
Determinants of Chinese Outward Foreign Investments through Mergers and
Acquisitions in the European Union and EFTA

Gabriel Moura de Souza

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Prof. Dr. Jorge Bento Farinha

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Bibliographical Note

Gabriel Moura de Souza was born in Presidente Prudente in 1993. His curiosity for business and economics led him to attend a Business Administration bachelor's degree program of five years at the State University of Maringá, while he started working as a finance assistant at Guia do Marceneiro, a wholesale company in the furniture sector.

In the year of 2017, with his bachelor's degree completed and working at LGX Consultoria, he decided it was time to advance in his career with a master's degree whilst simultaneously reviving his family's Portuguese origins. He enrolled in the Master in Finance program from the Faculty of Economics – University of Porto, which concludes with this dissertation.

While attending the master's program, he was invited for an internship at the United Nations Office for Project Services in Copenhagen – Denmark. A few months later he was offered a position as a Finance Associate where he remains working until the present date, providing meaningful technical expertise to countries in the implementation of the Sustainable Development Goals and the Paris Agreement on Climate Change.

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Abstract

This study aims at verifying if there is evidence that exchange rate, market return, investor protection, corporate tax, geographic distance, bilateral trade, GDP growth, and GDP per capita are determinants for Chinese firms to undertake mergers and acquisitions deals in firms located in the European Union and European Free Trade Association area (EFTA).

The sample used in this work is composed of 136 deals conducted between January 01st, 2008 and December 31st, 2019, involving firms from 21 European nations that were targets of firms from China. The data was retrieved from the Zephyr database.

The regression model adopted was based on the one proposed by Erel, Liao & Weisbach (2012). Also, some variables were analysed by Uddin & Boateng (2011), Green (1987), and Rossi & Volpin (2004). The regression results indicate that exchange rate differences, corporate tax differences, bilateral trade volume, and GDP growth have significant influences on Chinese investors to engage in cross-border mergers and acquisitions in the European Union and European Free Trade Association area. However, the signal of the GDP growth was not the expected one as per Erel et al. (2012).

On the other hand, three variables were not statistically relevant for our analysis, namely, the market return differences, investor protection, and geographic distance, along with the control variable Ln (GDP per capita).

Keywords: China; cross-border mergers and acquisitions; determinants; European Union; European Free Trade Association.

Resumo

Este estudo teve como objetivo verificar se há evidências de que a taxa de câmbio, retorno de mercado, proteção ao investidor, imposto corporativo, distância geográfica, comércio bilateral, crescimento do PIB e PIB per capita são determinantes para que empresas chinesas realizem negócios de fusões e aquisições em empresas localizadas em países da União Europeia e da Associação Europeia de Comércio Livre.

A amostra utilizada neste trabalho é composta por 136 negócios de fusões e aquisições realizados entre 01 de janeiro de 2008 e 31 de dezembro de 2019, envolvendo empresas de 21 nações europeias que foram alvas de empresas da China. Os dados foram recuperados do banco de dados Zephyr.

O modelo de regressão adotado foi baseado no proposto por Erel, Liao & Weisbach (2012). Além disso, algumas variáveis também foram explicadas por Uddin & Boateng (2011), Green (1987) e Rossi & Volpin (2004). Os resultados da regressão indicam que as diferenças cambiais, as diferenças de impostos corporativos, o volume do comércio bilateral e o crescimento do PIB influenciam os investidores chineses a se envolverem em fusões e aquisições internacionais na União Europeia e na área da Associação Europeia de Livre Comércio. No entanto, o sinal da variável de crescimento do PIB não foi o esperado conforme Erel et al. (2012).

Por outro lado, três variáveis não foram estatisticamente relevantes para a nossa análise, a saber, as diferenças de retorno do mercado, proteção ao investidor e distância geográfica, juntamente com a variável de controle do PIB per capita.

