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Understanding Political and Economic drivers of Chinese FDI into the European Union.

New evidence from a mixed-method approach combining aggregate and firm-level data

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ABSTRACT

The breakneck economic development of the Chinese People's Republic since the 1990s has lifted hundreds of millions of people from poverty domestically and expanded consumer choice and welfare across the world. At the same time, this increase in global influence has reinforced concerns about the role of Chinese state ideology in international investment decisions, leading to calls from across the western world for limits on Chinese investments. As these sentiments are often based on anecdotal evidence of supposed state interference, this research aims to identify the economic, technological, and political drivers of Chinese foreign direct investment in the European Union. Using a mixed-method approach combining pooled ordinary least squares on macroeconomic data from the Chinese Bureau of Statistics and negative binomial regression on firm-level data from Orbis' industry-leading database I find that Chinese FDI in Europe is positively related to political instability and that there are significant differences in investment behaviour across European regions.

Overall the findings in this study confirm prior observations of Chinese FDI in relation to major extant theories on FDI, with strategic asset seeking, market seeking and efficiency-seeking motives proving to be the most powerful in explaining Chinese FDI into the European Union. However, Chinese investors also seem particularly driven by political factors which enable them to more easily navigate or influence the local market, as can be discerned from the positive influence higher levels of corruption and lower levels of political stability have on Chinese FDI.

Keywords: Chinese FDI, Chinese influence in the EU, political drivers of FDI, EU-China relations, Chinese investment, Political determinants of FDI.

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1 INTRODUCTION

There are multiple ways of assessing foreign direct investment flows into a country. As access to granular data is often very limited, most foreign direct investment research has focussed on the analysis of aggregated investment data collected and made available by (inter)national statistics bureau's. In recent years the general increase in information availability has led to the advent of a number of databases collecting increasingly detailed company-level information on transnational investment flows. In this research, aggregate and granular data will be combined to analyse the extent to which Chinese Foreign Direct Investment into the EU is driven by economic, political and technological factors.

This question has become relevant as the People's Republic of China (PRC) has over the course of a few short decades of institutional and economic reform become an important economic and political player. Through record-breaking growth it has lifted hundreds of millions out of poverty and become the world's second-largest economy in terms of nominal gross domestic product (GDP), just behind the United States. This stunning development is most striking in per capita GDP development, which has grown more than tenfold, going from approximately 730 USD in 1990 (at constant 2010 USD) to over 8240 USD in 2019 (World Bank, 2021). This development has allowed the country to evolve from purely playing host to Forseign Direct Investment (FDI), to a major international investor in its own right. According to official statistics released by the Ministry of Commerce of the PRC and the United Nations Conference on Trade and Development, the country has become the third-largest investor in the world, after the United States and the Netherlands.

Over the course of China's development, its patterns and priorities of domestic and international investment have changed. Growing imbalances related to the position of China in global value chains (GVCs) in the early 2000s resulting from "twin surpluses" in both the current account and capital account led the government to target a more sustainable growth model, with a focus on domestic consumption, innovation, services and the export of products higher up the value chain (Lemoine, 2013). This development has picked up pace in the aftermath of the great financial crisis, as China's economic risks due to its reliance on foreign export markets became salient. As such, the 13th five-year plan of the PRC, spanning the period 2016 to 2020, emphasizes innovation-driven development. This development is meant to be achieved through a shift to higher value-added manufacturing and the strengthening of state-owned enterprises. Meanwhile the Belt and Road Initiative remains prominent, driving investment in infrastructure, transport and logistics abroad (Kennedy & Johnson, 2016).

The gradual shift from an export-based lower-income country towards an innovation-driven, middle to higher-income economy has resulted in a substantial shift in investment streams to and from China. While relatively recent, Chinese investments into the European Union (EU) have increased in salience, as concerns regarding Chinese involvement in critical infrastructure and technological development

have heightened. As one of the largest investors in the world, it is important to understand the influence these investments exert, moving beyond framing and focussing on the fundamentals.

As Hanemann & Huotari (2015) point out, Chinese investments have a large economic impact on the EU in general, both positive and negative. As shown by Hung (2016), positive effects take the form of liquidity injections into stagnating Southern-European economies, job creation and preservation through mergers and acquisitions, and promotion of economic growth through the development of new infrastructure. However, the potential for negative impacts is just as significant, with increased Chinese influence on the economy and politics as a major concern. Recent examples include Portugal's initial reluctance to support the EU's requirement for certain FDI screening procedures and Greece's blocking of a joint EU statement at the UN Human Rights Council (UNHRC) condemning China's human rights violations[1]. Furthermore, international competition for technological supremacy in areas of strategic and military applications, such as Artificial Intelligence (AI), robotics, quantum computing, and biotechnology, turn Chinese takeovers in these sectors into threats to national security (Le Corre, 2019). These examples show the relevance of understanding Chinese FDI in Europe, and the impact it has on the Union and its members.

2 LITERATURE REVIEW – CHINESE FDI IN EUROPE

Why companies choose to invest in foreign markets has been a subject of extensive research for a long time, with Foreign Direct Investment (FDI) being among the most researched field in international management and economics. As such, there is a large amount of available literature, and the presence of literature that evaluates the impact of FDI on host countries is fairly substantial (e.g., Anwar & Nguyen, 2011; Drogendijk & Blomkvist, 2013; Bhasin & Paul, 2016; Paul & Singh, 2017). In recent times outward foreign direct investment (OFDI) has attracted increasing attention among researchers and policymakers, especially in connection to OFDI from emerging markets such as Brazil, Russia, India and China (Gaffney, Kedia, & Clampit, 2013; Hattari & Rajan, 2010). In the wake of this growth in outgoing FDI from emerging markets, a new body of literature has sprung up to explain it.

2.1 Foreign Direct Investment and Portfolio Investment

FDI is a category of cross-border investment made by an entity in one economy with the objective of establishing a lasting interest in an enterprise that is resident in another economy. The motivations can be multiple but are traditionally assumed to be an interest in establishing a significant degree of influence by the investor in the operation of the subject of the direct investment. Direct investment may also allow

[1] A relatively large exposure to Chinese FDI in Portugal and Greece provides China with a credible punishment mechanism: a withdrawal of funding would incur significant damage to their respective economies. Blocking these statements results from maximising utility following a strategy akin to estimating the subgame perfect equilibrium. While backward induction is not possible due to imperfect information, a reduction in funding in response to an action running counter to China's interests is seen by Portugal and Greece as a credible threat.

the investor to gain access to the economy of the subject of the investment, something which it might otherwise not be able to do. The objectives of direct investment are different from those of portfolio investment as these investors generally are not expected to influence the management of the enterprise (Nayak & Choudhury, 2014).

