 5 and 6 will enquire on whether the three Member States are willing to do so, testing the theory of intergovernmentalism.

1.4 Literature review

Academic literature on the topic of the thesis is diverse and multi-faceted. It includes extensive analysis and research on singular topics surrounding my research questions. Many scholars focused on cybersecurity in the EU; the EU approach to 5G; Huawei and 5G network security; the trade war between the US and China. However, literature focusing specifically on EU Member States' approaches to Huawei as a 5G provider in the context of the EU-China war on technology is limited. More specifically, there is a lack of up-to-date information on debates and outlooks of different EU countries on the topic. The fact that the status of such views change rapidly allows to partly justify the small amount of research on the issue.

Starting with some literature that addresses my topic as close as possible, I have found "China as a stress test for Europe's coherence", written by Larsen et al. (2020). It was also between the most recent and updated sources I could find since it was published on the EHT Zurich Research Collection on May 30, 2020. The paper emphasizes the growth of the Chinese influence in the EU and its creation of geo-economic divides, more specifically in high-tech. It therefore addresses the topic from a geo-political and economic perspective. However, it also focuses on the issue of Huawei as a security threat for Europe. The article explains how China is challenging both the US and the European status as global economic powers by imposing technological standards for 5G. According to the authors, the Chinese "promotion of new

technologies impacts societal norms (e.g., surveillance) as well as intelligence-sharing between Western allies, which puts China at a competitive advantage" (Larsen et al, 2020, pp. 56-57). Interestingly, the authors indicate that the Chinese influence in Europe may have highlighted and increased divisions in the EU, between the so-called "core" and "periphery" of the EU. The core countries include powerful EU Member States such as France and Germany which, according to the authors, generally align with the approaches taken by the European Commission on the need for a joint European response to China. On the other hand, periphery countries are mostly located in Eastern and Southern Europe and generally hold less power. These countries, suggest the authors, seem to be more open to collaborating with China. The authors did a great job in categorizing the different ways China was able to powerfully and successfully expand its influence in Europe. This may serve to help EU policy makers with designing strategies to re-invigorate European competitiveness in several economic sectors, including the technological and telecommunication one. The article further suggests the EU not to necessarily develop a strategy to China, but instead "work to address the sectors where China challenges the broader European economic systems and where it has potential to deepen existing political divides" (Larsen et al, 2020, p.57) between EU Member States.

Published on the same ZTH Zurich Research Collection, still in May 2020, the article written by Kamasa (2020) also addresses the topic of a European dependency on Chinese technology and stresses the necessity to minimize security risks securing network architecture. Moreover, it states that "Europe should develop a clear position towards the two superpowers. The EU should be more effective in communicating its position to Beijing" (Kamasa; 2020; p.4). Although both these papers address many areas and concept that I will touch on, they provide only a brief presentation of increased divisions in the EU, without relating it to differentiated integration theory. Moreover, the papers briefly present the mentioned increased divisions, but do not provide any case study on selected European Member States. These two aspects will be extensively addressed in my thesis.

Closely related to the articles mentioned, Tekir (2020) focuses on the already accomplished Chinese surpass of the USA in 5G development, and the European response against reflecting a trade war into technology. It also provides an analysis of the European Commission security guidance for 5G networks, recognizing that the Commission does report the risk of different types of hackers threatening 5G Networks, without mentioning Huawei. The author also attributes the fragmented European response to Huawei to this responsibility avoidance of the European Commission. Importantly, the author cites the response of Huawei to the allegations raised by the US State Department concerning intellectual theft and the company's subsidization by the Chinese Government. Huawei, in fact, published a document in which it bluntly attempts to remind readers of the American lack of privacy and data protection citing Edward Snowden's revelations on the monitoring of European leaders' calls by the National Security Agency (NSA) of the USA (Tekir, 2020, p. 127). To add up to the geopolitical footprint of the article, the writer provides economic predictions on rising costs and delays in 5G development in the case of a Huawei ban. This article touches the concept of interdependence and the need for a common European response to minimize the risks coming from a trade war but does not focus on the politicization of the issue in individual EU Member States, which translates into a lack of in-depth analysis on the motivations that justify the European internal struggle for a common approach.

On the other hand, Beckvard et al. (2019) examine, through a security-oriented approach, the reasons why Huawei has been so contested on the international sphere. The article makes a brief comparative analysis of some emerging national responses to 5G solutions originating from China, from a security perspective. However, the comparison is not extensive and does not take into consideration the economic and political motivations behind the countries' positions on Huawei. The article also does not expand on EU documents addressing Huawei, nor on the countries' willingness to collaborate on a common EU approach.

Another article addressing the topic from a security-oriented approach is the one written by Björk et al. (2020). They explain that a ban on Huawei is not an effective solution or generating network security and provide other technological measures that could be more effective. Among these measures, 5G vendor's differentiation is proposed and widely explained as a goal that institutions should enforce. This study will address 5G vendors' differentiation as one of the two instructions posed by the EU Toolbox. The mentioned literature also asserts that the idea of a ban to Huawei "stems from a geopolitical logic, rather than from concerns over network security" (Björk et al. 2020, p.2) and address the issue of European technological dependency on China. However, the geopolitical logic is not discussed, and only a few sentences address the emergence of different national approaches at the EU level.

Finally, Umbach (2020) presents a comparative study exploring EU Member States approaches to the "tradeoffs between their technological and economic-industrial policies and the inherent cybersecurity risks in 5G technology" (Umbach; 2020; p.1). Although he also presented a comparative study, my research differs from the one proposed by Umbach (2020) in two ways. First, Umbach (2020) investigates on the reasons behind "the United Kingdom government's Huawei ban and the increasingly assertive stance of several EU member states against Huawei and China". Comparatively, my research will focus on the impact that Huawei, and the security risks connected to its deployment in 5G networks, will have on a comprehensive EU approach to 5G. Secondly, Umbach (2020) compares the German approach to the ones of the UK (United Kingdom) and France, while I will put it into comparison with the Italian and the Hungarian one.

1.5 Thesis outline

Starting from the next chapter of this thesis, chapter 2 presents intergovernmentalism as a theory of European integration and introduces its application to the Huawei issue. Then, chapter 3 will introduce and summarize the European strategy to 5G, in order to give a foundation of what commitments all the Member States have already decided on the matter of 5G. The first research sub-question, "*What is the European strategy for 5G deployment?" will be answered.* Subsequently, the EU's identification of concerns on the potential threat that Huawei networks could pose, will be quoted, together with EU calls of action on Member States to limit those possible threats. The second research sub-question, "*What concerns does the EU identify on Huawei as a 5G provider and how does the EU plan to contrast them?*", will therefore be addressed. These two sections will highlight EU institutions' calls for Member States' cooperation.

The following chapters will present the case studies of the three selected EU Member States, each own in a separate chapter. The chapters themselves will include an introduction; sections on the country's relations with both the US and China (to contextualize their approaches in the US-China trade war), a section on stakeholders' positions on Huawei (such as telecom operators and industry representatives); and a section on the Government's position towards the Chinese company. For each case study, a conclusive section will follow, where intergovernmental theory will be used in an attempt to explain causes and effect of the countries' potential willingness to participate to European cooperation on a common EU approach to Huawei. Consequently, chapter 7 will summarize the findings of the case studies and will answer the third research question:" *What are the differences and similarities between the approaches of Germany, Italy, and Hungary on Huawei as a 5G provider, and what can explain their insurgence?".* Lastly, chapter 8 will recollect the answer to the three research sub-questions and will finally present the conclusion of this thesis, answering the main research questions, namely "*Does Huawei pose an obstacle to a secure and unified European approach to 5G?".* Limitations of the study will be presented after the conclusion, in order to pose recommendations for future research on the topic.

2.0 Theoretical framework

Intergovernmentalism is a macro-level theory of international relations which is designed to describe, interpret, and predict the process of European integration. It derives from classic theories of international relations and, in particular, from the realist and neo-realist vision of interstate relationship, according to which the State is the main actor in international relations, and only national interests explain European cooperation and integration. Andrew Moravcsik formulated the intergovernmental approach, which served to describe the various processes of creation and reformation of European treaties as a series of grand negotiations. Through his lens, the European Union is a limited non-state regulatory system that succeeded in finding a European stable constitutional solution. In his most famous work (Moravcisk, 1998), he concludes that European integration represents a modern form of political power, pursued peacefully by the democratic Member States, largely for economic reasons linked to asymmetric interdependence and institutional obligations' manipulation. Therefore, according to him, the EU's democratic nature is anchored in the democratic Member States that are, ultimately, the main actors in the process of European integration. In the process of European policy harmonization, he states that the primary driver "lies in the interests of the States themselves and the relative power each brings to the bargaining table" (Bergmann et al; 2015). Consequently, policy coordination occurs when Member States believe that their interests are best served through European cooperation (intergovernmentalists prefer to speak about cooperation, rather than integration). In other words, European cooperation is the result of common problems resolved through common solutions. Thus, "The State behavior reflects the rational actions of governments constrained at home by domestic societal pressure and abroad by their strategic environment" (Moravcsik 1993, p. 474).

Liberal intergovernmentalism also suggests that "sector-specific welfare interests of dominant interest groups determine member governments' utility function in terms of cooperation/integration" (Bergmann et al; 2015), (Moravcisk, 1998); while in "areas where economic interests are not substantially affected, Member States tend to favor further integration when they do not have unilateral alternatives for action" (Bergmann et al; 2015), (Moravcsik et al; 1999). Hoffmann et al. (1991) made a clear distinction between "low politics" and "high politics", where the former refers to policy areas affecting the economy, welfare, and vital interests; while the latter encompasses more delicate areas touching the concept of sovereignty such as foreign policy, security, and defense. According to them, national Governments would be less willing to transfer their authoritative power to a supranational institution when dealing with "high policy" areas.

Therefore, as Moga (2009) reports, under intergovernmentalism, "the impetus for Member States to integrate aims to coordinate policy responses to rising opportunities for profitable economic exchange, in particular growing intra-industry trade and capital movements" (Moravcsik; 1998; p.6). European policy coordination then should, according to intergovernmentalism, occur only in the cases in which the gains obtainable from cooperation considerably exceed losses. European integration therefore is a constant process of bargain between State powers (the main actor in international politics) and EU institution, where Member States share their sovereignty between each other, rather than transfer it to a supranational body.

Intergovernmentalism would therefore explain European cooperation on 5G as a result of inter-state consideration of how cooperation on this matter would benefit the State itself, through industrial and economic development that the increased operability would bring. Following the distinction between "high politics" and "low politics", 5G cooperation would fall under policy integration affecting nation states' single economies and welfare, therefore belonging to the definition of "low politics". In fact, European Member States have already agreed on cooperation on the implementation of 5G and have already established a common EU strategy to 5G, which I will summarize in the next chapter.

However, the issue of Huawei touches on multiple policy areas. On the one hand, the economic benefit discourse is very strong. Huawei is one of the leading 5G network providers on the market. Its already established presence in the EU is the result of its products' quality and relative low costs. In fact, many 5G infrastructures have already deployed Huawei products all across Europe. Therefore, a potential ban would make it costly to replace equipment, and would produce delays in 5G implementation, clashing with already instituted National and EU plans and strategies. Moreover, the issue of Huawei is to be placed on the current trade war between the US and China, where the US is pushing European Member States to eliminate Huawei from 5G rollout warning on security espionage and sabotage concerns. Member States, therefore, not only have to consider what is more cost-efficient in terms of 5G network provider solutions, but also need to take into account geopolitical and economic implications derived by the alignment towards one of the two factions of the trade war.

However, the discourse on a possible ban on Huawei is centered on national security concerns. The risk is that Huawei could give access of sensitive data collected to the networks, to the Chinese Government, and could block entire economies. Defense, in fact, falls into the definition of "high politics", as European cooperation on the matter would imply a transfer of sovereignty from the Nation State to the European Union. "Defense policy is a core state power, as it has traditionally been a monopoly of the State. Integration of defense policy therefore affect the core of state sovereignty and autonomy, qualities which tend to be particularly sensitive to questions of national identity" (Schimmelfenning et al; 2015; p. 779). In fact, European cooperation in the area of security and defense is historically rather low. Even though a Common Security and Defense Policy (CSDP) was established with the Treaty of Lisbon in 2009, "it has remained in essence an intergovernmental policy based on consensual decision-making across member governments and voluntary participation of member states in CSDP operations" (Schimmelfenning et al; 2015; p.779). Since the Cold War, European Member States have, in fact, relied more on NATO and American military effectiveness. This would therefore suggest that European Member States' approaches towards Huawei would be influenced more by their military alliance with the US, rather than on a truly European project.

I will test the theory of intergovernmentalism in the case-studies chapters when analyzing the three different countries' evaluation on whether to follow EU directions on the issue of Huawei. The case studies will therefore analyze the three EU Member States' approaches to Huawei and EU cooperation on the matter from an economic, security and geopolitical view.

3.0 The European strategy for 5G deployment

To be able to assess whether Huawei poses an obstacle to the creation of a unified EU approach to 5G, already existing commitments to shape a European 5G vision need to be explored. The first sub-research question be here addressed:

-*What is the European strategy for 5G deployment?*

The EU early on identified 5G opportunities to serve a "wide range of applications and sectors including professional uses such as Automated Mobility, eHealth, energy management, safety and artificial intelligence" (European Commission, 2021). In 2013 the European Commission established a Public Private Partnership on 5G (5G PPP), collaborating with European Information and Communication Technologies to "foster Europe's technological expertise and industrial leadership; investigate emerging technologies to prepare for an era beyond 5G; and bring long-term commitment from private and public actors to invest in Horizon 2020 research and innovation" (European Commission, 2019). The coordinated deployment of 5G services in all European countries is part of the European Commission's priorities for 2019-2024 (which include the creation of a Europe fit for the digital age) (Von der Leyen, 2019).

However, the establishment of a proper EU strategy for 5G deployment is to be found on the "5G Action Plan". It was launched by the European Commission on 14 September 2016 to foster the competitiveness of European industries in the Digital Single Market (European Commission Communication COM/2016/0588, 2016). The Commissioned proposed the action plan with the aim to narrow and, ultimately, eliminate fragmentation between national 5G approaches of Member States. This more specifically concerns the choice of technologies and spectrum bands so that service continuity across borders can be granted in the Digital Single Market (European Commission Communication COM/2016/0588, 2016). The action plan therefore sets a proper strategy for 5G deployment. This is summarized through 7 key actions to be implemented "for timely and coordinated deployment of 5G networks in Europe through a partnership between the Commission, Member States and industry" (European Commission Communication COM/2016/0588, 2016).

1. Align EU Member States roadmaps and priorities for a unified 5G deployment, aiming for a large-scale introduction by the end of year 2020
2. Make spectrum bands[4] available for 5G before the end of 2019 and align to the recommended 5G spectrum bands above 6 GHz
3. Promote 5G early deployment in major European urban areas and along major transportation paths
4. Promote pan-European multi-stakeholder trials
5. Promote industry-led funds to 5G innovation
6. Unite leading actors in promoting global standards

[4] The 5G spectrum refers to radio frequencies carrying data from user equipment to cellular base stations.

3.1 EU Concerns with Huawei as a 5G provider

The 2016 5G Action Plan called for implementing cooperation between different European actors (EU institutions, National Governments, businesses and research and financial communities) and mainly focused on infrastructure connectivity. There is nothing in the action plan that mentions possible preferences of National choices of 5G Network providers; nor possible cybersecurity risks that some network providers could entail.