Palavras-chave: Associação Europeia de Comércio Livre; China; determinantes; fusões e aquisições internacionais; União Europeia.

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1. Introduction

The subject of cross-border mergers and acquisitions (M&As) has received increased attention from academics as the result of an increase in the volume of this type of transaction over the last years. M&As are a common strategy for companies all over the world and can be used as a relevant strategy for tactical expansion. According to Deng (2004), over the past twenty years, Chinese multinationals have made a great amount of foreign direct investment overseas, making China one of the world's leading foreign investors. In 2016 alone, new Chinese investments in the European Union hit a record of €35 billion.

This increased relative importance of cross-border mergers and acquisitions motivates and adds relevance to the research aiming at exploring the determinants of such transactions. This study focuses on firms from China as acquirers, once the previous studies focused mainly in the United States and the United Kingdom, whose conclusions can shed a light on how policymakers can adjust their parameters to make the firms of their countries a target of Chinese investors or conversely how to make them less appealing.

Several studies concerning the determinants of cross-border mergers and acquisitions attempt to identify what leads firms from a specific country to engage in M&As with firms from another country. For instance, the impact of the exchange rate in cross-border M&As (Uddin & Boateng, 2011), the impact of the return of the markets (Erel et al., 2012), investor protection (Rossi & Volpin, 2004), geographic proximity (Green, 1987), bilateral trade (Rossi & Volpin, 2004), GDP growth and GDP per capita (Erel et al., 2012).

This study seeks to complement the existing literature by focusing on the firms located in the European Union or EFTA that became targets of firms from China in the period from 2008 and 2019. More specifically, it aimed to test the impact of the aforementioned variables on cross-border mergers and acquisitions in Europe. Such analysis is lacking in the literature and the respective findings can improve our understanding of the reasons that lead Chinese investors to engage in cross-border M&As.

The methodology used in this work is panel data, comprising the period from 2008 and 2019, and follows the empirical model of Erel et al. (2012). The base model sample is comprised of 136 mergers and acquisitions deals covering 21 European nations.

Our findings suggest that variables such as exchange rate differences, corporate tax rate differences, bilateral trade between a pair of countries, and GDP growth are relevant to explain the determinants of deals where China is the acquirer and a country of the European Union or EFTA is the target for mergers and acquisitions. All of these results are statistically significant and consistent with the existing literature, apart from the market return, investor protection, geographic distance, and GDP per capita.

The remainder of the study proceeds as follows. Chapter 2 reviews the existing literature on the motives and determinants for cross-border mergers and acquisitions. Chapter 3 details the methodology followed, data used and the hypotheses this study seeks to test. Chapter 4 presents the results, their interpretations, and consistency with the theoretical hypotheses and existing literature. Chapter 5 provides concluding remarks and suggestions for future research

2. Literature Review

2.1 Modes of entry in overseas markets

The best way of ingress in a foreign market is one that augments the efficiency from a long-term perspective. Furthermore, when an organization decides in favour of internationalization, investing abroad, it has to take into consideration the related risks and costs (Anderson & Gatignon, 1986)

Based on the empirical studies of Swedish firms, Johanson & Vahlne (1977) affirm that the process of internationalization is initiated in modest steps instead of carrying out large overseas investments at one time. In the first moment, it starts with exportation, which may eventually become less attractive for companies siding competitive threats. As a consequence of these potential threats, companies may enter foreign markets via deals with intermediaries. In case there is enough growth in sales, those companies assess the opportunity of doing their own sales organization and later investing in a manufacturing unit in the foreign market instead of using intermediaries. This way an organization can assimilate sufficient information about the country in which it aims to invest and make a final decision whether or not to invest.