There are two main types of FDI according to Nayak & Choudhury (2014). These are:

A Merger and Acquisition (M&A) is the purchase of an existing entity with a stake greater than 10%. This type of investment is a way to quickly gain access to intellectual property, distribution networks, technology, consumers and brand image.

A Greenfield investment is the establishment of a subsidiary in another economy from the ground up.

2.2 The conventional understanding of Foreign Direct Investment

Conventional theories of foreign direct investments have usually been developed based on evidence from companies that originated in developed countries. These generally focus on transaction costs, first-mover advantages, hard competition, barriers to entry, and the existence of a sustainable competitive advantage. A good overview of the theoretical studies on the economic mechanisms of FDI originating in developed countries has been provided by Denisia (2010).

One of the primary theories on firm internationalization is the eclectic paradigm or OLI framework. This theory, developed by Dunning (1980), proposes that three factors determine firms' FDI decisions: ownership advantage, location advantage, and internalization advantage. Ownership and internalization advantages are characteristics of the companies themselves, with ownership advantages related to better intrinsic resources or capabilities and internalization advantages meaning a culture of keeping activities in-house rather than outsourcing them. Location advantage, on the other hand, refers to conditions related to home and host countries, such as the size of the economy, the availability of natural resources, or labour. According to this paradigm, companies are likely to invest abroad if both the advantages offered by the host country and internalization are high.

Most relevant are the motives behind FDI, a discussion of which would be incomplete without Dunning (2015), according to whom there are four motives for FDI: market-seeking FDI, natural resource-seeking, efficiency-seeking FDI and strategic-asset seeking FDI.

Market-Seeking FDI

The objective of market-seeking FDI is to gain access to foreign markets. Within the literature, a distinction is made between defensive and offensive market seeking FDI. Offensive market-seeking FDI comes from opportunistic behaviour seeking to capitalize on attractive opportunities abroad to develop new markets and achieve company growth. This also includes investments focused on supporting trade, to facilitate imports or exports to third markets. Defensive market seeking FDI on the other hand

includes import-substituting investments and behaviour aimed at evading trade barriers (Dunning, 2002).

Strategic asset-seeking FDI

Strategic assets seeking FDI has the objective to acquire intellectual capabilities. this ranges from proprietary advanced technologies, technical expertise, manufacturing expertise, and managerial expertise, to brands, intellectual property and R&D infrastructure. access to these strategic resources can be gained through various methods, varying from strategically placing subsidiaries close to knowledge and production clusters in foreign markets to the acquisition of a company in order to obtain all its assets and resources at once (Dunning, 2002).

Efficiency-seeking FDI

Efficiency seeking foreign direct investment is based on transaction costs and takes advantage of different factor endowments to streamline a company's activities. By rationalizing business activities through common management of and synergy-building among operations in different markets efficiency-seeking FDI seeks to take advantage of economies of scale and scope, and differences in cost of factor endowments (Dunning, 2002).

Natural resource-seeking FDI

Natural resource seeking FDI is motivated by the designer to acquire specific natural resources that are not available in the home market or can be obtained at lower costs abroad.

2.3 Foreign direct investment theories related to emerging markets

Given the substantially different nature of developing economies, it has been argued that conventional theories of foreign direct investments cannot properly explain FDI flows from emerging markets into developed economies. Consequently, a new body of literature has sprung up analyzing the behaviour of emerging multinational enterprises (EMNEs). These theories stress the importance of institutional, intellectual and network factors in determining a company's foreign activities (Feliciano-Cestero & Paul, 2021).

Latecomer theory

One of the most prevalent approaches in the literature is that of the latecomer theory, most recently formulated by Mathews (2002). This theory explains how companies from developing countries can compete with western firms despite initially lacking competitive advantages. Initially, firms from developing countries are set to be resource-poor although they do possess competitive advantages related to their home country environment. These advantages are mostly related to cost, flexibility, and a knowledge-driven business model, and are dependent on a company’s home market (Buckley et al, 2008).

An important characteristic of these firms is that they strive to overcome their competitive disadvantage through joint ventures with advanced companies. These partnerships allow companies from developing countries to increase their expertise and overcome information asymmetries with regard to regulations, governmental policies, market opportunities, and consumer preferences. This tends to be true in particular for knowledge-intensive high technology industries, as necessary expertise might not be available in the home market. From this theoretical perspective, the internationalization of latecomer firms is seen as a means rather than an end to international success. Furthermore, FDI by EMNEs has also been postulated to be driven by a desire to improve competitiveness in the home market rather than internationally (Torres Oliveira et al, 2017).

There are several ways in which latecomer firms can gain access to strategic resources through foreign direct investment. Firstly, the acquisition of a company can provide a foreign firm with quick access to a developed knowledge base and allow it to overcome constraints on internal research and development. this is seen as a strategic motivation for foreign direct investment. An alternative strategy for gaining access to technology is by establishing greenfield investments in the vicinity of technology hubs, which can gain information and attract skilled personnel to help develop sought after resources in-house. Contrary to traditional conceptions of foreign direct investment, latecomer firms target resources belonging to incumbent firms that are transferable and imitable instead of seeking competitive advantage. This strategy benefits latecomer firms by allowing them to derive advantages from incumbent firms' resources and combining advanced technologies with a lower cost base. It also allows them to leapfrog necessary research and development (Mathews, 2002).

Government stewardship theory

Aside from perspectives driven purely by strategic incentives at the firm level, a body of literature also exists on the importance of institutions for emerging market company success. The governmental steward logic finds that government institutions often have an outsized influence on the strategic decision-making process of domestic firms. This influence is twofold and happens through administrative control as well as more indirectly through policymaking and corporate-governmental ties. As such companies do not make completely independent decisions based on capitalist incentives, but rather are sensitive to a country's political agenda (Knoerich, 2012).