However, in March 2019, the Commission issued a recommendation on the cybersecurity of 5G networks. The main purpose of it is to call on Member States to concretely access cybersecurity risks of 5G networks and develop risk mitigation practices. In the recommendation, cybersecurity of 5G networks is highlighted as a significant and pressing issue. The future dependence of many sectors on 5G networks "would make the consequences of systemic and widespread disruption particularly serious" (European Commission Recommendation 2019/534; 2019; p.1). Moreover, it promotes the creation of measures to be taken on a "common level of cybersecurity of 5G networks" (European Commission Communication COM/2016/0588; 2016; p.1), justifying it with "the interconnected and transnational nature of the infrastructures of the digital ecosystem and the cross-border nature of the threats involved" (European Commission Communication COM/2016/0588; 2016; p.1). This means that "any significant vulnerabilities and/or cybersecurity incidents concerning 5G networks happening in one Member State would affect the Union as a whole" (European Commission Communication COM/2016/0588; 2016; p.1).

The recommendation therefore establishes three objectives:

1. Member States should assess cybersecurity risks of 5G networks and implement security measures
2. Actions should be taken to identify unified measures to mitigate cybersecurity risks of 5G networks
3. Member States, EU institutions and agencies should develop a joint 5G risk assessment

The EU coordinated risk assessment of the cybersecurity of 5G networks was published on 9 October 2019. The report in fact acknowledges the possibilities of security threats posed by individual hackers and state backed actors providing 5G network services. (NIS Cooperation Group, 2019). However, as appropriate custom of official EU documentation, Huawei (or other enterprises) are never specifically mentioned. The recommendation further calls for the creation of a toolbox "to mitigate the identified cybersecurity risks at national and Union level" (European Commission Communication COM/2016/0588; 2016; p.7). The toolbox is therefore a document, published in January 2020, that presents measures to be implemented by Member States to build a coordinated approach in the area of 5G cybersecurity. What is relevant to the scope of this research, is the presentation of specific strategic measures in the toolbox. More precisely, these refer to risk assessments of third-party suppliers and the diversification of 5G network suppliers to avoid long-term dependencies (NIS Cooperation Group, 2020a). Notably, the toolbox also recommends the exclusion of high-risk suppliers from network core functions.

Again, neither the recommendation nor the toolbox do not mention specific names of companies as 5G providers. However, the connection of cybersecurity risks of 5G networks with China is mentioned in page 2 of the recommendation: "The European Parliament's

resolution on security threats connected with the rising Chinese technological presence in the Union also calls on the Commission and Member States to take action at Union level" (European Commission Communication COM/2016/0588; 2016; p.2). This is a reflection of the wider European approach to China, which started to assume protectionist connotations with the start of the Belt and Road Initiative. In 2019, the Commission released a report defining China as a partner with which the EU shares common interests but, at the same time, as a systemic rival. (European Commission et al; 2019). The same concept was expressed by the President of the Commission von der Leyen after the EU-China Summit of June and September 2020, and by the EU Chamber of Commerce in China. Nonetheless, until then, debates on the technological presence in China were mainly centered on the economic perspective.

However, the previously mentioned European Parliament resolution specifically dealt with security threats connected with the rising Chinese technological presence in the EU and possible action on the EU level to reduce them (European Parliament Resolution 2019/2575(RSP), 2019). The European Parliament resolution provides the basis to answer the first part of my second research sub-question:

What concerns does the EU identify on Huawei as a 5G provider and how does the EU plan to contrast them?

The European Parliament acknowledges:

1. Vulnerabilities in 5G networks that could cause dangerous damages and the need to the minimization of risks through a risk analysis-based approach
2. Raised deep concerns on the National Intelligence Law of the People's Republic of China of 2017 and, consequently, on Chinese 5G network providers
3. Czech national authority for cybersecurity's security warnings posed by Huawei and ZTE (NCISA, 2018)[5].
4. The security implications of different national reactions to Chinese 5G providers on the digital single market. "A patchwork of divergent national decisions would be detrimental to the digital single market" (European Parliament Resolution 2019/2575(RSP); 2019).
5. The fact that suppliers should not receive special treatments based on their country of origin. However, these have the obligation to comply with EU standards and legal framework.

In substance, we can deduce that the European Union has so far not taken a solid position towards the potential ban of the Chinese company Huawei as a 5G provider. However, it has recognized the potential of security risks related to the dependency of European 5G networks on providers subjected to Chinese National Intelligence Law, mentioning acknowledgement of Czech warnings. On the other hand, the European Union insists on a free digital single market ruled by free competition.

From the documents analyzed it can finally be concluded that the EU ultimately aims for a common coordinated European approach to Huawei as a 5G network supplier (European

[5] ZTE is the other Chinese telecom enterprise, which also supplies 5G networks. This study selectively focuses on Huawei. See under «limitations».

Commission Communication COM/2016/0588, 2016; European Commission Recommendation 2019/534, 2019; European Parliament Resolution 2019/2575(RSP), 2019; NIS Cooperation Group, 2019; NIS Cooperation Group, 2020a). However, the lack of a clear EU position of responsibility on a possible ban of Huawei in EU Member States left the decisions on Member States themselves. As Tekir (2020, p.126) explains, "the avoidance of taking responsibility as the highest executive branch of the EU led to fragmentation of response regarding the operations of Huawei in the EU".

Nevertheless, the only document that presents concrete strategic measures to be taken across EU Member States, is the Toolbox, where it is asked to Member States to assess risks linked to party suppliers (recommending the exclusion of high-risk suppliers from network core functions); and to diversify 5G network suppliers to avoid long-term dependencies (NIS Cooperation Group, 2020a). Therefore, answering the second part of the second sub-research question, the EU plans to contrast concerns on Huawei as a 5G provider through National risk assessment of 5G vendors and diversification of the supply chain.

4.0 The case of Germany

This chapter will explore the case of Huawei as a 5G provider in Germany, analyzing crucial steps that the German Government took on the issue. Both economic and security implications of a potential ban on Huawei in Germany will be addressed, through the examination of German bilateral relations with both the US and China, and the input of German stakeholders on the matter. The analysis will serve as an attempt to test the theory of intergovernmentalism to provide justification of Germany's willingness to participate to European cooperation in the issue of Huawei.

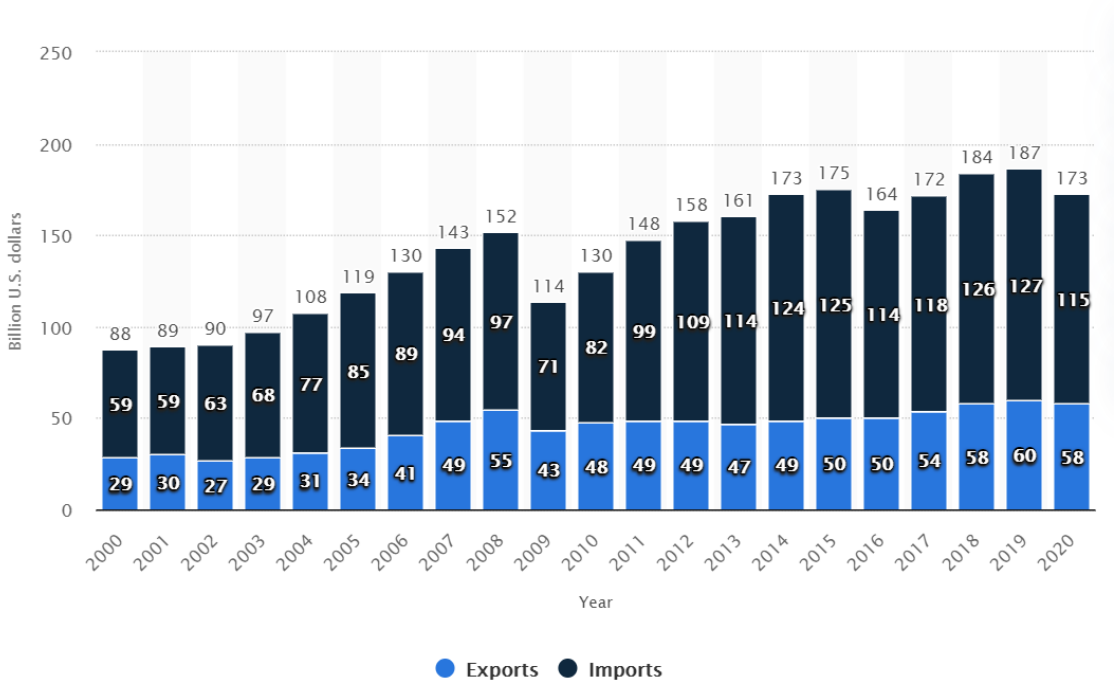
4.1 German relations with the US

Andrew Moravicsik, in the formulation of intergovernmentalism, concluded that the primary driver of European policy integration lies in the Member States' best served interests. In the context of the Huawei issue, which touches both economic and security policy areas, Germany would therefore evaluate cooperation based on the effects that it would produce on its trade relations, particularly with the US and China, and the effects on security alliances. A possible ban on Huawei would, therefore, generate changes in trade relations with China, and vice versa in the case of a non-ban affecting trade with the US. To better understand what the best solution would be for Germany, US and Chinese trade relations with Germany will be evaluated.

German trade with the US is extraordinarily important for the German economy. The US was the biggest buyer of German exports in 2019, and Germany is the most important European trading partner for the US (Federal Foreign office, 2021). As depicted in **Table 1**, looking at data going from 2000 to 2020, American imports from Germany have always exceeded American exports to Germany. Moreover, the volume of trade has experienced a rather constant increase in the last 20 years.

Overall, Germany is the world's third-largest exporter, only after China and the United States (International monetary fund, 2019). The major categories of American exports to Germany in 2018 were aircrafts; vehicles; machinery; optical and medical instruments and electrical machinery. Inversely, major categories of German exports to the U.S. were machinery; vehicles; pharmaceuticals; optical and medical instruments; and electrical machinery. The majority of American imports from Germany are concentrated in investment goods such as capital equipment, which contribute to U.S. production. German investments in the U.S; on the other hand, focus on manufacturing, insurance, and wholesale trade (Bureau of European and Eurasian Affairs, 2019). American-German trade relations are facilitated by the U.S.-German Treaty of Friendship, Commerce and Navigation, which was signed in 1954 and under which American investors receive national treatment and free movement of capital between the two countries is provided (Bureau of European and Eurasian Affairs, 2019), (Treaty of Friendship, Commerce and Navigation, 1957). It can be concluded that German-US trade relations have been prioritized by both Governments since more than 70 years ago, and the constantly increasing volume of trade signals the willingness of both countries to continue developing fruitful bilateral trade relations. Therefore, according to intergovernmentalism, in the issue of Huawei, Germany would try to cooperate with the EU if the cooperation would not affect negatively the German economic transactions with the U.S.

Table 1: Total value of U.S. trade in goods with Germany 2000-2020 (in billion U.S. dollars). Source: Tugba Sabanoglu (2021), published by Statista.



However, as already explained, the economic factor is not the only one that would have to be taken into consideration when deciding on what position to take in the Huawei debate. Concerns on Huawei as a 5G provider revolve around national security, as the close links between the Chinese company and the Chinese Communist Party worried the U.S; on the basis of concrete risks of espionage and sabotage. When it comes to security and defense policy, defined by intergovernmentalists as "high politics", European cooperation would result more unlikely. Traditionally, European Member States rely more on NATO and U.S. military rather than on a European Common Security and Defense Policy (CSDP). The intergovernmentalist approach would therefore suggest that Germany would prefer to follow American warnings against Huawei and cooperate at EU level only when the European approach does not interfere with NATO and American alliances. As reported in the German Federal Foreign Office website, "alongside European integration, the transatlantic partnership is the most important pillar of German foreign policy" (Federal Foreign Office, 2020b). German transatlantic relations with the US find their foundation on "traditionally close cultural, social, political and economic links, but also common interests, for example the promotion of peace, stability and security, democracy, the rule of law and human rights" (Federal Foreign Office, 2020b). Germany and the US are both members of the North Atlantic Treaty Organization (NATO) and the Organization for Security and Co-operation in Europe (OSCE).

However, although Germany and the US are, historically and contemporary, major allies in terms of western economic and democratic values, their transatlantic relationships in the 2000s experienced some political controversies. Their disagreements mainly revolve around

the US wishing Germany had a more active military international presence. For example, regarding the 2003 American expedition to Iraq, Germany decided not to take part, detaching itself from American military intentions. Later, Obama's "pivot to Asia" and his approach to the 2011 NATO Libya campaign made Germany re-think about their partnership with the US, leading to a German strong push for a construction of a more consolidated European strategic autonomy (Weidenfeld, 2020). More recently, during the Trump administration, relationship between Berlin and Washington experienced other disagreements. Between others, controversies emerged when Trump threatened Germany with the imposition of higher tariffs on German cars; when the US criticized the German support for North Stream 2 gas pipelines from Russia to Europe; and when the US withdrew from the INF and Paris agreements (Weidenfeld, 2020). Weidenfeld (2020) also reports US critics of German insufficient financial contribution to NATO and US Ambassador to Germany, Richard Grenell, "interfering in Germany's domestic affairs suggesting that German companies should immediately win down all businesses operations in Iran or pledging support to populist political movements in Europe" (Lehming, 2019), (Der Spiegel, 2018). This deterioration of US-Germany transatlantic relations might get reflected on the German approach to Huawei. However, it is to be taken into consideration that the succession of the American presidency might partly restabilize German-American relations.