There are two important different modes of ingress in a foreign market, investments known as Greenfield and cross-border merger and acquisitions (M&As). Greenfield investments involve setting up an organization that still does not exist in a foreign nation and on the other hand, cross-border M&As involve buying companies that are already well established in a foreign country. While cross-border M&As give the advantage of accessing a foreign country's market, it does not come without drawbacks, namely the integration process which may be difficult, problems related to communication, and the cultural aspects of the country where the new company is located. Contrarily, Greenfield can execute the best approach in the long run where the organization has greater control of the business and economies of scale, nonetheless, it is a long entry process requiring large investments which can be curbed by government restrictions (Shmizu et al., 2004). According to the authors,

the decision to favourably opt for one of the entry modes is determined by considering different variables. Additionally, it diverges from one country to another where the firm-level aspects, macroeconomic elements, and the industry play a role.

2.2 Cross-border mergers and acquisitions

There is evidence which demonstrates that the pace of cross-border M&As expanded quickly between the years of 1990 and 2000. Some elements were accountable for stimulating this expansion, e.g. the occurrence of industry consolidation and privatization, and the liberalization of economies (Shmizu et al., 2004)

However, according to the United Nations Conference on Trade and Development report from 2018, in the year 2017, both the value of announced OFDI greenfield projects and the value of net cross-border M&As declined significantly. The former dropped by 14 per cent to \$720 billion. The latter decreased by 22 per cent to \$694 billion. Although total global M&A activity, including domestic deals, has been robust over the past few years, the aggregate value of the net cross-border M&As, which had been on the rise since 2013, contracted in 2017. The number of M&A transactions, however, sustained its upward trend to almost 7,000 (Zhan et al., 2018).

Erel, Liao, & Weisbach (2012) affirm that theoretically, domestic and cross-border mergers and acquisitions are quite similar, however, cross-border M&As go beyond national borders, facing all the difficulties that a domestic merger would not be confronted with. In this particular case, it is possible to mention the cultural, economic, and institutional differences between countries as factors that may influence the decision to invest abroad or not.

2.2.1 Motives for cross-border mergers and acquisitions

Several different reasons trigger an M&A, and generally speaking, it is possible to group them into three main major categories: strategic reasons, external shocks, and personal motivations (Morresi & Pezzi, 2014).

2.2.1.1 Strategic Reasons

The strategic reasons which foster mergers and acquisitions can be divided into four main components: market power, synergies, geographic diversification, and resources seeking.

Market power is related to the dimensions of an organization, the capability to make decisions at present that will lead to new competitive advantages in the future, and the extent of the competitive advantages the company already possesses (Hitt, Harrison, & Ireland, 2001). According to Morresi & Pezzi (2014) the investment in competitors by an organization via an M&A, which can be classified as a horizontal investment, reduce the number of important rivals leaving a gap in the market to be filled by the post-deal merged organization, which may have sufficient power to dictate prices to costumers beyond competitiveness.

There are different ways where market power may be reached by an organization through cross-border M&A, in other words, when the organization buys a company working in a similar market through horizontal acquisitions, which allows for price controls by the buyer, buys another company via vertical M&A, controlling segments of the chain of value and when it buys a company in a related industry (Hitt, Ireland, Camp, & Sexton, 2001).

On the other hand, according to Goergen & Renneboog (2004), synergies are the most recurring motivations that executives use as a reason to justify buying an organization. They are used as an argument for both national and international M&As. The authors affirm that synergies generate value, and they may come in pair of different types - informational synergies whether the evaluation of the combined organizations is bigger whether compared to the value of the organizations separately; and operating synergies, in case economies of scale and scope exist.

As stated by Gaughan (2007), operating synergies occur when companies merge to reduce their costs and enlarge their organizational capacity through the integration of their businesses. In this scenario, the organizations can generate long-term profits by taking advantage of economies of scale and scope. Economies of scope facilitate for the organizations in utilizing the company's inputs over an ample range of services and products,

for instance, cost savings from distribution and marketing. On the other hand, economies of scale decrease per unit cost, with special attention to the capital-intensive manufacturing organizations, which have a high cost per unit. On the contrary, informational synergies occur when smaller companies with potential growth opportunities are acquired by rich companies with unsatisfactory investment opportunities. Those small companies sometimes have outstanding growth opportunities, nonetheless, as a consequence of meagre administration competencies combined with the absence of prowess, those small companies are sometimes hampered when contending in a wider market. In the scenario where a larger company buys a smaller company, this one will take advantage of the best management while the larger one perceives it can administer the target's assets superiorly. Generally, this reasoning is repeatedly given as a motive for takeovers of smaller companies by large ones (Morresi, & Pezzi, 2014).