2.4 Implications of FDI theories on Chinese FDI in the EU

Having reviewed the most relevant traditional and emerging FDI perspectives, it has become clear that there are numerous potential reasons for Chinese firms to invest in the European Union. These may range from traditional drivers of FDI first theorized from the perspective of developed countries to more strategic behaviour resulting from developing economies' companies attempt at gaining knowledge and expertise in the broadest sense of the word. However, while incentives for individual companies may be explained relatively well by Dunning's 2015 OLI framework, and while the success of these companies,

despite challenges to international competitiveness, as traditionally framed can be understood from the perspective of latecomer theory the influence of the Chinese government should not be ignored. It is here where government stewardship theory comes in.

Although China's stance on foreign direct investment has changed and become more open over the past three decades, the institutional framework is still very much regulated by the state. The government remains in firm control regarding the approval of investment projects at many levels meaning Chinese outgoing foreign direct investments cannot be understood without an analysis of the Chinese government's strategic priorities (Alon et al, 2018).

2.5 Political determinants of FDI

Understanding the Chinese government's strategic priorities in FDI decisions requires understanding which institutional and political factors may have a direct influence on FDI. In general, literature on political and institutional determinants of FDI suggests that good economic governance, effective Rule of Law, quality of regulatory institutions, low levels of corruption, intellectual property rights, and Government Effectiveness are positive indicators for FDI inflow (Subramanian & Trebbi, 2004; Oliva & Rivera-Batiz, 2002; Kaufmann, Kraay & Mastruzzi, 2005). As Busse and Hefeker (2007) point out, these indicators are of importance due to their predicting value for government stability.

However, this evidence mostly arises from studies investigating political determinants of FDI flowing from developed countries to developing economies. Results from studies examining the role of institutional and political factors for FDI originating in developing countries indicates that investment flows are oriented towards countries with superior institutions and technological capabilities with the express aim of acquiring new technologies, brands and intellectual property (Aleksynska & Havrylchyk, 2013).

While these results closely mirror prior research conducted on FDI flows originating from developed countries, there are drivers which seem to be specific to FDI from developing countries. As Cuervo-Cazurra (2007) points out, investors that have previous experience with weak institutions may have a comparative advantage in dealing with investment climates that similarly suffer from ineffective Rule of Law, corruption, and political instability. Their exposure to conditions that would normally deter investment gives them a competitive advantage.

Furthermore, a comparison of the political drivers of FDI originating from developed and developing economies shows that the importance of the control of corruption, government effectiveness and stability, regulatory quality and rule of law is larger for FDI directed towards developed countries than to developing countries (Sabir, Rafique & Abbas, 2019). However, evidence on the extent to which FDI originating from developing countries differs from FDI originating from developed countries remains ambiguous.

2.6 Empirics of Chinese outward FDI

While evidence for differences between FDI originating from developing instead of developed economies remains ambiguous, there is evidence of divergence from the theoretical mean by Chinese investors specifically. In a study of Chinese OFDI, Buckley et al. (2007) show that Chinese firms are more prone to invest in markets with higher political risk, even after controlling for the rate of return. The authors speculate that this behaviour is led by state-owned firms that do not maximise profits and that Chinese investors are less risk-averse than Western investors due to a better ability to mitigate the risk associated with operating in risky political environments. They also suggest that this advantage is likely to continue as the Chinese government and its agencies are expected to continue providing political, financial and other support.

Research into Chinese FDI directed towards the European Union has, until recently, been scarce. The literature identifies several stages in the development of Chinese outgoing foreign direct investment. The first stage is said to have started in 1979 during the time of the "open-door policy". Initially, foreign adventures were only permitted on a very limited scale and only by state-owned enterprises. However, this completely changed in 1992 when the Chinese government instigated the "Go Global" policy, which led to a significant increase in its outgoing foreign direct investment. One of the official goals of this policy wants to make Chinese firms competitive on the global stage and to facilitate the rise of China as a global economy. Since then administrative controls have been largely removed and more and more privately-owned companies have been involved in OFDI (Buckley et al., 2008).

This has led to a growing presence of Chinese entities in the European Union, and with this presence has come increased scrutiny. One of the earliest analyses of the impact of China in the EU was by the European Council on foreign policy in 2009. This report already warned of potential strategic dangers, arguing that the Chinese presence could lead to disunity in the European Union as it seeks a disunited Europe to maximize geopolitical advantages (Fox & Godement, 2009). This report has been updated in 2017 and once again warned against potential negative consequences resulting from Chinese foreign direct investment (Godement & Vasselier, 2017). In light of the first report by the European Council on Foreign relations, several scholars have reiterated the dangers related to uncontrolled FDI (Meunier, 2019; Meunier, 2014; Reilly, 2017; Hanemann & Huotari, 2015; Lattemann et al., 2015; Nicolas, 2014).

3 HYPOTHESES

As I have established, during the last decade there has been a significant increase in the amount Chinese firms investing in Europe. According to the theories put forward by Dunning (2015), firms make foreign investments to exploit their specific advantage or to create new advantages. However, it is also generally accepted that foreign direct investment is affected by the suitability of a country's economic and political satiation (Paul & Feliciano-Cestero, 2021). One of the main drivers for firms to seek international

investments is to realize the potential of foreign markets and gain access to new customers. This market seeking behaviour is the most common reason for foreign direct investment originating from developed economies as it offers growth potential and may enable companies to evade trade barriers or other limitations to direct export.

However, as Buckley et al. (2007) point out, Chinese FDI has the interesting tendency to be generally less risk-averse, and in fact, attracted by political risk. This differs from traditional understandings of FDI which shows that political risk is usually understood as a negative for FDI. As such my research explores both the economic and the political-institutional dynamic of Chinese FDI into the European Union. However, whether Chinese FDI is driven by an interest in a specific EU member state to access the bloc's market as a whole or to access the market of the host country remains an open question.

According to Knoerich (2012), Chinese investors may be more likely to consider each member state as a separate market with its own authorities, regulations, legal system and investment incentives. This means that, while the EU has an internal market, it is not possible to conclude that Chinese investors will view all markets equal from a market seeking perspective. While previous research is not unified on the question of the direction of causality between GDP and FDI, results by Chowdhury & Mavrotas (2006) showed that there exists either a positive bi-directional causality between GDP and FDI or unidirectional causality running from GDP to FDI, yet also that results may depend on the country in question. For EU countries, Moudatsou & Kyrkilis (2011) showed that there is strong evidence for unidirectional causality running from GDP to FDI.