In relation to Huawei's role in German 5G rollout, the US has deployed an extensive lobbying campaign to persuade German lawmakers to exclude Huawei from 5G network provision. US ambassador Richard Grenell wrote a letter to German economics minister, warning that the US would restrain from intelligence sharing with Berlin if Huawei was allowed to participate to 5G rollout. He added that "communications systems are essential for defense and intelligence co-operation, and Huawei could compromise this" (BBC, 2019). Moreover, Cheng (2019) explains how, according to the political news website POLITICO, "in a closed-door meeting in December 2018, U.S. technology experts presented German policymakers with reasons to exclude Huawei from the rollout of 5G technology in Germany" (POLITICO, 2018). Weidenfeld (2020) also reports how US think-tank representatives were "forcefully injected" into the German public debate on Huawei (von Petersdorff, 2019). These represent a concrete example of the U.S. Government lobbying Berlin, one of the major U.S. European allies, in the hope to convince the German Government to decide on a ban on Huawei, just as it managed to go in the UK, Australia, New Zealand and Japan. [6]

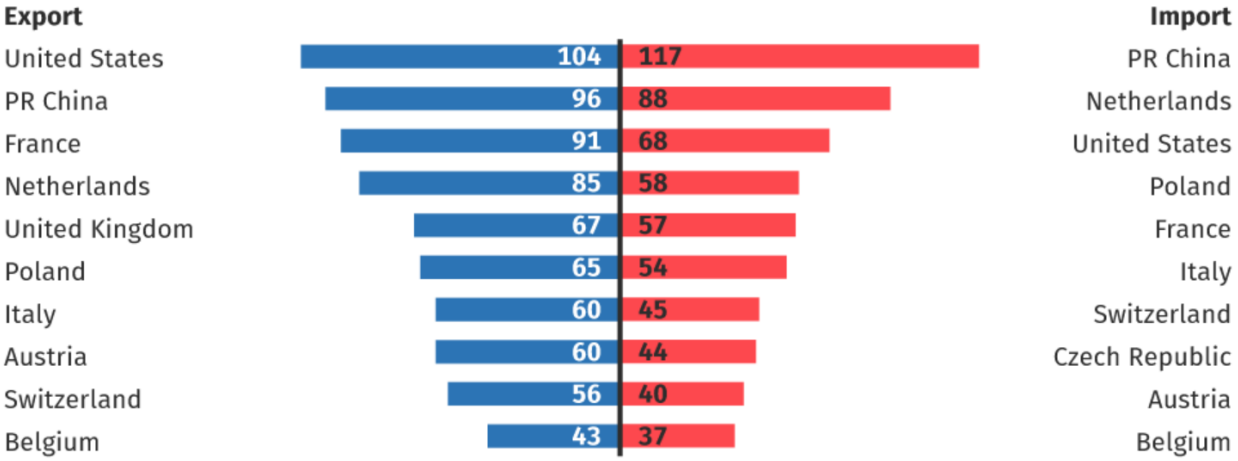
4.2 German relations with China

On European cooperation on the issue of Huawei, according to intergovernmentalism, economic consequences would have to be wisely evaluated. These consequences do not only regard German trade with the US. Germany-China trade implications would have to be

[6] The US pressured its Five Eyes partners (including the UK, Australia, and New Zealand) to shut out Huawei from areas of sensitive infrastructure. The Five Eyes is an intelligence alliance and cooperate in signals intelligence. An uncoordinated approach to Huawei, from an American perspective, would have hampered co-operation among the Five Eyes network (Smyth, 2019). Japan also banned Huawei from official contracts in December 2018, after Washington gave Tokyo information about the security risks involved in using Chinese-made equipment (Denyer, 2018).

considered in the eventuality of the implementation of a ban on Huawei. Even though Germany expressed serious concern regarding China's unfair practices on its citizens; non-compliance with WTO (World Trade Organization) standards and unfair competition, the German relationship with China is the strongest one developed between EU Member States, when looking at the volume of trade. Germany is the largest trading partner in the EU for China (Federal Foreign Office, 2020a). As shown in **Table 2**, in year 2020, China was Germany's second export partner, and the first partner in terms of imports. Notably, the table illustrates that the United States forego China as export partner, with a difference of 8 billion euros. Intuitively, with regards to imports, China surpasses the United States with a difference of 49 billion euros. Given the fact that exports contribute positively to the German GDP (Gross Domestic Product), while imports decrease it, in this case, American economic transaction should weigh more on the German stance vis-à-vis the US-China trade war. Nevertheless, the volume of trade changes year by year, and year 2020 might not be the best to be used as an indicator of trade, given the impetuous alterations posed by the Covid-19 pandemic (however, the US has been the number one German's export country for several years). Moreover, other aspects of the bilateral relations should be considered in terms of economic benefits and losses.

Table 2: Germany's major trading partners in year 2020 (in billion Euros). Sources: Statistisches Bundesamt (Destatis), 2021. [7]



Such additional factors could incorporate changing German perceptions of China as a business partner. For instance, since the arrival of Chinese President Xi Jinping in 2012, the German Government started to deal with China not anymore viewing China only as a strategic business partner, but as a "systemic competitor" in industrial competition (Weidenfeld, 2020). This is particularly visible in the position paper published by BDI (Federation of German Industries), and German alliances with other European countries to strengthen competitiveness with China (Weidenfeld, 2020) (BDI, 2019). Interestingly, this rhetoric fully matches European concerns and recalls the European Commission report defining China a "systemic rival" (European

[7] NB: There is mismatch between data found in table 1 for year 2020. Nevertheless, even when transferring data from table 1 to table 2, the United States' ranking in Table 2 do not vary.

Commission et al; 2019). At the same time, Chinese FDI has become a contested issue in Europe and especially in Germany, given the Chinese interest in taking over the main tech firms in Germany, leading the EU to promulgate a new regulation on extra-European FDI in 2019 (European Parliament and Council Regulation 2019/452, 2019).

Furthermore, proceeding with a ban on Huawei could imply costs in replacing already built 5G networks and increased costs given the fact that Huawei is the cheapest 5G network vendor present on the market. From the Chinese perspective, winning the German market in 5G networks provision would be a major accomplishment for the Chinese company Huawei. Germany is perhaps the most powerful European country in terms of technology, economy, and influence in the European Union political sphere. In fact, in the eyes of Huawei, collaborating with Germany on 5G would most likely result in other influential EU Member States to follow. Since 2001, Huawei has made considerable investments developing business groups. In 2007, "Huawei won the order from Germany and established more than 8000 base stations in Germany" (Hwang et al; 2020); and "by the end of 2015, Huawei had more than 2000 employees in Germany, making it one of the largest Chinese enterprises in Germany" (Cheng; 2019), (MA REVIEW, 2016).

In contrast with the American lobbying strategy against Huawei, the Chinese Government has counteracted with offensive public and governmental interventions, discussing for a more European global policy, independent from the US. Wu Ken, the Chinese ambassador to Germany, threatened retaliation in case Germany decided on a ban on Huawei. "If Germany were to take a decision that leads to Huawei's exclusion from the German market, there will be consequences", citing the million German vehicles that are being sold in China. (Arons et al; 2019). The impacts of the Chinese engagement in German discussions can be especially seen among the business community. Companies like Allianz, BASF or BMW obtained "very favorable investments and ownership conditions in China", whereas "Simens won a sizeable number of BRI contracts" (Weidenfeld, 2020). (Keqiang, 2019), (Siemens, 2018). While the US is pushing Germany to ban Huawei asserting that consequences will be actuated restraining from intelligence sharing if Huawei will provide 5G networks to Germany; China is "threatening" Germany through a potential embargo.

4.3 German stakeholders' positions on Huawei

The German Government's decision on a potential ban on Huawei is the result of extensive debates occurring at the political level, which, together with the implications previously addressed, take further consideration of the view of German stakeholders on the topic. Stakeholders such as telecommunication operators have a better view on practical economic implications of a Huawei ban, especially on the evaluation of the costs posed by infrastructure replacements and the use of more costly 5G suppliers.

All the three main German telecommunication operators (Deutsche Telecom, Vodafone, and Telefonica) currently make use of Huawei equipment in their networks (E&T, 2020). This means that a ban on Huawei would have to take into consideration the replacement costs. In August 2020, telecommunications operator Deutsche Telecom reiterated its opposition to calls for a ban on Huawei on national security grounds, deciding on diversifying suppliers of 5G networks equipment. CEO (Chief Executive Officer) Tim Hoettges told reporters that

"regardless of politics, we should never allow dependence on one provider" (Reuters, 2020a). The other telecom operators seem to share this view. In fact, already from December 2019, Telefonica stated to be including Huawei in its 5G rollout, but not in its sensitive 5G core network (Nicola, 2019).

With regard to the Federation of German Industries (Bundesverband der Deutschen Industrie, BDI), its chairman Dieter Kempf, in 2019, "warned against excluding Huawei from the construction of 5G networks as this would lead China to take countermeasures and it would limit the choice of 5G suppliers resulting in a cost increase" (Cheng, 2019). He also added that "The American motto seems to be 'who my enemy is, must also be my friend's enemy'. However, this contradicts the European idea of free, rule-based world trade" (Cheng, 2019), (FAZ, 2019a).

4.4 The German Government's position on Huawei

In July 2017, the German Government published a paper presenting the national 5G strategy, describing the context, and five field of actions and rollouts, to apply before the end of 2025. The paper also communicates the allocation of 80 million Euros in 5G research (IDATE DigiWorld, 2020), (The Federal Government, 2017). In the German strategy document, it is stated, with reference to China (and Japan) that "Germany and Europe must not fall short in the competition with these countries" (The Federal Government, 2017, p.3).

With regard to the subsequent political debate on Huawei, Arne Schönbohm, head of the German Federal Office for IT Security (Bundesamt für Sicherheit in der Informationstechnik, BSI) classified the potential ban of Huawei as a mere political decision. In 2019 she stated that "Until now, the so-called "back-door" of Huawei products that can shut down German telecommunications network has not been discovered" (Cheng, 2019) (Handelsblatt, 2019).

The German intelligence service agency, however, as in 2019, believed that "the use of Huawei's products would have risk of espionage and destruction" (Cheng, 2019). Moreover, BND (Germany's foreign intelligence service) has been warning on Huawei and Chinese cyber industrial espionage since 2008 (Umbach, 2020).

On the other hand, German Federal Ministry of the Interior has publicly stated that "the current German law cannot exclude any foreign supplier from construction of the 5G network" (Cheng, 2019), (DW, 2019). Moreover, the German Foreign Ministry emphasized the strategic partnership that Germany has with China in terms of trade. At the same time, "A spokesperson for the Ministry of Foreign Affairs stressed that Huawei is a Chinese company subject to Chinese law and expressed concern that Chinese companies have the obligation to cooperate with Chinese intelligence agencies" (Cheng, 2019), (DW, 2019).

As for the position taken by Angela Merkel, the head of the German Government, it seems like she initially "sought the approval of Huawei as Germany's 5G provider, in anticipation of Chinese retribution against German businesses" (Larsen et al; 2020). However, during her visit to Japan in February 2019, she said, referring to China, that it is necessary that Huawei gives guarantees that it will not hand over all data to the Chinese Government (Cheng, 2019), (FAZ, 2019b), (Reuters, 2019a). Moreover, after the Trump administration announced to the

German Government that it would limit intelligence sharing with Germany if Huawei participated to the creation of 5G networks infrastructures (Germano et al; 2019), Chancellor Angela Merkel communicated that "Germany will define its own security standards for a new 5G mobile network" (Shalal, 2019).

Debates on the issue gradually became more heated within the German Parliament. The will to "follow recommendations of a public technical agency, but the push for political solutions" (Björk et al; 2020) was originally stated. Nevertheless, in November 2019, Delfs (2019) reports that "German Chancellor Angela Merkel is coming under pressure from her own party to impose an outright ban on Chinese equipment supplier Huawei Technologies Co. from the country's 5G network". The coalition was very divided on whether Huawei could pose a threat to national security. The Social Democratic Party (SPD), the German Government's coalition partner, took a strictly adverse position towards Huawei. In December 2019, the party unanimously expressed their opinion on the issue saying that no foreign supplier of an authoritarian Government that is not a democracy is to be trusted (Umbach, 2020). On the other hand, "leading members of the German parliament emphasized how the US is not a more trustworthy partner when it comes to foundational digital technologies" (Weidenfeld, 2020), (Deutscher Bundestag, 2019), clearly referring to the Snowden revelations on the US National Security Agency (NSA).

After months of discussion, lawmakers from the conservative party have published a position paper on 5G mobile networks recommending stricter rules on foreign suppliers, eliminating the idea of a proper ban on Huawei. The paper proposes products differentiation and calls for the concept of trustworthiness to be included in German telecoms and IT security laws (Rinke, 2020) (CDU/CSUU-Fraktion im Deutschen Bundestag, 2020). As per February 2021, a second draft of the German IT Security Act 2.0 has been amended, after a long and continuous political discussion on the development of 5G infrastructures. According to Meßmer (2021), this last amendment will be the last one before the Act will be officially passed. The document presents a two-part technical assessment mechanism for telecom vendors, followed by the requirement for the vendor to declare that its components cannot be used for sabotage or espionage. After the company registers, it must wait 30 days to receive a decision from the ministries on their participation in Germany's 5G rollout. Nevertheless, a vendor can be excluded only by unanimity of deciding authorities (Beryl, 2021). For Huawei, Beryl (2021) says, "this would be quite a victory, given that the 5G debate has already raged in Germany for two years, it is unlikely that future intergovernmental disputes about vendor security would be resolved within a month" (Beryl, 2021).

After months of heated discussions within the German parliament, it is noted that debates on the issue of Huawei started to gradually reach a common point exactly after the publication of the EU toolbox, in January 2020. For example, the position paper written by the conservative party proposing product differentiation and stricter risk assessment of 5G network suppliers (which highly contributed to the German Security Act 2.0) was published exactly one month after the publication of the EU toolbox. This chronological symmetry in the German change of stance with the EU toolbox can serve as a proof to validate the German willingness to cooperate on the matter at EU levels. The second and last draft of the German Security IT (Information Technology) act 2.0 established a mechanism that ultimately gives the power to decide on a telecom vendor's participation in 5G rollout, to the German

Government. The German Government, in order to completely ban a telecom vendor, would have to unanimously agree on the risks that that Company would pose to national security, based on a previously carried out technical assessment. This solution, added to German telecom operators' already implemented decision to differentiate 5G network suppliers, de-facto is perfectly aligned with the objectives of the Toolbox (NIS Cooperation Group, 2020a), which specifically asked Member States to assess risks of third-party suppliers to avoid long-term dependencies, and to exclude from network core functions suppliers considered high risk.

It is evident how German public opinion is divided on Huawei. The US and China both executed strong lobbying strategies trying to push Germany towards a stance or another. Germany, however, seems to have taken the side of neither of the two opposing positions. Strong of a solid security alliance with the US, and particularly pleased with the benefits that economic relations with both the US and China bring, Germany seems to want to push for strict technical assessment of the security of 5G vendors without, however, posing a direct ban to the Chinese 5G provider Huawei. Avoiding dependency on one operator, as suggested by the EU Toolbox, is also an argument of priority in the German 5G agenda, which will possibly lead to the stabilization of a de-facto partial utilization of Huawei in less sensitive peripheral networks from telecom operators.

4.5 Conclusion

Following intergovernmentalism as a theory of European integration, EU Member States would want to cooperate with other EU Member States in a certain policy area based on their assessment of "sector-specific welfare interests" that cooperation would bring. (Bergmann et al; 2015). In other words, according to intergovernmentalism, Germany would decide to seek for an EU approach to Huawei only if it would be (economically) profitable to do so. After analyzing the German relations with both the US and China, we can conclude that a German decision on a ban on Huawei would be extremely difficult to take, as Germany has been enjoying a strong alliance with the US, and trade with both the US and China is particularly benefiting. German trade with the U.S. generates the highest income from German exports, which weighs more, compared to the volume of German exports to China. Moreover, changing German attitudes to China suggest that Germany is trying to limit Chinese influence in sensitive areas. Nevertheless, German trade with China is still considerably profitable, and Germany would not aim at decreasing trade with China, through the Chinese imposition of embargoes on German products. Moreover, a ban on Huawei would limit the choice of 5G suppliers resulting in a cost increase, and since German telecom operators already make use of Huawei equipment, replacements would also result costly. On the other hand, however, the US has warned Germany that they would limit intelligence sharing with Berlin if they decided to opt for the inclusion of Huawei in 5G rollout. The German alliance with the US is fundamental in terms of security and defense, but their transatlantic partnership has been deteriorating in the past 20 years, and Germany has proceeded to autonomously evaluate Huawei's risks to National security. Consequently, based on my findings, following intergovernmentalism, Germany would cooperate at EU level on the Huawei issue if the cooperation would allow Germany to maximize its benefits. This would be done by protecting trade relations with both China and the US, and by limiting costs derived from replacement

of already used Huawei equipment. On the security side, it seems that Germany is trying to rely more and more on European alternatives to the American security approaches.

All things considered, the solution provided by the EU, so far presented in the Toolbox, ultimately benefits Germany. This is because the Toolbox allows Germany to make its own security risk assessments, and does not, in any way, take a clear stance on the US-China trade war. Moreover, through 5G providers' differentiation, Germany is able to limit Huawei usage without posing a proper ban, which would avoid negative repercussions on trade with China and costs arising from equipment replacement. Finally, assuming that the IT Security Act 2.0 will be approved, my findings confirm the theory of intergovernmentalism. This is because the act fundamentally depicts the German willingness to cooperate with the EU, through essential alignment with the EU toolbox.