As stated by Glaister & Ahammad (2010), diversification is supported by a shred of interesting written evidence as a strategy for an organization's enlargement and turned out to be considered as the principal motive when cross-border mergers and acquisitions are being considered. Diversification, geographically speaking, is important because it gives a company access to brand new developing markets that may be relatively profitable when compared to the bidding's current market. Research has shown that the size of a market in a specific country is a remarkable element to attract foreign investments. The diversification regarding geographic markets is a source of value in cross-border M&As. These sources of value are connected to market power attributable to the international scope, the differences in exchange rates, and the capability to arbitrage tax systems are distinctive to international mergers operations.

According to Lu & Beamish (2004), geographic diversification is a source of exploration and exploitation benefits. The exploration advantages may be pictured in the face of a company's learning position from an organizational perspective. The aforementioned position draws attention to the fact that the acquiring company's subsidiaries in different host countries may be useful to increase its knowledge base, competitiveness experiential learning, and capabilities. On the other hand, the main exploitation advantages are related to the matter that it allows the companies to secure economies of scale and scope, helps in publicizing a company's market power concerning its customers, distributors, and suppliers, and lessen

revenue fluctuations as a consequence of expanding investment risks to different nations. Nonetheless, the initial impelling force to a company's internationalization operation comes from a favourable moment to benefit from the imperfections of the markets in the international utilization of its intangible assets (Morresi, & Pezzi, 2014).

Different researchers theorize that cross-border M&As are driven by the possibility to gain new capabilities and absorb up-to-date knowledge. The investment in an international business that is already well-established grants the acquirer access to potential important resources such as marketing skills, special government regulations that may be used as an entry obstacle for other organizations, patent-protected technology, and managerial skills (Glaister, & Ahammad, 2010).

According to Cassiman, Colombo, Garrone, & Veugelers (2005), a cross-border M&A also helps organizations to obtain capabilities that may be lacking and strengthen the existing ones. It offers simple access to new technologies, which can be a time-consuming activity once the organization has to adapt to the new technology, train and supervise the personnel and determine what the required skills are for the new technology whether done by the organization alone, not through cross-border M&A.

Consequently, in this scenario, it is more coherent to acquire a company that already possesses the aspired technology being used in a functioning division. An additional strategic motivation is the acquisition of complementary knowledge, products, or resources. According to the authors, the M&A between partners that have complementing technologies leads to better research and development execution after the M&A transaction along with a noteworthy rise in research and development effectiveness (Cassiman, Colombo, Garrone, & Veugelers, 2005).

2.2.1.2 External Shocks

According to Popli & Sinha (2014), external shocks that prompt cross-border mergers and acquisitions transactions may divide into three categories: financial market changes, deregulation, and technological changes.

As stated by Sedláček et al. (2011), instability in the financial markets can result in difficulties associated with the financing of private and entrepreneurial operations, impacting the number of operations regarding M&As. When innovation techniques take place in the financial markets, it may be a more transparent system for organizations to facilitate or turn takeovers away. One example is the Drexel Lambert investment bank, which during the fourth wave of mergers, was leading the establishment and expansions regarding the market for junk bonds. Those junk bonds once considered not worthy, turned out to be a demanded channel of investments for businesses seeking to increase essential capital for their acquisitions or raids of large organizations (Gaughan, 2007).