Following the market seeking theory, I therefore expect that Chinese OFDI will be located in the most economically interesting members of the EU (Knoerich, 2012; Blomkvist & Drogendijk, 2016).

Hypothesis 1: Chinese FDI in Europe is positively related to a country's market potential.

Furthermore, several papers have argued that Chinese outgoing foreign direct investments to developed markets are aimed at acquiring resources and knowledge not available in their home market. This would mean that Chinese outgoing foreign direct investments in Europe can be explained from a strategic asset-seeking rationale where Chinese firms behave according to the latecomer theory in seeking to gain technologies and increase competitiveness abroad and at home (Torres Oliveira et al, 2017). This rationale is in line with an assessment of the flow of causality between innovation and FDI put forward by Chang & Zheng (2021), showing that FDI is positively associated with innovation and vice versa in OECD countries.

Hypothesis 2: Chinese FDI in Europe is positively related to a country's technological capabilities.

Additionally, as Hanemann and Huotari (2019) and Hanemann, Huotari, Arcesati and Kratz (2020), point out, Chinese-European partnerships are diverse and have the potential to be beneficial. At the same time, there also seems to be a strategic Chinese interest in key technology sectors, such as Artificial

Intelligence (AI), robotics, quantum computing, bio/health technology and communications. As such my third hypothesis is as follows:

Hypothesis 3: Chinese FDI in Europe is positively related to companies' involved in strategic technologies and industries.

Finally, I hypothesise that Chinese FDI is driven in part by state interests. From the perspective of a Chinese policymaker, investments into European countries that are less economically prosperous or less critical of China and its regime might offer more potential. Countries struggling with unemployment and economic growth, or with governments that are less stable or more authoritarian might be more receptive to outside investment to improve their economic prospects and boost their popularity, and less sensitive to China's authoritarian reputation and human rights infringements. This assumption about the negative granger causal relationship between Political Stability would be counter to previous research, which instead has found a bidirectional positive causal relationship between political stability and FDI (Ozbozkurt & Satrovic, 2018; Raza, Shah, & Arif, 2021).

Hypothesis 4: Chinese FDI in Europe is positively related to political instability, authoritarian governance, higher levels of corruption, low economic growth and higher unemployment.

4 DATA AND METHODOLOGY

Methodologically speaking this thesis will be split up into two different approaches. One entails research based on macroeconomic data, while the other involves a different methodology to process firm-level data. What follows is a review of the data and methodological approach taken for H1 and H2, after which the approach for firm-level data will be discussed[2].

4.1 Methodology and Data: Hypothesis 1 & 2

4.1.1 Methodological Approach

In evaluating the market and strategic asset-seeking rationales, I build on the methodology set out by previous research by Buckley et al. (2007, 2008), and Blomkvist & Drogendijk (2016). Corresponding with this earlier work I calculate the mean outgoing FDI from 2005 to 2020 from China for each European country. For this, I use publicly available secondary data sources published by the World Bank, China's Ministry of Commerce (MOFCOM), and data from the National Bureau of Statistics of China, as well as Eurostat, to collect the data and prepare the required variables.

To test my hypotheses, I build on previous research and include two of the most common motives for FDI: Market-seeking and Strategic asset seeking. I exclude raw material seeking as these are scarce in

[2] Please note that issues of validity, reliability and other limitations of the study are discussed in chapter 7.3

the EU, as well as efficiency-seeking, as the factor endowment of labour is significantly higher than in China (Dunning, 2015; Buckley et al., 2007).

The most common regression method to test these hypotheses using macroeconomic data is pooled ordinary least squares (OLS), yet this method has some strong assumptions. The core of these are: exogeneity which assumes that the expected value of the error term is zero or that error terms are not correlated with any regressors; that error terms have the same variance (Homoskedasticity) and are not related with one another (No autocorrelation); that there is no exact linear relationship among independent variables (no multicollinearity) (Wooldridge, 2015).

The diversity in fundamental factors across the EU, especially in economic, infrastructural and political terms negate the idea of homogeneous decision making on the part of Chinese actors looking for FDI opportunities within the EU. As such, in assessing H1 and H2 the decision was made to look both at the behaviour of Chinese FDI within the EU as a whole and potential regional differences. However, I exclude smaller countries like Cyprus, Malta and Luxembourg as there are only a few non-financial subsidiaries registered here.

4.1.2 Dependent Variable

My dependent variable measures the interest of Chinese investors in the various EU member states and is operationalised using the total amount of incoming FDI per country over the period 2005 to 2020 using MOFCOM data. This includes information on pre-approved reinvested earnings and intra-company loans, as well as in-kind investment of a given project and equity capital (Latif, 2013).

4.1.3 Independent variables

To test my first hypothesis on market seeking Chinese FDI I explore the market potential of the EU member state by using Gross Domestic Product (GDP per capita), with data collected from Eurostat development indicators 2005-2020, using the mean of these years. Testing hypothesis two, on strategic asset seeking FDI by Chinese companies, entails analysing the extent to which each member state offers strategic technologies and assets in the form of technological knowhow. To measure this concept I use annual patent registration in each country as a proxy for the portfolio of technological assets. This data comes from the World Intellectual property organisation, again using the mean values for the period 2005-2020. This operationalisation of these variables using the natural logarithm are in line with previous research on outgoing Chinese FDI (Buckley et al., 2007; Blomkvist & Drogendijk, 2016).

4.1.4 Control variables

Political stability, as measured through the Political stability index of the World Bank, allows me to capture the concept of political

instability and is similar in operationalisation as Buckley et al. (2007). According to this index, countries that are subject to higher political risks score low, while countries with low political risk get

higher scores. I also control for trade flows between China and the European host countries. Data on import was retrieved from Eurostat and averaged in line with the operationalisation of previously mentioned independent variables.