5.0 The case of Italy

This article will explore the case of Huawei as a 5G provider in Italy, analyzing crucial steps that the Italian Government took on the issue. A special focus will be put on the polarization of political parties' opinions on Huawei and their views' alignment with EU recommendations and goals. The study will begin with a background study on the current Italian bilateral relations with the US and China, which will serve to contextualize the positions taken by different Italian actors on the US-China trade war. Italy is an historical ideological, political, and military ally of the US, and the US currently continue to be among the most important trading partners for Italy. On the other hand, China's late economic development, and the consecutive business potentials that Chinese investors presented to Italy, lead to an Italian inclination towards closer trade relations with China. In fact, Huawei's presence in Italy has boomed in the past 15 years. However, the case of Huawei split the Italian political sphere. It will then be concluded, testing the theory of intergovernmentalism and comparing the Italian case with the German one already analyzed, how the Italian Government is willing to cooperate at EU level on the matter.

5.1 Italian relations with the US

According to intergovernmentalism, before establishing whether a possible collaboration at EU level on Huawei would benefit Italy, Italy would have to evaluate what National position to take on the Huawei issue (and on the US-China trade war). To do so, economic and security implications need to be addressed. Since intergovernmentalism sees European cooperation as the result of Member States' shared increased interests, Italy would cooperate only if economic gains are expected to be generated.

The US is currently one of the most important trade partners for Italy. As shown in **Table 3** and **Tables 4**, showing data from the American perspective, US imports from Italy have almost doubled from year 2010, with year 2020 representing an exception, giving the Covid-19 pandemic. United States' exports to Italy are almost half of American imports from Italy (translating in a trade surplus for Italy), but since 2010 have equally considerably increased. Again, year 2020 negatively affected the growing trend.

As for the year 2019, the US was the 7th source of imports in Italy, and the 3rd recipient of Italian exports. Italian export to the USA consists mainly of conveyance, industrial machineries and beverages (mostly wine), whereas American imports in Italy mainly consist of pharmaceuticals, mechanics, aircraft and spacecraft. US FDI is concentrated in software, manufacturing, computer services but also in the energy, aerospace, and automotive sectors (Ambasciata d'Italia, 2021). As shown, Italian exports to the US represent a significant contribution to the Italian GDP[8].

[8] According to the Italian Trade Agency (2021), in 2019, the total Italian exports (of goods and services) represented 31.7% of the Italian GDP.

Table 3: United States imports from Italy 2010-2020 (in Billion dollars). Source: Trading Economics (2021).

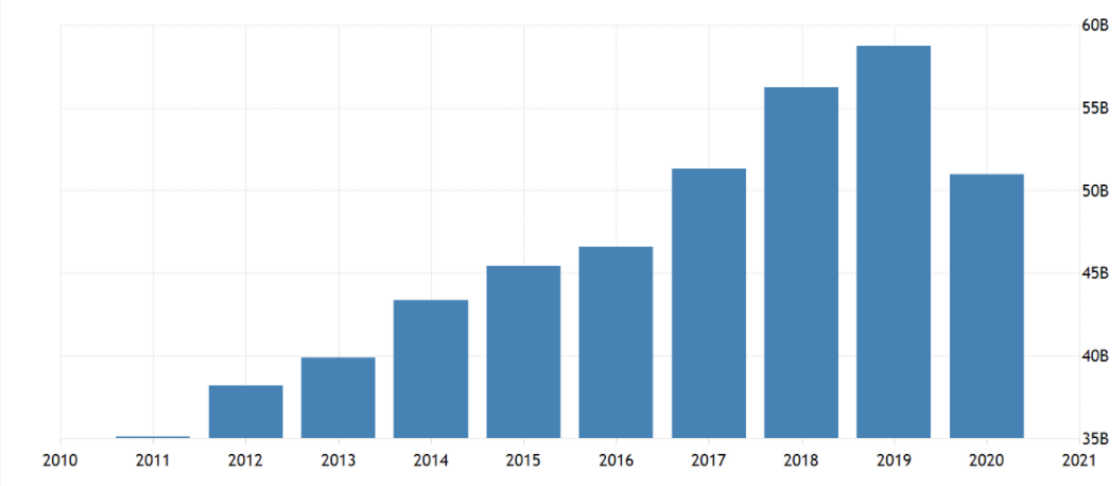
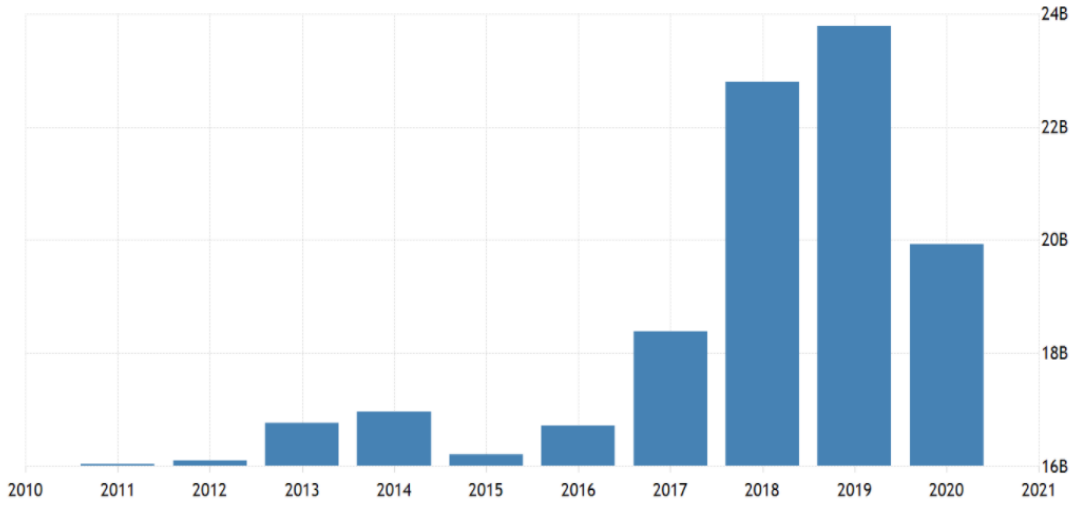


Table 4: United States exports to Italy 2010-2020 (in Billion dollars). Source: Trading Economics (2021).



Italy, during the Cold War, conducted a policy of openness and economic partnerships with both the US and the Soviet Union. However, looking at the security and defense side of the

spectrum, Italy is also a loyal and committed member of NATO, and host important U.S. military bases. The US and Italy also cooperate in the framework of OSCE (the Organization for Security and Co-operation in Europe). Italy and the U.S. "have sought to foster democratic ideals and international cooperation, especially in areas of strife and civil conflict. Italy is a leader in peacekeeping and military operations around the world, and Italians have worked closely with the US in combating drug trafficking, human trafficking and terrorism" (Bureau of European and Eurasian Affairs, 2020). After the Cold War, the US and Italy have collaborated in various operations, not only under NATO. These include the Gulf War, the intervention in Lebanon, peacekeeping operations in Somalia and Mozambique and the NATO bombing in Yugoslavia. The maximum alignment was experienced during Silvio Berlusconi's cabinets when, in contrast with France and Germany, Italy participated with the US to the intervention in Iraq. Therefore, Italian collaborations with the US reflected on a certain homogeneity of optimistic views through Italian political leaders.

However, both the US and the EU raised concerns when the populist coalition Government in power in March 2019 expressed support for the Belt and Road Initiative (BRI), as the Italian move could be perceived as a greater alignment with China in the context of a US-China war on trade and global leadership (Casarini, 2020). Moreover, regarding the American position of Huawei in Italy, it is evident how, just like with the other European allies, the US was trying to push for a ban of the Chinese company. Lewis Eisenberg, the American Ambassador in Rome, on 22 February 2019 said that "Huawei poses risks for Italy's national security and that of its partners" (Casarini; 2020; p. 102). Almost a year and a half later, Mike Pompeo, American Secretary of State at the time, during his visit in Italy reiterated that "Chinese mobile telecoms technology is a threat to Italy's national security" (Fonte et al; 2020). Nevertheless, compared to the German case, there is a lack of available information on when and how the American lobbying campaign took place in Italy, including a lack of real American declarations on the implications that the use of Huawei might have with American intelligence sharing, for example. It could signify, on the one hand, that the American lobbying campaign in Italy was less exponential than the one in Germany, perhaps due to a major American confidence in the alliance with Italy, or a bigger effort put into lobbying Germany as considered by the US the most powerful and influential EU Member State. On the other hand, however, the lack of open information on it might just be the reflection of traditionally less transparent Italian political dynamics.

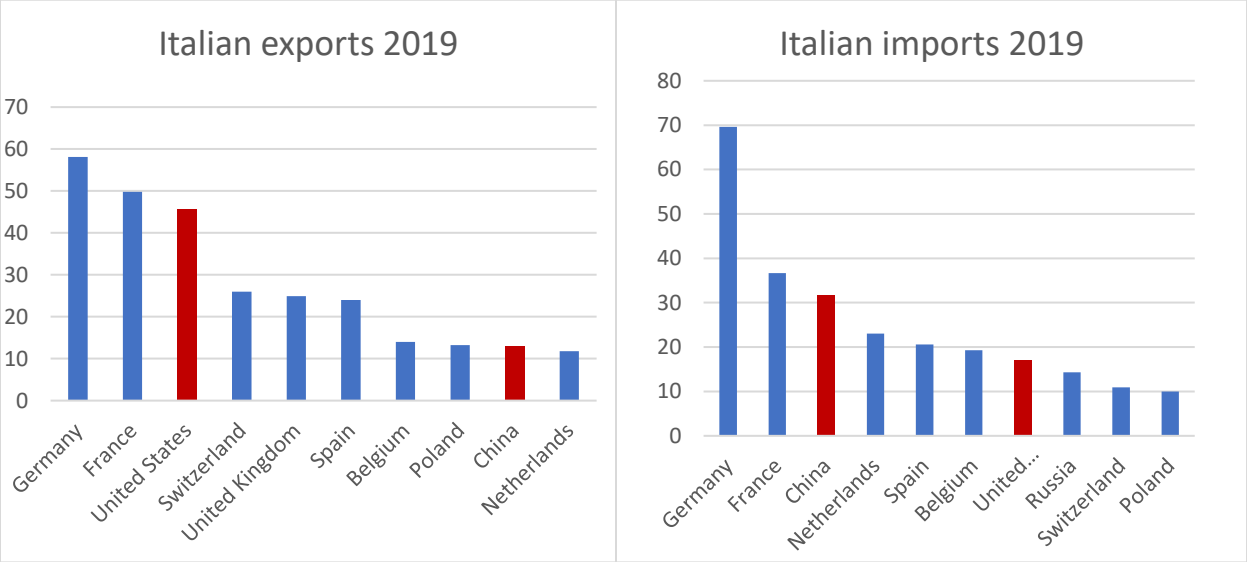
Nevertheless, it can be concluded that the Italian trade surplus with the US represents a considerable component of the Italian wealth, and the important military alliance with the US might signal a closer potential alignment with US requests on the matter of Huawei as a 5G provider. Nevertheless, the Italian favorable participation to the BRI and the friendly signals that the Italian Government has been sending to China might re-balance the Italian position.

5.2 Italian relations with China

After the Cold War, Italy saw China as a rising power that could become a potential huge market for "Made in Italy" products (Casarini, 2020). The first Italian prime minister who made efforts into reinforcing commercial relations with China was the center-right party leader Silvio Berlusconi. In 1994, he started organizing high-level business meetings in China

(Casarini,2020). Romano Prodi, the next Italian Prime minister (from a center-left coalition), in 1996, enacted a strong business strategy to enhance cooperation with China and promoted joint-ventures with many major Italian companies (Casarini, 2020). Throughout the 1990s and the 2000s, this trade promotion policies with China persisted and continued to this day. In fact, for Italy, China is currently an important trading partner. As shown in **Table 5**, as per 2019, China was the 3rd origin of imports in Italy, and the 9th recipient of "made in Italy" Italian exports (Ambasciata d'Italia, 2021). As it can be deducted, Italian imports of Chinese goods exceed the volume of Italian exports to China, generating a negative balance of trade, or, in other words, a trade deficit. Data taken from the year 2019 depict that Italy mainly exports machines, chemical products, textiles, and transportation to China (OEC, 2020a). On the other hand, Italy imports from China mainly include machines, textiles, and metals (OEC, 2020b). Chinese FDI in Italy is also considerably high, mostly focused on luxury fashion, entertainment, and robotics (Ambasciata d'Italia, 2021). **Table 5** also better shows how Italian exports to the United States exceed Italian exports to China, and how Italian imports from China exceed Italian imports from the United States. Consequently, the data allow to assert that trade with the US is more profitable than trade with China.

Table 5: Ranking of Italian export destinations and import origins for the year 2019 (in Billion Euros). Sources: Table made by me with data taken from "Elaborazioni Osservatorio Economico su dati Istat", 2021.



As previously mentioned, on March 2019, the populist Italian Government in power at the time signed a Memorandum of Understanding (MoU) on the Belt and Road Initiative (BRI), and it was the first G7 State to do so. Italy and Portugal are the only western EU Member States to participate to the BRI. Importantly, the text explicitly mentions collaboration in the development of connectivity of telecommunications (Mariano et al; 2020) (Governo Italiano, 2019a). This political move distanced Italian economic interests from the wider EU and transatlantic scopes. In fact, even though in the last 10 years the EU States allowed a penetration of Chinese investments in strategic sectors, with the start of the BRI, EU concerns

on the Chinese influence in Europe assumed more protectionist connotations. In 2019, the Commission released a report defining China as a partner with which the EU shares common interests but, at the same time, as a "systemic rival". (European Commission et al; 2019). The same concept was expressed by the President of the Commission von der Leyen after the EU-China Summit of June and September 2020; and by the EU Chamber of Commerce in China. EU discourses on relations with China started to encompass asymmetries in market access conditions in China; the increasingly harsh Chinese diplomatic style and the bad management of Chinese peripheries (Mariano et al; 2020); (European Commission Press Corner, 2020); (EU Chamber of Commerce in China, 2021).