According to Harford (2005), whose research was based on the grounds for grouping in the cluster position, the merger waves usually take place as an answer to specific industry shocks that require a substantial reallocation of assets. Nonetheless, regulatory, economic, and technological shocks are not sufficient alone to make a merger wave occur, an adequate amount of capital liquidity is necessary to trigger the allotment of assets. Once there is a reduction in restrictions for financing and an increase in capital liquidity, higher asset values have to be in existence so that the shock develops a new merger wave.

Alterations in policy and regulatory conditions throughout the last years have given more encouragement to the expansion of international production systems. The elimination of compulsory joint venture conditions and constraints on majority ownership and authorization requirements are instances of alterations pertinent to cross-border mergers and acquisitions (Chen, & Findlay, 2003). According to Morresi & Pezzi (2014), deregulation reduces the constraints on a company's entry and expansion and leads to new investment opportunities. The main industries that have become involved in noteworthy deregulation after the 1970s are airlines, natural gas, broadcasting, trucking, entertainment, telecommunications, utilities, and banking.

A specific sort of industry distress, in this case, deregulation, which was relevant in preceding times, became the main factor in merger and acquisitions activities by the end of the 1980s and is responsible for approximately 50% of the M&As activities since that time, making the 1990s the decennium of deregulation (Andrade, Mitchell, & Stafford, 2001).

The last category of shocks, those related to technology, according to Gaughan (2007), may happen in a variety of ways once technological changes lead to extreme changes in industries that already exist and possibly even result in novel industries. The current increase in cross-border operations, especially in the industries of telecommunications, information, and media, demonstrates the attempts made by organizations seeking to absorb novel markets that have arisen as a consequence of novel technologies. According to Kang & Johansson (2000), the changes in technology lead to a distinct set of methods to stimulate cross-border M&As. From a positive perspective, the reduction in communication and transportation costs have benefited the international expansion of organizations that were aiming to take advantage of and strengthen their competitive advantage. However, the rising costs of research and development in addition to the uncertainties related to changes in technologies, have led companies in cooperating on international markets via diverse tactical associations.

2.2.1.3 Personal Reasons

The agency issue is intrinsic to the slightest bit of association between agent and principal and alludes to conflicts of interest regarding an agent's role to proceed to seek a greater advantage for the principal. When considering a business circle, that signifies the executives of an organization have supposedly to work for the greater good of the shareholders, where their choices lead to a maximization of the shareholders' financial resources, in a way they do not work on their wealth interests (Jensen, & Meckling, 1976).

The hypothesis of managerialism indicates that executives undertake mergers and acquisitions seeking to increment their utility at the organization's shareholder expense. When the managerial theory is taken into consideration to justify cross-border mergers, it means that acquisitions abroad are more easily accepted as a mechanism to reduce risk instead of doing acquisitions in the national market, also, managerialism propels overseas deals which are distinguished by delivering destruction of value (Seth, Song, & Pettit, 2000).

According to Glaister & Ahammad (2010), the administrators may as well present personal or private reasons to explain better their determination to go ahead with deals that may give

the impression of being unreasonable from an economic perspective, however, personally it may be of high value. According to the empire-building theory, the managers hope for an organization's growth for personal grounds, and acquiring another organization may deliver the desired growth. A significant instance is the remuneration explanation by which payments disbursed to administrators take into consideration the dimensions of their organizations.

Roll (1986) has developed the Hubris theory which affirms that decision-makers in acquiring organizations disburse more than what should be paid in merger deals. Fundamentally the theory counts on asymmetric perspectives of the target and acquirer regarding their economic profits related to the investment, where a specific acquirer wrongly overvalues the target whilst convinced its valuation is precise. Furthermore, the Hubris which affects managers is accountable for the winner's curse occurrence. Even though the transaction provides symbiosis, the competitiveness between adversaries can lead the successful bidder to pay excessively for the target. In the aforementioned case, the successful bidder is doomed at the same time it successfully secures the offer once it spends an unreasonably higher amount of cash than what should have been paid (Seth et al., 2000).