4.2 Methodology and Data: Hypothesis 3 & 4

4.2.1 Methodological approach

In evaluating whether Chinese FDI in Europe is driven by a search for strategic technological assets or by state interests, I build on the methodology developed by Gammeltoft & Fasshauer (2017) in using company-level data from the Orbis database, which is compiled and continuously updated by Bureau van Dijk. While this database does not claim to be complete, it provides extensive company information and includes data on approximately 230 million currently operating companies worldwide. In this database, it is possible to identify European companies with Chinese ultimate beneficiary owners. This includes companies that are indirectly owned by a Chinese entity at the second or third level. This level of detail considerably increases the completeness of the dataset since many European subsidiaries are owned at the first level by existing foreign affiliates outside China.

I combine the Orbis data with information from the Zephyr database, also maintained by Bureau van Dijk, which offers information on mergers and acquisitions. The resulting combination of the two databases contained information on the target name, the owners, the date of the acquisition or merger, the size and name of the investing parent company, whether the Global Ultimate Owner (GUO) is Chinese, whether the acquiring company's GUO is private or public and the sector of the target company.

Similar to Gammeltoft & Fasshauer (2017), I exclude the financial industry as the motivation behind these is likely to be substantially different from other companies. Furthermore, the scarcity of natural resources in most countries means that they are an unlikely investment category and hence are excluded. The same goes for smaller countries like Cyprus, Malta and Luxembourg as there are only a few non-financial subsidiaries registered here.

Since the dependent variable in the analysis is a count variable a log-linear regression can't be used, so I use negative binomial regression. Since I am also interested in whether reasons for investing in various regions of the European Union are different, I analyse three subgroups. These are Southern Europe, traditionally defined as Portugal, Spain, France, Italy, and Greece, Northern Europe, defined as Belgium, Ireland, the Netherlands, Germany and Austria and Eastern Europe, defined as Bulgaria, Czech Republic, Hungary, Poland, Romania, and Slovakia.

4.2.2 Dependent Variable

As with the methodology for H1 and H2, my dependent variable measures the interest of Chinese investors in the various EU member states. However, the operationalization of the dependent variable for H3 and H4 is based on granular data by measuring the the number of acquisitions by companies with a Chinese GUO in the EU27. Unfortunately, the availability of company-level data was not as extensive as the availability of macroeconomic data. As such the analysis of Hypothesis 3 and 4 spans the period 2012-2020.

4.2.3 Independent Variables

The value of using firm-level data for the analysis of H3 and H4 is in the level of detail that can be acquired for each merger and acquisition that has taken place. The independent technology variable for H3 captures whether a target company was involved in key technological sectors. To do so I created a dummy variable that reflect involvement in sectors such as Artificial Intelligence (AI), robotics, (quantum) computing, and bio/health technology (Appendix 2).

For H4 there are three independent variables which are of a political nature and two which are standard macroeconomic indicators. All five have been selected as indicators of a state's vulnerability to foreign interference, either due to political motives or out of perceived economic necessity. Starting with the political indicators, Political stability, as measured through the Political stability index of the World Bank, is used as an indicator of the likelihood of political instability or politically motivated violence. The Political rights Index by Freedom House measures the extent to which the electoral process and the functioning of government are democratic and is used as an indicator of the extent to which the country facilitates political pluralism and popular participation. To measure the role which corruption plays in a member state I used the Control of Corruption index, which measures how much public power is perceived to be exercised for private gain, as well as the extent to which the state is captured by the elites and private interests. Finally, to evaluate the robustness of a country economic performance I used annual GDP growth and the level of unemployment, as derived from Eurostat's database.

5 ANALYSIS

5.1 Analysis of H1 & H2

5.1.1 Descriptive findings

According to my analysis of Chinese FDI flows into the European Union, by and large, the most prominent destinations are centred firmly in North-Western Europe. As shown in Table 7.1 Germany received by far the most FDI, with open, developed and competitive economies like Sweden, The Netherlands, Ireland and Austria all featuring in the top 10. Of note are Italy and Spain, among the

Eurozone's worst performers in terms of GDP growth over the period, as well as Hungary and Poland, which have seen both sustained economic development and democratic backsliding.

Table 7.1: Chinese OFDI and Export to EU members 2005-2020

Country	Chinese FDI (Million EUR)	Import from China (Million EUR)
Germany	12496.639	1287078.4
Sweden	7587.936	92359.813
France	6136.567	617427.69
Netherlands	5975.906	504303.25
Italy	2663.374	406614.72
Spain	1501.141	331024.78
Ireland	1107.440	62991.953
Austria	1093.057	106532.71
Hungary	864.051	71611.75
Poland	656.374	261588.27
Belgium	650.388	217248.02
Denmark	575.546	80160.117
Czech Republic	505.929	218244.8
Finland	466.853	64472.598
Bulgaria	436.931	15800.691
Romania	421.869	44603.344
Croatia	372.031	13897.38
Slovenia	331.703	20716.051
Greece	273.449	44546.555
Portugal	226.543	26489.596
Slovakia	214.753	61223.297
Estonia	206.974	15765.356
Latvia	175.749	5342.669
Lithuania	171.034	9891.951

5.1.2 Model specification

The correlation matrix of the dependent and independent variables in Table 7.2 shows mostly modest correlations. However, two main correlations stand out as being significantly higher: Between GDP per capita (PCGDP) and FDI, and between the import of Chinese goods and FDI. These make intuitive sense as GDP per capita can be seen as a proxy for market appeal, while the relationship between trade and FDI is core to the development of global economic relations, with empirical work repeatedly showing the strong yet complex relationship between the two (Medvedev, 2012).

Table 7.2: Correlation Matrix of dependent and independent variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) meanFDI	1.000					
(2) meanPCGDP	0.601	1.000				
(3) Meanpatents	0.323	0.184	1.000			
(4) meanPolStabl	0.050	0.274	0.050	0.274		
(5) g_GDP	-0.142	-0.187	-0.118	0.085	1.000	
(6) meanImport	0.789	0.548	0.011	-0.044	-0.173	1.000

Multi-collinearity is the presence of high intercorrelation among various independent variables in multiple regression analysis. The presence of multicollinearity can lead to wider confidence intervals and undermine the statistical significance of an independent variable (Allen, 2004). To control for potential multi-collinearity I used the Variance Inflation Factors (VIFs) to assess my regression analysis. VIFs provide an estimation of how much of the variance of a regression coefficient is inflated owing to multicollinearity in the model. Common cut-off points for VIF values are generally set at 5, but can be as high as 10 (Shrestha, 2020).