The hope, for the Italian Government in force at the time, was to increase commercial relations with China, given its rapid development and increasing business profitability. What is interesting, however, is that at the time of the signing of the MoU, the Italian Government was formed by a coalition between two populist parties: the anti-establishment M5S party (Movimento 5 stelle), and the League, the far-right party led by Matteo Salvini. The two parties, during the electoral campaigns of March 2018, assumed a rhetoric of "Italians first", promising to be the politicians "of the people", who finally would represent the low-middle working class. Anti-China slogans were also used, which resembled Donald Trump's expressions, which both the parties sympathized (Casarini, 2020). Their views on China, however, seemed to shift from the summer of 2018, sending to China a more politically friendly message, and then leading to the signing of the MoU. The reason behind this change of direction, according to Casarini (2020), can be explained by the need for the parties to finance their costly electoral promises (the League's flat tax and the M5S universal basic income), and the increased difficulties that the Government encountered to refinance the growing public debt. It is to be noted, however, that the two populist parties were well known to be Eurosceptic. The shift in their political discourses might also be attributed to a desire to detach Italy from the initiatives that the EU was starting to take against Chinese influence in Europe, or at least, the parties in power were not particularly motivated to follow an emerging European narrative. The main supporter of closer relations with China was Michele Geraci, undersecretary of State on the matters of international trade and member of the League. However, the coalition did not reach conclusions unanimously. Views on international relations with China were still internally fragmented. Matteo Salvini himself, for instance, favored a more pro-US and pro-NATO approach, and was willing to follow an anti-China propaganda. He ultimately expressed his understanding of the importance of such a geopolitical move, asking however for "concrete guarantees on the inclusion of Italian companies on BRI infrastructure projects" (ANSA, 2019). Sharing a negative view on the signing of a MoU were Guglielmo Picchi (Salvini's advisor) and Giancarlo Giorgetti, Undersecretary of State under the center-left following Prime Minister Giuseppe Conte (Casarini, 2020). Highlighting the EU-inconsistent Italian moves, in the same month when the MoU was signed, "the European Council, on 21-22 March 2019, adopted a series of initiatives aimed at reining in China's influence in Europe" (Casarini; 2020; p. 103). "Brussels also urged EU Member States to approve the screening mechanism, a legislation aimed at limiting China's penetration in key industrial and strategic sectors in the bloc" (Casarini; 2020; p. 103). Confirming the same friendly message that Italy sent to Beijing through the MoU, Italy did not approve the draft text of the mentioned screening mechanism (Italy, together with the UK, were the only EU Member States that did not approve the text). (Casarini, 2020). It is to be noted, however,

that "the same Italian government that signed the MoU and abstained from the draft text of the screening mechanism eventually supported the Council Conclusions on 22 Marc 2019, including the new, tougher approach towards China", again signaling the volatility of Italy's China policy (Casarini, 2020).

Coming to the Huawei case, the Chinese company is very well established in Italy. Huawei opened its own office in 2004, in Milan. Its business employs around 800 people and generates a turnover of 1,5 million euros. Huawei provides consumer solutions; enterprise solutions, carrier solutions and collaborate with Italian Universities in research and development (Mariano et al; 2020). Huawei Italy declared, during an audition to the Italian Chamber of deputies, counter reacting to US statements, that a ban on Huawei would also mean eliminating 4G components already in use, which would present considerably high costs (Mariano et al; 2020). At the same time, American clarification requests on close private contacts of prime minister Giuseppe Conte with the top Huawei lobbyist Davide Casaleggio were brough to attention by the American ex congress candidate De Anna Lorraine, who, on 9 July 2020 wrote on twitter: "Why did Italian prime minister Giuseppe Conte meet with the top lobbyist from Huawei today in private?" (Di Sanzo, 2020). It is to be noted, however, that even if it is true that it is hard to find information open to citizens on how the Chinese company is lobbying the Italian Government, the same secretiveness applies for the US lobbying campaign.

5.3 Italian stakeholders' positions on Huawei

As early as in 2012, the Italian Government published a decree providing special powers (the so-called "Golden powers") to the Government to screen FDI, notably from China, in strategic sectors such as energy, transports and communications. The regulation was amended in 2019 to include the extension of Golden powers to 5G telecommunications. In April 2020, the regulation was further strengthened, expanding the Government's vetting powers to protect critical technologies (Governo Italiano, 2019b). This means that the Italian Government is given the ability to perform background checks on 5G supply deals between Italian telecom operators and non-EU providers, including Huawei, prior to the conclusion of the deals. If potential risks are found, the Italian Government can reject those deals.

In the report on the implementation of the Toolbox, written in 2020 by the NIS Cooperation Group, which was made to provide an overview of the stages of implementation of the Toolbox in the Member States, the Italian use of The Golden power is mentioned as an example for the other Member States to follow. This is because the Toolbox emphasized the diversification of 5G suppliers and specific criteria to use in the selection of those suppliers, especially those originating from extra-EU States. In fact, the Italian Government, through the Golden Power, requires telecom operators to diversify 5G suppliers both vertically (diversifying suppliers of hardware infrastructure components) and horizontally (diversifying suppliers for different components of network infrastructure). (NIS, 2020b). It is to be noted that the Golden Power was introduced by a new Government, formed by the coalition between the populist M5S and the Democratic Party.

Nevertheless, in 2018, before the new Government and the amendment of the regulation on the Golden Power, the Italian ministry of economic development initiated the pre-commercial

experimentation of 5G in 5 Italian cities. The tender was open to both telecom operators and technology suppliers. The Chinese network supplier Huawei won the procurement contract, in partnership with telecom operator Vodafone, in the city of Milan. Telecom Italia and Fastweb, the two other main Italian telecommunication operators, also collaborated with Huawei in Bari and Matera (Mariano et al; 2020). Even though Telecom Italia still collaborates with Huawei, after the Golden Power Regulation's two amendments, in the late summer of 2020, Luigi Guibitosi, Telecom Italia's CEO said that the company would have "no trouble developing 5G infrastructure in Italy were the government to ban Chinese provider Huawei" (Reuters, 2020b). In July 2020, however, Telecom Italia officially excluded Huawei from a tender for 5G equipment for the core network that was being built in Italy and Brazil (Pollina, 2020). Later the same year, in October 2020, Italy proved to adopt a tougher position against Huawei. Trough the acquired Golden Powers, the Italian Government vetoed 5G deals between Fastweb, another major Italian telecom company, and Huawei (Fonte et al; 2020).

Importantly, Pietro Guindani, the president of Asstel, the Italian federation telecommunication industry (representing telecom operators such as Tim, Vodafone, Open Fiber and Wind-Tre), expressed his opinion on the Huawei debate, criticizing the Government's decisions on 5G network security. He did so highlighting the unbearable cost increase that a Huawei ban would induce. In particular, he defined the Golden Rule as an invasive tool that disregards the long length of infrastructure building, producing delays and harming Italian industries (Masi, 2019). Closely to the German stakeholders' views, the Italian telecom confederation seemed to be more concerned with the practicality of costs increase, rather than the potentiality of security risks that certain 5G providers might present. Finally, Italian intelligence services have also communicated that they did not found any evidence of "malicious cyber activity of the Chinese State through Huawei" (Casarini; 2020; p. 102). However, the Golden Power might reflect the Italian Government's decision to prioritize security concerns, taking over the telecommunication companies' abilities to freely choose whether to collaborate with Huawei or not. Nevertheless, the main consequence of the Golden power has resulted in vendors' differentiation.

5.4 The Italian Government's position on Huawei

The Italian Government's position on the Huawei issue is currently still undetermined, but it is clear how the approach is now aligned with EU integration attempts. Unlike in the German case, under which dedicated chapter I provided evidence on how the German approached was shaped after the EU Toolbox (published in January 2020), the Italian Golden Power move was activated in 2019. Chronologically speaking, there is a possibility that the EU Toolbox itself was inspired by the Italian Golden Power. The Italian approach is even mentioned and posed as an "illustrative example" three consecutive times under the later Report on Member States' Progress in Implementing the EU Toolbox on 5G Cybersecurity (NIS, 2020b).

The shift of political parties in power in 2019 show a change in the Italian approach to Chinese 5G networks. Through the previous populist coalition between the League and M5S, "Italy seemed to be in favor of a softer line on Huawei" (Casarini; 2020; p. 102), in accordance with the wider approach taken towards China (better explained in the section encompassing Italian relations with China and the MoU), and the solid loyalty to the Atlantic alliance. However, the

issue of Huawei produced disparities of opinions. The M5S defined the issue as too complex and believes that a ban on Huawei would not be the best approach. On the other hand, the League, together with the majority of the center-left Democratic Party (PD) "fully shares Washington's concerns about possible infiltrations of foreign entities in 5G networks, including cyber-theft and cyber-espionage allegedly linked to Beijing" (Casarini; 2020; p. 102). In February 2019, the Italian minister for economic development specified "the unpracticality of a ban on Chinese operators given the lack of clear proof of security risks and the principle of free market access" (Mariano et al; 2020) (Ministero dello Sviluppo Economico, 2019).

The Golden Power, enacted in August 2019 by the following center-left Government between the M5S and the PD, reflects a shift towards a stricter position against Huawei, and the reiteration of Italy's commitment to the traditional Atlantic alliance. In October 2019, the Italian parliamentary committee on the Republic's security (Copasir) published a report on cybersecurity for national strategic interest. The report identifies the presence of Chinese suppliers as a danger to national security because of their direct bond with the Chinese Government. The document was approved with unanimity. Importantly, Copasir is composed of 10 members, 5 from the senate and 5 from the deputy chamber, representing equally the political majority and the opposition. The structural nature of the committee therefore allows for a transversal reflection of the Italian political spectrum (Mariano et al; 2020), (Copasir, 2019). The Government's shift towards a stricter approach, according to Mariano et al. (2020), is also to be attributed to other European countries' realignment with American requests. Mariano et al. (2020) also mentions unknown press sources informing of the existence of guidelines formulated by the Italian presidency and shared with the main mobile operators on extra-EU network suppliers. According to those sources, the guidelines were so strict that they would, in practice, make it impossible for Chinese companies to participate to 5G rollout in Italy. The clearest sign of the Italian stance is to be found in the cases when the Italian Government, in October 2020, decided to disapprove 5G deals between Huawei and the telecom provider Fastweb, asking Fastweb to instead diversitfy its suppliers, since the deal saw Huawei as the only network provider (Fonte et al; 2020).

5.5 Conclusion

As for today, the Italian approach to Huawei is to be found on the regulation expanding the "Golden power" to 5G telecommunications (Governo Italiano, 2019b), and evidence posed by the first case in which the Italian Government decided to use the Golden Power to forbid 5G deals between Huawei and telecom providers (Fonte et al; 2020). Following this strategy, the Italian Government can perform background checks on 5G supply deals between Italian telecom operators and Chinese providers and can reject deals if risks associated with the suppliers are found. Moreover, the Golden Power itself require to produce a supplier diversification project. Even though no official ban on Huawei has been issued, after months of intense political debates resulted from the American pressure to ban Huawei, it looks like Italy took a stricter position on the matter. Changes in Government and parties in power in Italy in the past three years produced visible fluctuations on Italian relations with China and the Italian public opinion on Huawei.

The theory of intergovernmentalism posed by Andrew Moravcsik (1998) was tested to better understand the Italian willingness to cooperate on Huawei at EU level. As it can be concluded, the European approach posed by the toolbox is even overlapping with what Italy had already started to do in order to maximize its benefits. Looking at the economic side of the Huawei issue, data depict how trade with the US is more profitable than trade with China, as Italian exports to the United States considerably exceed Italian exports to China, and the volume of imports from both the countries lead us to conclude that Italy has a trade surplus with the US (Italy exports more than it imports from the US), while it has a deficit with China (Italy imports more to China than it exports to China). Even though imports and exports are not the only criteria to be used to assess the profitability of trade relations, it can be stated that Italy has stronger economic ties to the US, compared to China. Nevertheless, Italian politicians (especially during the Government Conte I) saw the potential in increased economic relations with the fast-developing China, and initially sent politically friendly signals to Beijing through the MoU and the abstention from the EU draft text of the screening mechanism on FDI. However, these pro-China initiatives started to take a different turn and Italy begun to take a stricter approach. In fact, the EU screening mechanism was eventually supported by Italy, and the Golden Power mechanism was extended to 5G technologies. This turn in the Italian China policy might be explained by the lack of consistent economic returns from the pro-China initiatives that were actuated by the populist coalition to strengthen commercial ties with China. On the Huawei issue, although telecom operators expressed their concern in increase costs and delays in 5G networks' development in the case of a ban on Huawei, the Italian Government decided to establish itself as the authority in charge of revisioning and potentially blocking contracts with 5G vendors, and already effectively excluded Huawei in certain occasions. At the same time, Italian engagement and cooperation with the US in terms of security and defense suggest an Italian inclination towards American requests on Huawei. Nevertheless, Italy did not want to formally ban Huawei, as negative consequences on trade relations with China would not benefit Italy either. In this context, therefore, the EU approach presented in the EU toolbox welcomes the Italian perspective, allowing Italy to independently exclude Huawei from certain 5G networks, without forcing any ban on the Chinese company. As intergovernmentalism theorizes, Italian cooperation on the Huawei issue at the EU level ultimately occurs as the EU approach to Huawei somehow benefits Italy, as it welcomes the Golden Power and enhances the legitimacy of the Italian veiled neutral (semi pro-US) stance on the Huawei issue.

6.0 The case of Hungary

This chapter will address the Hungarian approach towards the Chinese company Huawei as a 5G network supplier. Although the issue is not at the forefront of political discourse in Hungary, conclusions will be taken on whether Hungary proceeded to align with the EU toolbox, based on intergovernmental theory of European integration. To reach this aim, Hungarian interests amid the US-China trade war will be deduced through an analysis of current Hungarian relations with both the US and China, from an economic and security perspective. Moreover, the three main Hungarian telecom companies' declarations on the issue and the Hungarian Government's position towards Huawei will be presented.

6.1 Hungarian relations with the US

According to intergovernmentalism, European policy coordination occurs when Member States Nations consider to be better-off through integration. Before presenting the Hungarian strategy on the Huawei issue and its possible alignment with the EU toolbox, economic and security implications of a potential Hungarian ban on Huawei will be presented, so to better understand the calculations behind the Hungarian approach. To take a position on the Huawei debate, Hungary would have to weigh the possible consequences of different strategies so to maximize their utility. For example, if Hungary declined that Huawei poses a security threat and fully deployed its products for 5G development, this would likely result in changes in relations with the US, and vice-versa with China.

Looking at Hungarian commercial relations with the US, the volume of trade is noteworthy, even though the two Nations are surely not the respective most important partners (see **Table** 8 and **Table 9**). As per the year 2019, 1.89% of Hungarian imports generated from the US, and 3.21% of Hungarian exports were directed to the US (OEC, 2020c). As shown in **Table 6** and **Table 7**, taking into consideration general trends from 2010 to 2020, Hungarian exports to the US almost always exceeded Hungarian imports from the US, translating into a trade surplus for Hungary. In 2019, Hungarian major exports to the US included machines, transportation, instruments (like thermostats, optical fibers, and medical instruments) and chemical products (OEC, 2020d). On the other hand, major Hungarian imports from the US consists of machines, mineral products, transportation, and chemical products (OEC, 2020e). Moreover, as stated in the U.S. Department of State's official website, the US are among the leading foreign investors in Hungary, attracted by Hungary's strategic locations in Europe, highly skilled workforce, quality infrastructure and access to EU markets. US companies locating facilities in Hungary mainly belong to the manufacturing and services sector, and together support more than 100 000 jobs in Hungary (Bureau of European and Eurasian affairs, 2021).

Table 6: Hungarian exports to the United States 2010-2020 (in million US dollars). Source: Trading Economics (2021).