The Hubris theory can be pertinent in explaining cross-border mergers and acquisitions once substantial asymmetry of information exists between the target in the domestic market and the international bidder compared to a target and a bidder that are both present in the same market. Besides, the Hubris explanation has a significant responsibility when looking at deals from the creation of value perspective (Seth et al., 2000).

2.2.2 Determinants of cross-border mergers and acquisitions

In the last twenty years, many academic works have attempted to comprehend the determinants behind the number of cross-border merger and acquisition deals. The fundamental determinants concerning those deals are intricate and differ by sector (Kang, & Johansson, 2000). Normally, mergers take place when the managers in control of the organization believe that the value obtained in the scenario of a merged organization is higher compare to the value of the organizations separately (Seth et al., 2000). Many elements play

a key role in the determination of this value, principally when the deal is international once the borderlines of national disputes take form.

According to Kang & Johansson (2000), economic growth impacts the quantities of M&As which usually take place. Some investigations have concentrated on the macroeconomic factor to comprehend the movement of cross-border M&A deals. Vasconcellos & Kish (1998), have emphasized the significance that macroeconomic elements should be given to apprehend the tendencies in international M&As through the years. In the last hundred years, a great number of elements have been determined as being instrumental to the increase in the quantity of cross-border M&As. They can be divided into four main categories: the financial maturity of a country, foreign exchange, corporate governance, and others (which include geographic distance, trade, and cultural values).

2.2.2.1 Financial maturity of a country

Financial maturity in a nation brings growth to the economy and has a significant part to understand a variety of phenomena. Financial development is described as the mixture of efficiency, which is the capacity of the financial organizations in offering financial services at a small price maintaining viable earnings, depth concerning the size and liquidity of markets and access, which provides the capacity of individuals to access financial services. The financial depth of a country, characterized as the level of development of the financial markets, determines the types of financing that are available to the organizations and if they can assume a specific investment or not. The financial depth is measured by the liquidity, which is the value of shares negotiated as a percentage concerning the national income and size, i.e. market capitalization (Sahay et al., 2015)

Di Giovanni (2005) has performed an investigation utilizing the gravity model framework by analysing a substantial sample of data, cross-border mergers and acquisitions streams between 1990 and 1999. He seeks to detect the determinants of the proportions and routes of cross-border mergers. The author discovered in his research that the value of the mergers and acquisitions transactions has risen by seven times. The principal premise in his study was to experiment if the deepest markets from the purchasing nations are somehow positively

related to cross-border deals. The author has learnt that in the purchasing nation, the extent to which the financial sector is developed is of importance and in this scenario, the stock exchange market has a fundamental part. Also, the parameter presents that if the stock market capitalization concerning the gross domestic product ratio grows by 1% in the origin nation that is doing the acquisition, then there is a growth of 0.955% in international mergers and acquisitions deals.

Other authors went deeper and Hyun & Kim (2010) included the excellence of the national institutions in the target nations along with the financial development in the bid countries to explicate the determinants about the magnitude and route of cross-border M&A deals. Their investigation has brought some interpretations, primarily they affirm that the internal pull elements of a country and the external push elements can elucidate the cross-border M&A streams, secondly, the amount of the deals may grow based on the institutional standards of the target nation in addition to the level of financial development of the bid nation. The outcome of the research demonstrates that across the country's examples of determinants for cross-border deals, trade, distance, capitalization of the stock market and, a conversational language is greatly noteworthy.

Hur, Parinduri, & Riyanto (2011), centered their investigation based on the irregular dispersal of cross-border merger and acquisition deals influx to developed and developing nations. However, the extent of development of the financial sector in the nation of destination does not appear to be a significant determinant of deals influx. Based on Di Giovanni (2005) and the authors' research outcomes, they affirm that degree of development in the financial sector in the countries of the source is significant, however, the financial development of the host countries does not have significance.