While most VIF values in my analysis fall below these thresholds, some variables had to be dropped to prevent multicollinearity from influencing the results. It is standard practice to drop the variable which has the largest VIF as its trend is highly captured by other variables, with successive variables being dropped in a iterative process to bring the VIFs within acceptable range. The VIFs showed that Import was highly inflated for all subgroups, hence it dropped for the analysis of regional differences. However, despite dropping Import as an independent variable, per capita GDP remained highly inflated for Southern Europe, hence for it was dropped for that subgroup (Appendix 1).

5.1.3 Results

As visible in Table 7.3, my analysis shows strong yet conflicting evidence for a Market-Seeking FDI strategy. While evidence from Southern Europe could not be corroborated, the result for all countries and Northern Europe shows that a 1% increase in PCGDP corresponds with a 0.4% and 7.3% increase in FDI respectively. However, for Eastern Europe, an increase in PCGDP seems to be correlated with a decrease in FDI. This could potentially be due to alternative investment motives. The lower price of the factors of production in Eastern Europe compared to Northern Europe may provide an explanation, following the Efficiency-seeking FDI theory.

This pattern is reinforced by the correlation between patents and FDI. Where for Northern and Southern Europe Chinese FDI increases by close to 1% for each 1% increase in patent registrations, this is much less in Eastern Europe. This suggests that Chinese firms invested more in European countries with more patent registrations, yet also that strategic assets and capabilities are more important for Chinese investors in North- and Southern Europe than in Eastern Europe.

The results for political stability show it to be negatively associated with Chinese FDI, suggesting that a reduction in political stability provides opportunities for Chinese investors. Interestingly, investment decisions in Eastern Europe seem to run counter to investments in Northern and Southern Europe, with increased political stability seemingly a boon for Chinese investors. This may be explained in part by the institutional development within the region as a whole over the period. While some countries, most notably Poland and Hungary, have seen institutional backsliding this has not impacted their political stability. In fact, authoritarian entrenchment in these countries has made them more politically stable if

less democratic. This divergence in Eastern Europe vis-à-vis the rest of the EU is again a sign that investment decisions by Chinese investors are different in Eastern Europe.

Overall my results suggest that Chinese FDI in Europe is driven by a country's market potential, hence supporting the market seeking motive behind Hypothesis 1, and also by access to strategic assets and capabilities, hence supporting Hypothesis 2. Evidence was also found for Efficiency-seeking FDI in Eastern Europe.

Table 7.3: Analysis of Chinese FDI over the period 2005-2020

	(1)	(2)	(3)	(4)
	All_Countries	Northern_Europe	Southern_Europe	Eastern_Europe
Per Capita GDP	.432***	7.306***		-.905***
	(.07)	(.66)		(.236)
Patents	.38***	.803***	.937***	.283***
	(.042)	(.036)	(.012)	(.038)
Political Stability	.048	-1.39***	-.109***	.469***
	(.043)	(.341)	(.014)	(.139)
Annual GDP growth	6.099	-10.148	8.134	-6.975
	(6.069)	(12.954)	(5.208)	(5.743)
Import	.226***			
	(.051)			
_cons	-1.961***	-28.226***	-3.38***	3.911***
	(.236)	(2.644)	(.102)	(.635)
Observations	360	75	75	90
R-squared	.746	.884	.989	.446

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

5.2 Analysis of H3 & H4

5.2.1 Descriptive findings

Similarly to my analysis of aggregate FDI flows into the European Union, the characteristics of the subsidiaries in Europe and their ultimate owners in China indicate that market size and openness is a key driver of Chinese FDI.

Considering the establishment dates of the subsidiaries, we see in Table 7.4 that the yearly number of direct Chinese investments rose to a high of 95 in 2017, after which a decline set in, mirroring the findings by Kratz, Hanemann, Huotari & Arcesati (2020). Noteworthy is the change in geographical focus of direct Chinese investments when compared to earlier findings

Where Gammeltoft & Fasshauer (2017) showed a strong focus on Germany and the Netherlands as a destination, over this time period this orientation is much less pronounced. Instead the major economies which came out of the financial crisis of 2008-2009 significantly weakened, Spain and Italy, are on top of the list (Table 7.5).

Table 7.4: Chinese FDI by year

Year	Number
2012	40
2013	42
2014	74
2015	66
2016	77
2017	95
2018	88
2019	73
2020	47
Total	602

Table 7.5: Chinese FDI by Country

	Number	Percent
Germany	211	35.05
Spain	91	15.12
Italy	84	13.95
France	55	9.14
Netherlands	47	7.81
Sweden	26	4.32
Denmark	19	3.16
Finland	16	2.66
Austria	15	2.49
Portugal	15	2.49
Belgium	10	1.66
Ireland	7	1.16
Czech Republic	2	0.33
Greece	2	0.33
Poland	1	0.17
Slovakia	1	0.17
Total	602	100.00

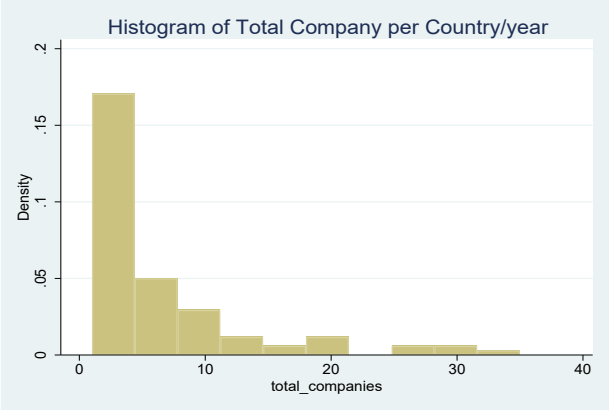
When looking at the sectoral distribution of the subsidiaries in Table 7.6, it becomes clear that Chinese companies mostly establish subsidiaries in industries in which they are already competing, such as electronics, machinery, automotive and wholesale (Kratz, Huotari, Hanemann & Arcesati, 2020). Interestingly, investments in computer software, business services, media, and communications signal a shift towards more information sensitive industries, a potential concern considering the contentious relationship between the EU and China and the latter's proclivity for data collection and espionage (Lindsay, Cheung & Reveron, 2015).