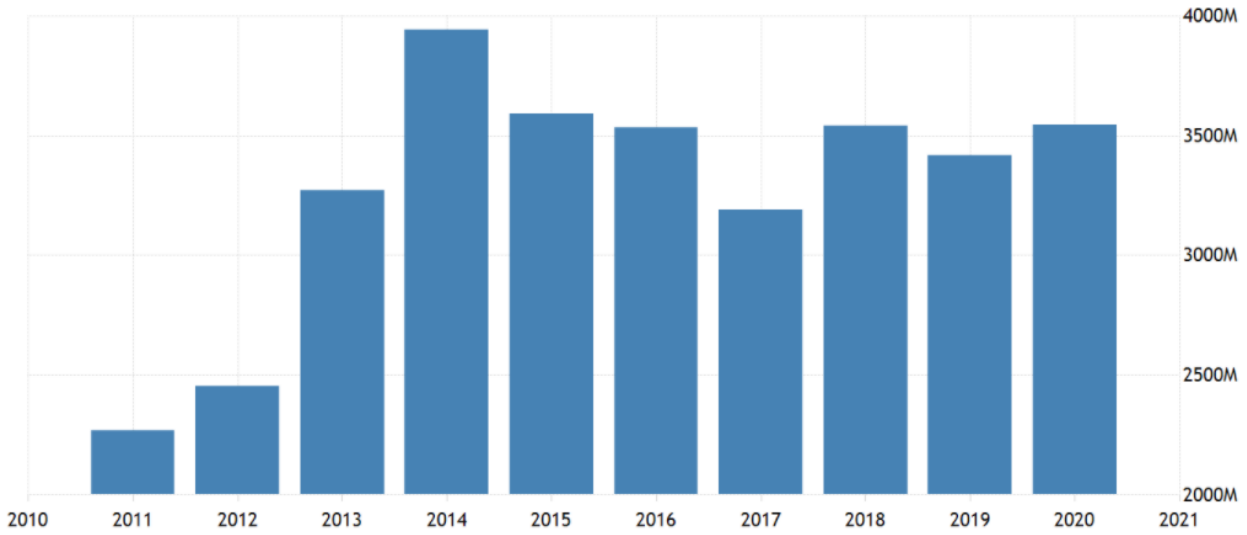
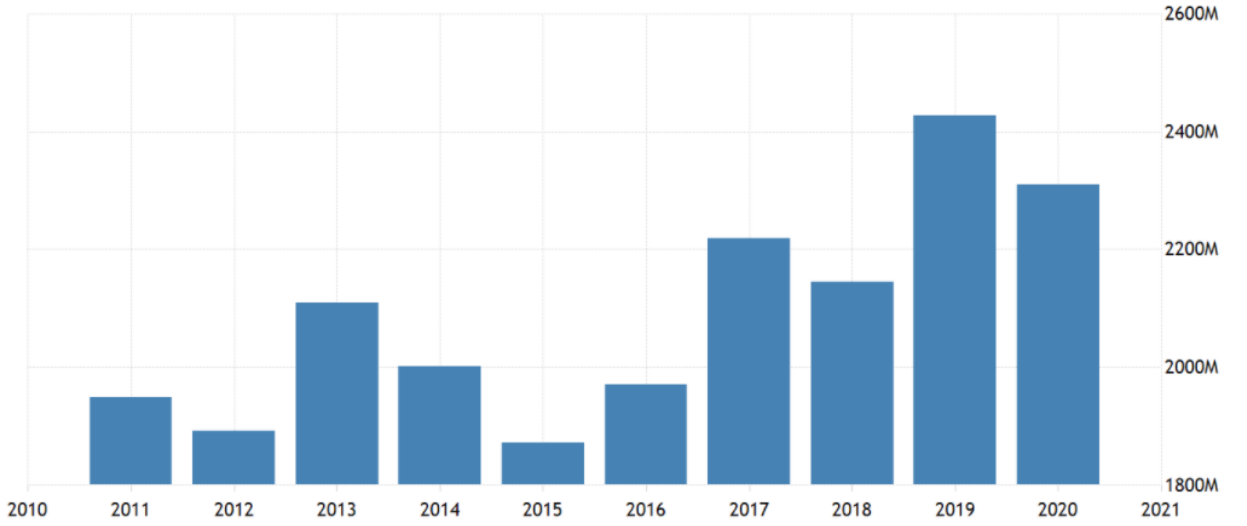


Table 7: Hungarian imports from the Unites States 2010-2020 (in million US dollars). Source: Trading Economics (2021).



Moreover, after the end of the Cold War, the US provided considerable financial aid to Hungary, helping the East European State to recover from its downfall. The SEED (Support for East European Democracy) served as a fundamental boost for the Hungarian private sector and helped with Hungary's economic and democratic restructuring. Very positive economic relations with the US, which continue to benefit Hungary, do not provide an economically

favorable ground for Hungary to take a position against the US in the US-China trade war (and the Huawei debate).

Additionally, Hungary is a member of NATO and the Organization for Security and Co-operation in Europe (OCSE). The U.S. Department of State's official website states that the US and Hungary have been working together to achieve shared international objectives, particularly in security, law enforcement and energy (Bureau of European and Eurasian affairs, 2021). The two countries engage "on a wide range of issues including reducing the threats posed by terrorism and nuclear proliferation and strengthening shared transatlantic values such as promoting human rights and the rule of law". Moreover, the U.S. and Hungary are allies "in coalition operations, including NATO missions in Afghanistan, Iraq, and the Balkans" (Bureau of European and Eurasian affairs, 2021). The Hungarian Minister of Foreign Affairs and Trade Péter Szijjártó, in the occasion of the new U.S. presidency "emphasized that the United States is Hungary's most important strategic partner and ally alongside the European Union", and that "transatlantic cooperation is vital for European security" (Hungarian Insider, 2020).

The American authorities, as part of a wider global strategy paired with more specifically located attempts to limit Chinese and Russian influence in Eastern Europe, engaged in extensive diplomatic efforts to eliminate the Chinese company Huawei from Hungarian 5G infrastructure. "During a visit to Budapest, U.S. Secretary of State Mike Pompeo cautioned allies against deploying equipment from the Chinese company, saying it would make it more difficult for Washington to partner alongside them". (Reuters, 2019b). Mike Pompeo "had discussed the dangers of allowing China to gain a bridgehead in Hungary in talks with Hungarian Foreign Minister Peter Szijjarto" (Szakacs et al; 2019). As described, strong military alliances with the US also do not see particularly favorable grounds for a Hungarian stance against the US in the Huawei debate.

However, evidence demonstrate how Hungarian relations with the US have been rather inconsistent from the early 2000s. After the 9/11 attacks, a declaration from one of the Prime Minister's political allies signed the start of a diplomatic detachment between Hungary and the US. Istvan Csurka, the man in question, said that "the US deserved what it got". Regardless of Washington's requests to openly distance himself from that statement, Viktor Orbán never did so. From that moment, the Bush Administration never invited Orbán back to the White House (Matura, 2020), (Conley et al; 2018). Orban's next three Governments were characterized by a less pro-US and pro-EU and more pro-China, Russia, and Turkey foreign policy, and "US-Hungarian relations gradually deteriorated between 2010 and 2017" (Matura, 2020). In fact, President Orbán's beliefs on the geopolitical order are peculiar to his policy strategy. "He believes that the Western world has reached the limits of its dominance, and the East will dominate the future" (Matura, 2020, p.91).

When Trump got into power, however, things started to change again. If previous American presidents were criticizing Hungarian domestic policy and ideology, Trump actuated a strategy that had its aim on getting rid of Chinese and Russian influence in Hungary. He did so through new pacts on military and energy cooperation. The deals implied the Hungarian purchase of US liquified natural gas and a billion-dollar arms deal (Matura, 2020), (Szabolcs, 2019). Moreover, on April 4, 2019, the Hungarian Parliament approved a new US-Hungary defense agreement, including a legislation allowing American troops in Hungary, which constituted a

major step in strengthening the bilateral relationship. Hungary is also reacting positively to US requests to increase financial contribution to NATO (Matura, 2020), (U.S. Embassy in Hungary, 2019). Trump's efforts to restabilize US-Hungary strategic relations therefore seem to have been welcomed by the Hungarian Prime Minister, who, however, did not aim to distance himself from the Chinese side of the spectrum of the US-China trade war.

6.2 Hungarian relations with China

Hungarian President Orbán, during his second cabinet in 2010, introduced the so-called "Eastern Opening Policy", as part of his strategy to strengthen relations with Beijing as a reaction to the Great Recession. The objective of the policy was to reduce the dependency of the Hungarian economy on the West, particularly with European Union Members, through growing exchanges with the East, China in particular. Prime Minister Orbán introduced the Eastern Opening policy on September 5, 2010, when, during a meeting of the Hungarian Parliament Council in Budapest, declared that "We are a sailing under a Western flag, though an Eastern wind is blowing the world economy" (Magyari, 2010). According to Matura (2020), the main goal of increased bilateral relations with Beijing had ben economic, "boosting bilateral trade and increasing the inflow of Chinese investment to create jobs and find alternative markets and new sources of investment amidst the crisis of the Eurozone" (Matura; 2020; p. 93). However, since 2014, "it seems that the main aim of the relationship has become more political" (Matura; 2020; p. 94).

From 2012, Hungary took part of the "16+1 Cooperation". Together with other 15 Central and Eastern European countries, China adhered to cooperate with China in business and investments related to the Belt and Road Initiative. Later, in 2015, Hungary was the officially the first EU Member State to join the Belt and Road Initiative (BRI), going against EU trends trying to avoid an excessive Chinese presence in Europe. Nevertheless, in October 2018 the Hungarian Government passed a bill introducing an investment screening mechanism on the foreign acquisition of stakes in strategically sensitive sectors which, however, was more "accommodating", compared to the EU FDI screening regulation adopted in March 2019.

With regards to Hungarian commercial relations with China, in the year 2019, 6.5% of Hungarian imports generated from China, while 1.48% of Hungarian exports were directed to China (OEC, 2020c). In 2019, the major Hungarian exports to China consisted of machines, chemical products, transportation, and instruments (OEC, 2020f). On the other side, Hungarian imports from China mainly included machines, instruments, chemical products, and textiles (OEC, 2020g). How it is made visible on **Table 8** and **Table 9**, however, Hungarian trade (especially in terms of exports) still vigorously targets European partners and neighbors. Moreover, in terms of exports (which positively affect a country's GDP), Hungarian exports to the United States result higher than the ones directed to China.

Table 8: Hungarian exports by country. Year 2020 (in Billion US dollars). Source: chart made by me using data from Trading Economics (2021).

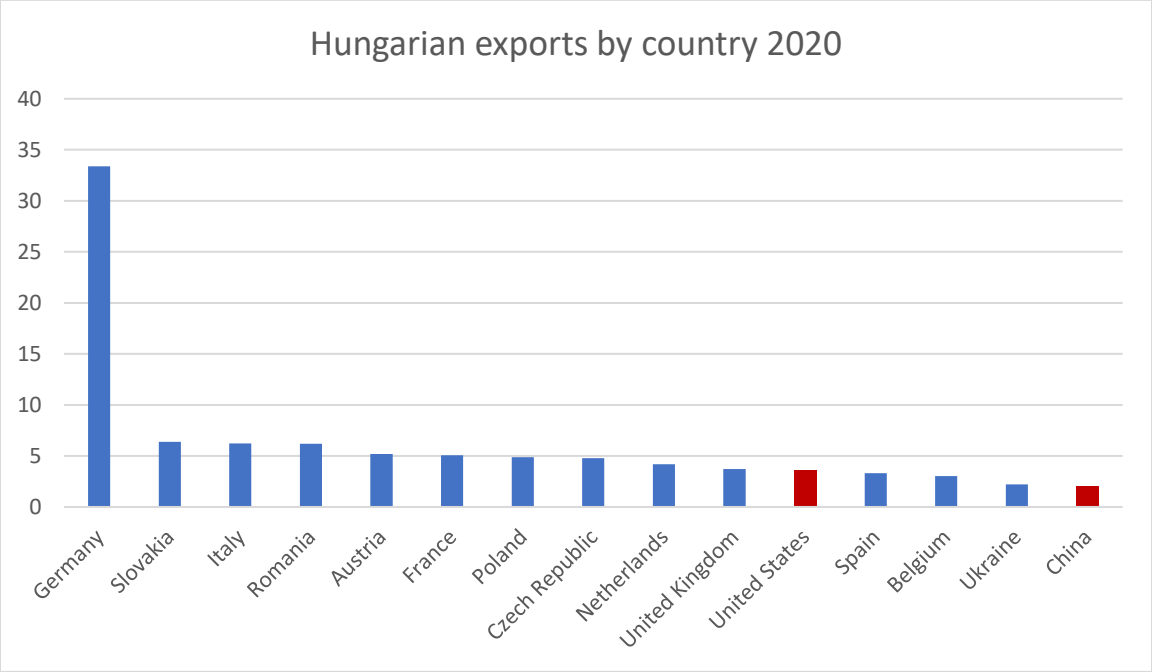
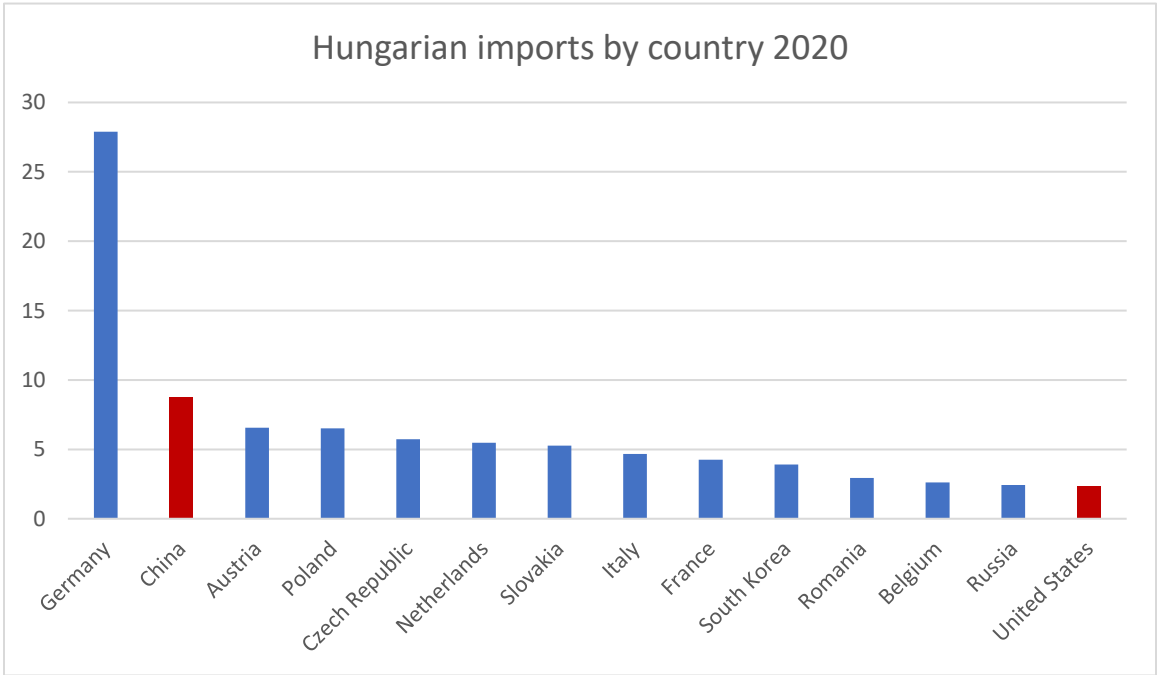


Table 9: Hungarian imports by country. Year 2020 (in Billion US dollars). Source: chart made by me with data from Trading Economics (2021).



As for Chinese investments in Hungary, which attraction was one of the priorities of the Eastern opening policy, they have typically flowed in manufacturing (assembly), and services (for example there are branches of Bank of China and Industrial Bank of China, and of Chinese law firms) (Szunomár et al; 2019). Although Chinese investments in Hungary have created jobs and contributed with Hungarian economic growth, "Chinese multinationals represent a relatively small share of total FDI stock in Hungary" (Szunomár et al; 2019). Madura (2020, p.94) asserts that despite all the efforts of the Hungarian Government, "the annual inflow of Chinese capital has been decreasing dramatically since 2010", considering the European average. Moreover, based on an insignificant change in the levels of Hungarian exports to China from 2005 to 2011, he concludes that "one of the most prominent goals of the Eastern Opening Policy, export promotion to China, has failed". Nevertheless, unlike in the case of Italy, where political parties had fundamentally contrasting views on approaches to China, Matura (2020, p.95) writes about a low politicization of Chinese-Hungarian relations, allowing "ample political space to the Government to strengthen relations with Beijing, as the criticism from both the opposition and the public focuses on the close ties between Budapest and Moscow".

Finally, according to the study made by Oxford Economics on the economic impact of Huawei in Hungary, as for the year 2019, Huawei supported the employment of 21500 people (directly employing 400 people), contributing to 0.5% of Hungary's total employment, generating 600 million euros, which translates to 0.4% of Hungary's total GDP. The Chinese company Huawei located its headquarters in Budapest in 2005, and "has made a considerable contribution to the Hungarian economy over the last five years, through its local operations and its procurement from Hungarian-based suppliers" (Oxford Economics, 2020). These data show how Huawei, prior to security risks claimed by the United States, eradicated itself in Hungary as a profitable investor. A potential Hungarian ban on Huawei would therefore lead to more than 20000 people's unemployment. This number is considerably higher than the 2000 people employed in Germany and the 800 in Italy.

6.3 Hungarian stakeholders' positions on Huawei

Péter Szijjártó, the Hungarian Foreign Minister said, on November 5, 2019, that "Huawei will cooperate with the British Vodafone and Deutsche Telekom in the rollout of 5G networks" (Szabolcs, 2020). According to Szabolcs (2020), this communication shocked telecommunication operators in Hungary, as he divulged information that was still very uncertain at the time. This is because in that moment, bid solicitation for radio frequencies had not taken place, and neither did Magyar Telekom, Vodafone or Telenor (the main telecom operators in Hungary) decide to collaborate with Huawei as a supplier. On the fact, senior managers believed that Szijjártó's statement was meant to be a political sign to China, as the Hungarian Government cannot in any way influence telecom vendors to collaborate with certain network providers (Szabolcs, 2020). Finally, on March 26, 2020, the 5G spectrum auction took place, and Magyar Telekom, Telenor and Vodafone were the companies that won the auction to operate in Hungarian 5G networks (IDATE DigiWorld, 2020). Magyar Telekom, by far the biggest telecom company in Hungary, announced in April 2020 that they will

collaborate with Ericsson (Telekom Hungary, 2020). Huawei, therefore, did not win the contract, despite earlier declarations emphasizing Huawei's advantageous products and prices. However, according to Szabolcs (2020), Telekom did not choose Ericsson because of specific security reservations for Huawei, but the American lobbying campaign had an impact on their choice. Vodafone Hungary, in an interview stated that they were not in a position to announce whether they will not collaborate with Huawei, after they announced that Vodafone UK's decision on excluding Huawei would have some effects on its Hungarian headquarters (Szabolcs, 2020). Another important Hungarian telecommunication company, Telenor, recently communicated that its tender for 5G vendors is still ongoing (Szabolcs, 2020). It is to be noted that both Telekom and Vodafone are private companies operating in Hungary, but owned by German and British entrepreneurs. Telenor, on the other hand, is partly owned by the Hungarian State, and partly owned by the Czech PPF Group[9]. It is therefore understandable why Telekom and Vodafone decided to not collaborate with Huawei, given the changes in the respective countries of origins. Huawei was highly contested in Germany, where a national screening mechanism was put into place. However, given the fact that the mechanism does not apply to German telecommunication companies operating abroad, Telekom Hungary might have opted for a safer approach. During an interview, a previous Telecom executive said that "At Telekom, decisions are made centrally, in Germany. What to do with Huawei has caused a lot of headache in Berlin" (Szabolcs, 2020). As for Vodafone Hungary, on the other hand, it is conceivable that the Huawei ban in the UK played a salient role in the refused partnership with Huawei. Intuitively, following this standpoint, Telenor's ongoing 5G tender, partly owned by the Hungarian State, still leaves space for a possible collaboration with Huawei.

6.4 The Hungarian Government's position on Huawei

Amid American pressures to shut down Huawei Technologies, and Prime Minister Viktor Orbán's established closer ties with Beijing, in November 2019 Hungarian intelligence authorities said that they "had no evidence that Huawei equipment would pose a security threat" (Reuters, 2019b). The already mentioned statement of Foreign Minister Peter Szijjarto, which was then denied by telecom companies and the development of 5G tenders, are reflective of a general confusion and indecisiveness of Huawei's role in 5G rollout in Hungary. However, it was hard to find other information (in English) on the politicization of the issue of Huawei in Hungary. This could have been initially justified by a simple lack of translated information. However, after a more in-depth research, I can conclude that Hungarian sources addressing debates on the topic of Huawei technologies representing a security threat were also short. Matura (2021, p.21) himself explains that the Huawei issue has not been particularly politicized in Hungary: "The Chinese company has been mentioned for three times only in the Hungarian Parliament since the last elections in 2018". He then adds that this is surprising "given that the Hungarian foreign minister announced the involvement of Huawei in the development of the 5G network of the country in sharp contrast to the policies of most other CEE (Central and Eastern European) countries". Moreover, Matura

[9] **PPF Group** N.V. is a Czech private international financial and investment group founded in 1991 The company resides in the Netherlands.

(2021, p.21) summarizes the small Hungarian media coverage on the issue (which consists of not more than a dozen articles) and concludes that "pro-government media outlets tend to publish less articles on the issue and their tone is neutral", and "media outlets that do not support the Government have had more articles on the matter and their message focused more on security related concerns and the arguments of the US".

As supported by the Italian and German cases, 2020, the year of the explosion of the Covid-19 pandemic, saw a general European trend on more skepticism towards the Chinese company. Szabolcs (2020) interviewed several senior telecom officials and Hungarian Government and diplomatic sources and concluded that "Huawei's position in the Hungarian market has weakened as well and now they need the support of the Hungarian Government more than ever". This statement is also supported by the Chinese telecommunications company Huawei's donation of protective equipment (face masks, protective goggles and clothing) to Budapest, and Huawei executives' meeting with foreign minister Szijjártó the same day of the equipment's arrival. "The meeting's purpose was to ask the minister personally whether the Hungarian government's attitude towards their company had changed" (Szabolcs, 2020). However, as mentioned in the previous paragraph, the Hungarian Government does not have much decisional power on telecom operator's contracts and decisions on what 5G networks providers to collaborate with. This is especially true when compared with the case of Germany and Italy, where both the Governments have actuated different mechanisms that eventually fulfill the same aim, which is, to transfer to the Governments a certain level of decisional power on the companies that will supply 5G networks, based on security assessments. In the case of Hungary, in fact, Matura (2021, p.21) writes that "the Hungarian state itself does not develop a 5G network, as it is being developed by German and British multinational telecommunication companies, thus the government cannot do anything about it". In this citation, Matura (2021) was understandably referring to the telecom operators Telekom (owned by Germans) and Vodafone (British). However, he did not mention the third telecom operator that won the auction to operate in Hungarian 5G networks, namely the Hungarian partly State-owned Telenor. Telenor Hungary's 5G tender is still ongoing, which makes it harder to draw conclusions on a possible change in the Government's attitude towards Huawei. Nevertheless, the Hungarian Government did not decide to take a more authoritative position in the issue of Huawei and is letting private companies to decide, which points itself to a more neutral taken of position. The Hungarian Government could have, for example, not considered the telecom operators' decision exclude Huawei legitimate, since the motivations are grounded on security concerns that the Hungarian Government rejected. Nevertheless, even if Telenor will decide to collaborate with Huawei, the Hungarian 5G network will not consist of technologies supplied by Huawei alone but by a mix of them, provided by multiple companies, allowing a degree of differentiation. This is, at least, a signal of a partial alignment with the EU toolbox, where it is asked to diversify 5G network suppliers to avoid long-term dependencies (NIS Cooperation Group, 2020a).

6.5 Conclusion

The Hungarian Government has not issued any ban on Huawei, and Hungarian authorities do not think that Huawei might represent a threat for national security. In fact, Hungary was one

of the few countries in Central and Eastern Europe to resist American pressure. However, the Hungarian Government did not take any concrete step on deciding on which 5G providers Hungarian telecom operators should collaborate with. In effect, unlike in Germany or Italy, the Hungarian Government has no saying on telecom companies' contracts, nor has it conferred decisional or screening powers of those deals to itself. Therefore, Hungarian telecom companies were left to take those hard decisions, ultimately aiming to benefit their business, stakeholders, and customers. In practice, two of the major telecommunication enterprises in Hungary, Telekom and Vodafone, are respective subsidiaries of Deutsche Telekom and Vodafone UK. Therefore, their 5G networks are "being developed by German and British multinational telecommunication companies" (Matura; 2021; p.21), and, given the taken of position of the two respective Governments, they decided to exclude the Chinese supplier Huawei. Nevertheless, Telenor, the third and only additional telecom company that won the 5G spectrum auction, is partly owned by the Hungarian State itself. Telenor is currently the only telecom company which 5G tender is still ongoing, which makes it harder to draw conclusions on whether the Hungarian Government has changed its idea following new European trends.

The fact that the Hungarian Government decided not to oppose to Telekom and Vodafone's decisions to exclude Huawei (since the Hungarian Government has officially denied claims of Huawei posing a security threat), however, is emblematic. The Hungarian Government did send clear messages to Beijing in favor of Huawei, denying American declarations (perhaps biased by the potentiality of trade and investments with China). At the same time, nonetheless, the desire not to take an even stronger position in the favor of China can be explained by the Hungarian wish to protect the strong economic and security cooperation with the US. This behavior would be in line with Orbán's strategy, described as designed to "appease critics in the short term while consistently pursuing his interests in the long term, attempting to foster good relations with all major members of the international community, even though these players may have diverging if not contradictory interests" (Matura; 2020; p. 91). This foreign policy strategy, which is ultimately in line with the EU Toolbox, in essence reflects intergovernmentalism theory, according to which "the impetus for Member States to integrate aims to coordinate policy responses to rising opportunities for profitable economic exchange" (Moravcsik; 1998; p.6). Even though it is still unknown whether Telenor will utilize Huawei services (which is likely given the strong pro-China political narrative and the rejected claims of Huawei posing a risk to Hungarian security), Hungary is de-facto aligning with the EU toolbox through 5G providers' differentiation and completed risk assessments. As attempted to explain in the analysis of the Hungarian case, Hungarian utility-maximization is better reached through a neutral stance. Even if President Orbán sees cooperation with China profitable in the long term; trade, investment relations and security cooperation with the US persist to be advantageous for Hungary. The neutral essence of the EU Toolbox itself is the ultimate justification of Hungarian alignment.

7.0 Analysis

This chapter will serve as an attempt to summarize my findings and answer the question: "*What are the differences and similarities between the approaches of Germany, Italy, and Hungary on Huawei as a 5G provider, and what can explain their insurgence?"*

First, it is necessary to state whether these "approaches" are concrete and solidified, given the relatively recent European politicization of the issue. In the case of Germany, for example, the approach to Huawei as a 5G provider is defined by the yet-to-be-approved second draft of the German Security IT act 2.0, which has been a work in progress for about two years. Nevertheless, this amendment is believed to be the last one before the Act will be officially passed (Meßmer, 2021). The Italian approach, instead, is better established, through the expansion of the Golden power to 5G telecommunications in March 2019 (Governo Italiano, 2019b), which was already put into practice one time, when the Italian Government decided to deny 5G deals between Huawei and telecom provider Fastweb (Fonte et al; 2020). As for the Hungarian case, there is currently no official approach towards Huawei. A Hungarian approach can, however, be assumed through the evidence shown by customary practices, which consist of two out of three 5G telecom operators' independent decisions on avoiding contract stipulations with Huawei. Yet, the third one, Telenor, partly owned by the Hungarian State, has not taken a decision up to now. Sources affirm that Telenor's decision could be affected by the developments in the German approach.

Secondly, the comparison between the content of these "approaches" allows to draw similarities and differences. The German and Italian approaches share the choice on the decisional and risk assessment authority on the matter. Both the countries decided to attribute the decision on whether to allow Huawei as a 5G network provider, to the respective Governments. Germany, with the last amendment of the German IT Security Act 2.0, established a technical assessment mechanism for telecom vendors, followed by the requirement for the vendor to declare that its components will not be used for sabotage or espionage. After the vendor registers, the ministries will have to allow or decline the company's participation in 5G rollout. Notably, a vendor can only be excluded by unanimity. Similarly, Italy, through the Golden Power rule, can perform background checks on 5G supply deals between Italian telecom operators and foreign providers, and can reject deals if risk associated with the suppliers are found. However, while the German approach makes it harder, in practice, to exclude Huawei (as unanimity is very hard to reach on such a debated topic), the Italian procedure considers the identification of risks to be a sufficient clause for Huawei to be declined. In fact, its rejection has already been established in the context of the deal between Huawei and the telecom provider Fastweb (Fonte et al; 2020). Alternatively, the Government holds no such power in Hungary. Hungarian authorities deny that Huawei might represent a threat for national security. This lack of a Government-established risk assessment led to Hungarian telecom operator companies to autonomously pick the safest 5G network suppliers to stipulate contracts with.

Thirdly, differences and similarities in the three countries' relations with the US and China, and in stakeholders' stances on Huawei, allow to provide explanations on why similarities and differences occur in their National approaches. More specifically, what is intended to be demonstrated, testing intergovernmentalism, is the countries' attitude towards European cooperation on the matter, based on their assessment of costs and benefits. As it was

explained in the theoretical framework, the issue of Huawei touches on both economic and security policy areas. EU Member States are willing to cooperate if cooperation will lead to an increase of utility. When considering the economic sphere, the already established position of Huawei on the market needs to be considered, together with implications of economic gains and losses derived from changes in trade with the US and China. On the other hand, in the security policy sphere, Member States are traditionally less inclined towards EU integration, and more in line with NATO and American military alliances.

Looking at the three countries' relations with the US, all the three States have profitable trade relations with the US, and in all three cases, exports to the United States exceed imports from the United States, generating trade surpluses. Similarly, in all the three countries, trade relations with the US have been growing in the past ten years. Between the three countries, the United States have the strongest commercial relations with Germany, as it is the most important trading partner for the US. The United States are also the German number one partner in terms of exports. Italy also has strong trade relations with the US, and the US are, for Italy, the third partner in terms of exports. Compared to Germany and Italy, Hungarian trade relations with the United States are weaker, as the United States are Hungary's eleventh export receiver. The United States actuated pressing lobbying strategies against the Chinese company Huawei in all the three countries. It was easier to find accessible information on the American lobbying attempts in Germany than in Hungary (the United States could have put more effort into lobbying Germany, compared to Italy and Hungary, because they assumed that the other EU countries would follow the German approach), and even more so compared to Italy. Nevertheless, evidence has been found on American warnings to Germany and Hungary, threatening to limit intelligence sharing if the two countries had to use Huawei in their 5G rollout. These findings might predict a strong willingness (especially of Germany and Italy) to not take decisions on Huawei that could harm economic relations with the US. However, other aspects need to be addressed.