Table 7.6: composition of target company sector	
Industrial, Electric & Electronic Machines	118
Transport Manufacturing	44
Wholesale	25
Travel, Personal & Leisure	25
Computer Software	23
Business Services	21
Chemicals, Petroleum, Rubber & Plastic	49
Utilities	26
Retail	21
Media & Broadcasting	20
Construction	16
Communications	25
Metals & Metal Products	15
Textiles & Clothing Manufacturing	14
Transport, Freight & Storage	14
Public Administration, Education, Health	23
Food & Tobacco Manufacturing	10
Biotechnology and Life Sciences	8
Mining & Extraction	7
Property Services	7
Wood, Furniture & Paper Manufacturing	7
Leather, Stone, Clay & Glass products	4
Printing & Publishing	4
Miscellaneous Manufacturing	3
Waste Management & Treatment	3
Computer Hardware	2
Sector	**Freq.**
Total	524

5.2.2 Model specification

To establish whether Chinese companies are seeking out sensitive industries, a text-based search was executed in the target's North American Industry Classification System (NAICS)2017 descriptions, which can be used to determine the type of economic activity that a company engages in. For the list of keywords indicating whether a company is active in a sensitive industry please refer to Appendix 2. Checking the reliability of the data for negative binomial regression analysis for Hypothesis 3 and Hypothesis 4, I find that the distribution of the observations is normal (Figure 7.1), and that the unconditional mean of the outcome variable is lower than its variance (Table 7.7). Since it is not recommended to use negative binomial models on small samples, Eastern Europe as a subgroup had to be removed. While it would be of interest to check for potential differences in drivers of FDI in Eastern Europe, the small number of observations would have yielded statistically meaningless results.

Figure 7.1: Descriptive histogram of data



The analysis thus looked at the EU as a whole, as well as Northern and Southern Europe as subgroups. A dummy variable was created to reflect the companies that were found to be owned by the Chinese state. Furthermore, to analyse whether there are different discernible motives for companies operating in sensitive industries, the amount of sensitive FDI per country per year was included as an alternative dependent variable. In total 82 companies were found to be in sensitive industries.

Table 7.7: Summary statistics, mean var N by(Sensitiveindustries)

Sensitiveindustries	Mean	Variance	N
0	5,839	40,951	442.000
1	7,833	136,697	82.000

5.2.3 Results

Table 7.8 shows the results of the negative binomial regression analysis of H3 and H4 using company-level data. In the first three columns, the independent variable is the total amount of mergers and acquisitions over the period 2012-2020, split into three separate geographical orientations. While the original aim was to analyze the differences between Northern Europe, Southern Europe and Eastern Europe, there was not enough data to review the latter. As such the analysis was conducted for the EU-24 as well as for Northern and Southern Europe, as defined by Chapter 6.2.

To analyze whether Chinese FDI in Europe is positively related to companies' involvement in strategic technologies and industries I included a dummy variable that indicated whether the specific target company was involved in a strategic industry. No statistically significant results were found, meaning H3 cannot be substantiated. However, the number of target companies involved in sensitive industries was included as a secondary dependent variable, as portrayed in columns 4, 5 and 6. Doing so allows me to analyze whether there's a difference in the drivers of Chinese FDI targeted specifically at companies in sensitive industries.

Looking at general Chinese FDI, I find that an increase in political stability has a negative effect on general Chinese FDI across the board. The second independent variable, which measures development towards democratic/authoritarian governance, indicates a big difference between Northern and Southern Europe. While an increase in political rights in Northern Europe leads to a 7.7% reduction in Chinese FDI, Chinese investors in Southern Europe seem to prioritize more political rights. One potential explanation of this is that Northern and Southern Europe depart from different levels of institutionalised democracy. A reduction in the quality of democracy in Northern Europe may translate into less transparency on incoming FDI, potentially lowering the burden of proof on the side of Chinese investors to show that their takeover/merger does not constitute a threat to the country. Conversely, the positive effect in Southern Europe may reflect that took place in those countries in response to the deep institutional crises that followed the Eurozone crises. The lower starting level of political rights in Southern Europe compared to Northern Europe may explain the opposite direction of effects: the regions may be converging in their political rights, making it look like Chinese investors have different drivers of investment depending on the region.

Interestingly, a similar explanation cannot be found for the differences in the corruption appetite of Chinese investors between the regions. Other the period of 2012-2020, an increase in corruption was associated with an increase in Chinese FDI in general, but specifically in Southern Europe – results for Northern Europe could not be substantiated. This suggests that higher levels of corruption are beneficial to Chinese investors. Especially interesting is the even stronger correlation between corruption investment and corruption in Southern Europe when it comes to investments in sensitive industries. A possible explanation is that higher levels of corruption enable Chinese investors to acquire companies

in sensitive industries more easily because it allows them, by massaging the system, to get away with purchases that would not be allowed otherwise. The only variable that shows the same direction of effect for Northern Europe and Southern Europe is unemployment, which seems to discourage investment across the board – albeit less in Southern Europe than in Northern Europe.

Overall my results do not show that Chinese investors are actively seeking out companies in sensitive industries (H3), nor that the Chinese state is actively taking a role in Chinese FDI decisions across the board. There is, however, evidence for H4, with Chinese FDI being positively influenced by reduced political stability and increased corruption. The general decline in political rights across Northern Europe, together with reforms in Southern Europe after the Euro crisis might influence the results found for political rights – further research is needed. Considering the negative effect of unemployment on Chinese FDI these results mean that H4 is partly confirmed.

Table 7.8: Analysis of Chinese mergers and acquisitions over the period 2012-2020

	(1) All regions	(2) Northern Europe	(3) Southern Europe	(4) Sensitive industries: All regions	(5) Sensitive industries: Northern Europe	(6) Sensitive industries: Southern Europe
Political stability	-4.862***	-3.278***	-6.284***	-2.161***	-3.708***	6.467**
	(.382)	(.477)	(.764)	(.484)	(.674)	(2.531)
Political Rights	17.393***	-7.706**	18.717***	3.922	-5.686	5.072
	(1.805)	(3.138)	(2.263)	(2.466)	(3.754)	(8.337)
Control of Corruption	-4.573***	1.274	-5.509***	-1.85***	3.43**	-10.19***
	(.382)	(1.263)	(.72)	(.491)	(1.694)	(2.67)
Unemployment	-1.772***	-2.031***	-1.173***	-1.461***	-1.061***	.22
	(.087)	(.119)	(.199)	(.112)	(.154)	(.761)
GDP growth	-.033	-.002	-.018	-.122	.464***	.618**
	(.066)	(.101)	(.075)	(.094)	(.15)	(.308)
State ownership dummy	-.008	.042	.019	.006	.104	-.2
	(.057)	(.064)	(.057)	(.077)	(.087)	(.165)
Sensitive industry dummy	-.039	.052	-.042			
	(.073)	(.074)	(.094)			
_cons	-46.006***	36.089***	-49.786***	-6.516	24.166**	-12.663
	(6.044)	(10.25)	(6.739)	(8.313)	(12.265)	(24.096)
/lnalpha	-1.494***	-1.839***	-3.715***	-16.226	-16.924	-15.632
	(.087)	(.118)	(.559)	(624.031)	(549.164)	(524.454)
Observations	524	369	152	524	369	152
Pseudo R^2	.099	.151	.104	.123	.138	.158

Standard errors are in parentheses
*** p<.01, ** p<.05, * p<.1*

5.3 Limitations and scope for further research

A primary limitation of Chinese FDI research is the lack of reliable data. Not only are the statistics published by the Chinese Bureau of Statistics inaccessible and often only available in Chinese, but questions also exist about the validity and reliability of the data (Anderson et al., 2020). Considering that hypotheses 1 and 2 have been assessed using data from MOFCOM the reliability of the data is a reason for concern, as it is not possible to control for potential measurement error. While outside the scope of this paper, future research could improve the reliability of the findings by exploring and alternative sources and combining datasets. Availability of data is also of concern for the company-level information employed in the analysis of hypotheses 3 and 4. While the ORBIS database offered by Bureau van Dijk has been used extensively by other researchers, the availability of data for this thesis was limited by the lack of public access to the database. Further analysis using a more extensive dataset from the ORBIS database would improve the reliability of the results and allow for more extensive research over a greater time period.

Another limitation of this research is the methodological approach taken to analyse hypotheses 3 and 4. While very common in biological and medical research, negative binomial regression analysis was not found to have been used prior in international relations oriented FDI research. By focusing on econometric improvements in the usage of micro-data for this type of political analysis future research could improve the validity and reliability of the results.

6 CONCLUSION

The aim of this study has been to determine the behaviour of Chinese investors in the European Union using a novel approach combining two different types of data to assess both economic and political factors.

A descriptive analysis of Chinese FDI into the European Union over the past 20 years highlighted the change in the international role taken on by the PRC as its economy developed, showing that, as its domestic market advanced, so did its appetite for foreign investment opportunities. The ground-breaking progress of the past 20 years has allowed China to evolve from purely playing host to western FDI, to a major international investor in its own right, as Chinese companies have become globally operating conglomerates competing with western firms for market share and competitive advantage. However, this change in China's global role and influence was accompanied by a change in western perceptions of the country. Where in the early 2000s China was primarily seen as an economic opportunity by western businesses and governments they have increasingly come to see the PRC's rise as a threat to their economic prosperity and even national security.

One area of concern has been incoming Chinese FDI, in particular with regards to sensitive technologies and infrastructure. Still, while Chinese Foreign Direct Investment into the European Union has increased

significantly over the past 20 years, our understanding of the drivers of this boom in investment has thus far been limited. This thesis adds to our understanding by taking a novel approach combining macroeconomic and company-level data. Where previous research often focussed on case studies or economic indicators, this thesis set out to understand Chinese FDI into the European Union from both an economic and a political perspective to present a more holistic yet data-driven analysis.

Using pooled OLS regression on a panel of all EU countries except Luxembourg, Malta and Cyprus I find strong evidence for a market and strategic asset seeking rationales for FDI, corroborating earlier research (Knoerich, 2012; Blomkvist & Drogendijk, 2016; Torres Oliveira et al, 2017). My results also show significant differences between regions, most notably Eastern Europe, where Chinese FDI seems to be driven more by an efficiency-seeking behaviour.

Using negative binomial regression analysis, I confirm that Chinese FDI is positively related by some measure of political instability – the opposite of traditional FDI research results but confirming finding by Buckley et al. (2007). Of particular interest are findings suggesting a wide divergence in the directional correlation of political rights between Chinese investors in Northern and Southern Europe – an effect potentially caused by converging political developments over the period under analysis. I also show that investments in Southern European companies involved in sensitive industries are positively related by higher rates of corruption, potentially because it affords Chinese investors more leeway in managing the local political system to reduce opposition to sensitive acquisitions.

Overall the findings in this study confirm prior observations of Chinese FDI in relation to major extant theories on FDI, with strategic asset seeking, market seeking and efficiency-seeking motives proving to be the most powerful in explaining Chinese FDI into the European Union. However, Chinese investors also seem particularly driven by political factors which enable them to more easily navigate or influence the local market, as can be discerned positive influence higher levels of corruption and lower levels of political stability have on Chinese FDI.

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8 APPENDICES

8.1 Appendix 1: Regression analysis verification

VIF Northern Europe

	VIF	1/VIF
meanPCGDPln	2.158	.463
meanImportln	1.903	.526
meanPolStabln	1.644	.608
g GDPln	1.188	.842
CenteredIP	1.125	.889
Mean VIF	1.603	.

VIF Southern Europe with Import

	VIF	1/VIF
meanImportln	37.672	.027
meanPCGDPln	37.569	.027
meanPolStabln	3.153	.317
g GDPln	1.068	.936
CenteredIP	1.038	.963
Mean VIF	16.1	.

VIF Southern Europe without Import

	VIF	1/VIF
g GDPln	1.054	.949
meanPolStabln	1.041	.96
CenteredIP	1.038	.963
meanPCGDPln	1.029	.972
Mean VIF	1.041	.

VIF Eastern Europe

	VIF	1/VIF
meanPCGDPln	6.033	.166
meanPolStabln	4.983	.201
meanImportln	2.324	.43
g GDPln	1.032	.969
CenteredIP	1.017	.983
Mean VIF	3.078	.

8.2 Appendix 2: List of Key industries

Key industries
Artificial Intelligence (AI)
Robotics
quantum computing
Biotechnology
Biotechnologies
AI
Nanotechnology
Science
Semiconductor
Research
computing
Medical
health
healthcare
Computer Engineering
Cyber
Communications