Proceeding with trade relations with China, it has been noticed that in all the three countries' cases, China always scored lower than the US in ranking exports; and always scored higher than the US in imports rankings. This results in the three countries' trade deficits with China. Moreover, confirming the prior trend, data showed how exports with China weight considerably more in Germany than in the other two states, as China is the second recipient of German exports. It is followed by Italy, with China as the nineth recipient of Italian exports and, finally, China is the fifteenth recipient of Hungarian exports. However, before concluding that economic relations are not that strong compared to the US and deducing alignment (especially in Germany and Italy) with the US in the Huawei issue, many other factors have to be considered, including the three Governments' China policy started to change and match European concerns on increased Chinese investments in sensitive sectors. For Germany, China is a systemic competitor in industrial competition. Italy, on the other hand, saw China as a potential huge market.

Even though Germany maintains the strongest trade relations with China between Italy and Hungary, the German attitude towards China market for "Made in Italy" products, and initially went against European protectionist trends through the signing of the MoU on the BRI and closer cooperation with China. However, after changes in the Government coalitions, Italy started to embrace the EU stricter screening mechanisms requests on Chinese investments,

and through the Golden Power rule, put in practice a partial exclusion of Huawei on Italian 5G networks. Finally, the Hungarian Government was as welcoming of Chinese stronger economic cooperation as Italy was, with the difference that Hungary's strong pro-China foreign policy was even more emphasized in the Hungarian political agenda, and barely contested. To counteract the American lobbying strategy against Huawei, evidence (again, more accessible on the German case) have been provided on how China was ready to enact embargo on German cars exported to China in the case of a ban on Huawei; and how Huawei Italy insisted on reminding the Italian Government of the increasing costs that the elimination of 4G components already in use would generate. Moreover, Huawei is already well-established in all the three countries, directly employing circa 2000 workers in Germany, 800 in Italy and 400 in Hungary. These considerations would suggest that both Germany and Italy, because of their slightly protectionist turns towards China and Chinese investments, could have proceeded with a ban (or a partial ban) on Huawei. While this could be considered true, the Italian approach resulted stricter to Huawei, compared to the German one.

The opinions of stakeholders in Germany, Italy and Hungary inevitably contributed to the respective countries' approaches towards Huawei. The major telecommunication enterprises in both Germany and Italy already made considerable use of Huawei equipment, and because of unbearable replacement costs, expressed their position against a ban on Huawei, autonomously implementing a diversification of 5G networks suppliers. Similarly, the federation of German industries and the Italian telecommunication industry federation both opposed to a ban on Huawei stressing the unpracticality of it, calling for a better awareness on costs increases and recalling possible impacts of Chinese countermeasures. On the other hand, the Hungarian 5G spectrum action took place later than in Germany and Italy, and two of the main telecommunication enterprises, in 2020, decided to exclude Huawei reflecting the stricter approaches taken by Germany and the UK. The third Hungarian telecom operator's 5G tender is still ongoing. Differences in the timings of 5G developments implementation must be taken into consideration.

Importantly, the position of intelligence authorities in Germany differed from the ones taken from Italian and Hungarian intelligence service agencies. German intelligence, in fact, has been warning on the possibilities of Huawei cyber industrial espionage for more than 10 years. Conversely, both the Italian and Hungarian intelligence authorities did not find any evidence of malicious cyber activity of the Chinese State through Huawei. Nevertheless, another German institution, the Federal office for IT security, declared to not have found any backdoor of Huawei products.

So far, the evidence presented does not strongly explain the fact that Italy took a stricter approach against Huawei, compared to Germany. Justifications on security grounds need to be addressed. As previously assumed, all the three countries have rather strong ties with the United States. German officials officially claim that, alongside European integration, the transatlantic partnership is the most important pillar of German foreign policy. However, evidence show how US-Germany transatlantic relations gradually deteriorated in the 2000s, mainly due to the low German military international presence. Given the unwillingness of the German Government to intervene in military operations in cooperation with the United States, Germany has attempted to construct and push for a European defense and security policy, as an alternative to the military dependency on the US. Instead, Italy is still one of the most

loyal and committed American partner in terms of security and military cooperation, and its reliance to the US is not open to doubt. Although firming concluding so might be extremely limiting, these differences on security matters might have played a distinctive role in shaping the two slightly different approaches to Huawei. At the same time, Hungary considers the US as the most important strategic partner and ally alongside the European Union and regards the transatlantic cooperation vital for European security. Although Hungarian diplomatic relations with the US experienced downturns during the Bush and Obama administration, during the Trump administration the transatlantic relations were restabilized, and even a new defense Hungary-US agreement was stipulated in 2019. This gradual improvement in Hungary-US security alliances might explain why, given the strong pro-China foreign policy actuated by Prime Minister Orbán, Hungary did not oppose to the telecom enterprises' decision to not collaborate with Huawei on security grounds.

Consequently, all the three countries' approaches to Huawei are the result of complex considerations accounting for several inputs stemming from economic and security implications. While it would be limiting to conclude that the aspects that I have presented are sufficient to explain the Governments' different stances towards Huawei, it is safe to assert that my findings support all the three countries' eagerness to take a position that allows them to maximize their utilities, by not taking a decisive position on the US-China trade war. Which ever side of the trade war they would take, they would experience costs and losses.

Although the three Governments opted for different approaches, their outcomes produced a similar degree of alignment with the recommendations posed by the EU Toolbox. The way the EU toolbox was formulated left space to European Member States to assess Huawei's risks, at the same time providing a European neutral response able to balance both sides of the US-China trade war. This "European neutral response" is to be found on 5G providers' differentiation. As supported by evidence addressed through the case studies chapters, all the three countries have implemented strategies that allow for a reduction of technology dependency on Chinese 5G vendors, through diversification of the supply chain. Although the EU aims at a stronger EU cooperation on Huawei and 5G cybersecurity, the EU Toolbox presents a European less ambitious approach that provides EU Member States with a "safe" solution to the issue of Huawei in the context of a US-China trade war.

8.0 Conclusion of the thesis

This research aimed at comparing the German, Italian and Hungarian strategies to Huawei as a 5G provider vis-à-vis the US-China trade war. The comparison has been executed to test intergovernmentalism as a theory of European integration, aiming to justify the three countries' degrees of alignment with the EU toolbox.

The conclusions reached from answering the three sub-research questions finally allow to draw a response to the main research question, namely:

"Does Huawei pose an obstacle to a secure and unified European approach to 5G?"

Firstly, Chapter 3 provided the answers to the first and second sub-research questions. To the question "*What is the European strategy for 5G deployment?",* an analysis of the 2016 "5G Action Plan" summarized the 7 key actions that the EU set for a timely and coordinated deployment of 5G networks in Europe. However, it has been highlighted that the Action Plan focused on infrastructure connectivity, without touching on cybersecurity risks that some network providers could entail. A more in-depth study on EU official documents and communications clarified the EU position towards Huawei, responding to the second sub-research question: *"What concerns does the EU identify on Huawei as a 5G provider and how does the EU plan to contrast them?"*. A resolution of the European Parliament raised deep concerns on security implications of Chinese 5G network providers followed by the emergence of divergent national decisions on Chinese vendors, which would be detrimental to the digital single market. Moreover, other official EU documents permitted to conclude that the EU ultimately aims for a common coordinated European approach to Huawei as a 5G provider. However, there is a lack of a clear EU position of responsibility on a possible ban of Huawei in EU Member States. The only document that presents concrete strategic measures to be taken across EU Member States is the EU Toolbox. In the document it is asked to Member States to assess risks linked to party suppliers, recommending the exclusion of high-risk suppliers from network core functions; and to diversify 5G network suppliers to avoid long-term dependencies.

Secondly, Chapters 4,5 ad 6 presented the German, Italian and Hungarian strategies to Huawei as a 5G networks supplier and provided the foundation to answer the last sub-research question, which is "*What are the differences and similarities between the approaches of Germany, Italy and Hungary on Huawei as a 5G provider, and what can explain their insurgence?".* The analysis encompassed the countries' relations with both the US and China from economic, political and security perspectives. It also included a study on stakeholders' declarations on the issue of Huawei and finally presented the developments of the Governments' approaches to Huawei. Moreover, through an economic and security approach, each chapter tested the theory of intergovernmentalism to explain the countries' eventual alignment with the EU Toolbox. The economic and security-based approach was chosen to evaluate the different countries' interests in the Huawei issue amid the US-China trade war. The evaluation was executed following the intergovernmental principle according to which EU Member States would cooperate on a certain issue or policy area only if the States individually consider coordination to be profitable on welfare and economic grounds.

The analysis of the countries' case studies permits to conclude that all the three countries aligned their strategies to the EU Toolbox, therefore assessing 5G vendors' security risks and

diversify the supply chain. Germany, through the last draft of the German Security IT act 2.0 (which has not been approved yet, but sources claim that it most likely will), established a mechanism under which the German Government needs to decide on a telecom vendor's participation in 5G rollout based on a previously carried out technical assessment. To completely ban a telecom supplier, the German Government would have to unanimously agree on that supplier posing risks to national security. Similarly, the Italian Government, through the "Golden Power", is enabled to perform background checks on 5G supply deals between Italian telecom operators and foreign providers and can reject deals if risks associated with the suppliers are found. Notably, the two approaches differ in their proposition. In the German case, in fact, it would be more difficult to reject Huawei deals, compared to the Italian strategy, which has already put into practice with the rejection of one deal. On the other hand, in the case of Hungary, the Government cannot reject deals between telecom operators and suppliers. However, the Government has declared that the risk assessment of Huawei services has concluded that the Chinese company does not present any risk related to national security.

On diversification of 5G network suppliers, in the case of Germany, all the main telecom enterprises have independently decided to diversify suppliers of 5G networks equipment. This was enacted regardless of politics, on security and cost efficiency grounds. Huawei has therefore been included in 5G rollout, but not in its sensitive 5G network. In the case of Italy, instead, the Golden Power rule itself imposed 5G vendors' differentiation. It has been noted how the Golden Power rule was activated before the publication of the EU Toolbox, therefore preceding the EU request. In fact, in the later EU report on Member States' progress in implementing the Toolbox, the Italian approach is mentioned and posed as an "illustrative example" three times, including on the imposition of 5G providers' differentiation. The case of Hungary resembles the German one on differentiation, as two (out of three) telecom providers autonomously decided to diversify 5G suppliers, excluding Huawei. The motivations, however, differ from the ones used by German telecom operators. The Hungarian 5G development occurred later than the German one, and the two main telecom enterprises in Hungary (Telekom and Vodafone) are subsidiaries of Telekom Germany and Vodafone UK. They decided to not deploy Huawei as a consequence to the highly politicized debates in the respective countries. Nevertheless, the third telecom enterprise that won the 5G spectrum auction, Telenor, is partly owned by the Hungarian Government, but still to this day has not established whether it will deploy Huawei in parts of its 5G networks. Nonetheless, even if Telenor will, the Hungarian 5G network will not be entirely dependent on Huawei. Therefore, ultimately, the three Member States do align with the EU toolbox.

Addressing the main research question, *"Does Huawei pose an obstacle to a secure and unified European approach to 5G?",* this study claims that yes, Huawei does pose an obstacle to a secure and unified European approach to 5G. Concrete concerns with Chinese 5G vendors have been identified at EU level, and the study of the tree chosen EU Member States' cases discrepancies in the countries' security risk assessments of the Chinese company Huawei. While Germany and Italy agree with the security risk concerns identified at EU level, the Hungarian Government has rejected them. The fact that the Huawei dilemma translated into a geopolitical discourse has contributed to the differentiation in the three countries' approaches.

However, the study of the selected EU Member States demonstrates that the EU has successfully proposed and implemented a tool (box) that, at least, limits risks to European security. Diversification of 5G suppliers permits to avoid any major dependency on single suppliers considered to be high risk.

Moreover, although EU documents specifically mention that the goal of the EU is to coordinate National approaches to Huawei, this research claims that the EU Toolbox represents the maximum degree of EU cooperation that can be expected to be achieved on the matter. This is explained by the application of the theory of intergovernmentalism, which successfully justified the three Member States' alignment to the EU Toolbox on economic and security grounds. The main reason why all the three countries followed the requests of the EU Toolbox is because it benefits the States (both on economic and security grounds), providing a well-balanced solution to the international pressure to take a stance in the US-China trade war. According to the research, the analysis of the three chosen EU Member States provides sufficient evidence to claim that EU Member States would not cooperate if the "European approach" would imply a conclusive decision on a ban on Huawei.

Intergovernmentalism as a theory of European integration also asserts that European Member States would not be likely to cooperate on "high politics", which encompasses matters of national security. This is because intelligence and security alliances with NATO and the United States have always been so strong to discourage a concrete European alliance on security. The highest form of European cooperation on security is represented by the Common Security and Defense Policy (CSDO), which ultimately is a function of intergovernmentalism, based on consensual Member States' decision-making and voluntary participation of member states in security operations. I conclude that the EU Toolbox is itself a function of intergovernmentalism and is in line with a traditional European approach to Security and defense. The EU Toolbox leaves to Member States to decide on whether certain 5G providers, including Huawei, can be considered risky and should be banned. This European approach is, in fact, rooted on a tradition of low level of vertical integration on security matters.

Finally, the EU Toolbox provides an excellent EU response to the Huawei dilemma, because it was formulated in a way to provide a European neutral response to the US-China trade war so to achieve the maximum level of Member States' consensus. Moreover, without excessively intervening on matters of National sovereignty, the EU Toolbox reduces the exponentiality of security risks through diversification of 5G network suppliers.

Limitations

This study has potential limitations. Researching on such a complex theme required to select variables. More specifically, although the chosen countries allow to draw conclusions on their alignment to the EU Toolbox, the selection of three EU Member States does not depict a full picture of how European Member States approached the issue of Huawei and how EU Member States aligned to the EU Toolbox. The expansion of the study to other EU Member States would provide further material to reject or validate my findings. Secondly, the research is limited to the Chinese 5G provider Huawei. Although EU and National legislation and general directions majorly apply to extra-EU 5G suppliers (or, in some case, specifically to Chinese 5G suppliers), a shift of focus to the other Chinese 5G supplier, ZTE, could present variations to my findings. Thirdly, on the assessment of the American and Chinese economic impact on the three countries' economies, this study has mainly focused on trade and practical costs and losses. However, other variables could have been selected to expand the query. Most notably, it resulted hard to find reliable data on American and Chinese FDI in the three countries, especially in the case of Hungary. The unbalance of reliable data can be detrimental to a comparative study.

Moreover, limitations related to the current development of 5G strategies point to the need for further updated studies. In the research on the German approach to Huawei as a 5G provider, for example, the study relies on sources stating that there is a high probability that the second draft of the German IT Security Act 2.0 will be soon approved. At the time of the writing of this research, there are no updates on further developments. Similarly, the Hungarian Telenor's 5G tender, at the time of the writing of this thesis, is still ongoing. Given the lack of public information on Hungarian political discussions on Huawei, Telenor's choice on 5G suppliers is pivotal to assess a Hungarian potential change of direction on the Huawei issue. Moreover, even though the new American presidency will not, most likely, considerably change the nature of current US-China relations, relations with the three EU Member States' Government might be remodeled. This aspect is particularly relevant given the Hungarian extraordinary sympathy for previous US President Donald Trump.

Finally, further limitations are posed by the scarcity of information available on both the American and Chinese (and Huawei's) lobbying strategies performed in the three countries chosen. Information was peculiarly short in the cases of Italy and Hungary, compared to Germany. Moreover, information was in short supply on Hungarian political debates on the issue of Huawei, and reliability of the sources needs to be questioned, since media outlets that published more articles on the matter are undisguisably not supportive of the Fourth Orbán Government.

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