2.2.2.2 Foreign Exchange

The foreign exchange rates affect the streams and route of cross-border M&As in different manners. As stated by Vasconcellos & Kish (1996), the effective cost of the deal, financing, the costs associated to manage the acquired organization, and the repatriation of the profits from the organization are all impacted by exchange rates. Therefore, the comparative

strength, depreciation, or appreciation of the currency of a bidder nation compared to the target one contributes to the idea of whether or not to invest.

As stated by Froot & Stein (1991), there is a correlation between foreign acquisition and exchange rates. Nevertheless, the authors claim that a decline in the value of the US dollar makes the United States of America an affordable country to perform business both in a foreign or domestic scenario. Unsurprisingly, there are distinctive academic points of view about the part and results played by the foreign exchange rates in cross-border M&As.

Uddin & Boateng (2011) have led an investigation on the footprint of macroeconomic effects concerning cross-border deals. The authors used novel macroeconomic factors that were not detected as a component for location-specific benefits throughout the 1970s to explain observable tendencies in cross-border mergers and acquisitions. The outcome of their research about cross-border M&As presents a positive noteworthy correlation between outward cross-border mergers and acquisitions transactions and pound sterling appreciation. This conclusion contributes to the concept that a stronger pound in relation to other currencies leads to an increase in outward international M&As transactions once it causes foreign resources to be less expensive for buying. Following a similar point of view, Erel et al. (2012) demonstrate that currency fluctuation is an important determinant for cross-border M&As. The authors discovered that moves in a short-term perspective for the currencies in two different nations elevate the probability that acquisitions of target firms take place in the countries where the currency is depreciating by acquirers originating from countries where there is an appreciation of the currency.

On the other hand, McCann (2001), studied the cross-border purchase deals in the United Kingdom from 1987 to 1995 and achieved a distinct conclusion. His research proposes that the exchange rate is a pivotal element in the determination of cross-border M&A. However, there is a lack of consistency in this correlation given that the outcome of his studies demonstrated that there is a negative correlation between exchange rates and inbound or outbound acquisition deals. Another author, Goldberg (1993), reached similar interpretations in her research regarding investment activities in the industry of the United States of America. Her conclusions showed that the decline in the dollar during the 1980s has shrunk the investments in several sectors and created diverse effects in others.

Several other authors have also investigated the correlation between foreign acquisitions and exchange rates. Blonigen (1997) has researched the relationship between FDI acquisitions involving company-specific assets and exchange rates and discovered that there is a robust correlation between higher levels of acquisitions in United States industries and intervals of a weaker US dollar. On the contrary, Görg & Wakelin's (2002) research shows that a variation in the exchange rate has no impact on the United States' inward and outward investment. Those diverse conclusions come as a consequence of the method of the collection of data. Whilst assorted deductions are in place, the real impact of foreign exchange rate fluctuations remains an observed matter (Kiyota & Urata, 2004).

2.2.2.3 Corporate Governance

According to Coffee Jr (1998), cross-border M&As activities are a significant instrument for successful global convergence of corporate governance standards. New studies present that an indispensable characteristic of a high standard of corporate governance is a well-built framework of investor protection, whereabouts the definition of investor protection is related to the scope related to the laws which protect the rights of investors and robustness of the judicial institutions which makes it easier to enforce the law (Defond & Hung, 2004).

As stated by La Porta, Lopez & Shleifer (1997), there are four comprehensive types of laws that regulate investor protection and commercial law: the common law or English law, Scandinavian civil law, German civil law, and French civil law. La Porta et al. (1997) have created an index for creditor and shareholder rights in forty-nine nations. The emphasis on the investigation was related to two groups of laws associated with safety for investors – reorganization, bankruptcy, and company laws. According to their sample, the authors discovered systematic differences in regulations, laws, and enforcement quality in different countries. They have observed two main particularities related to creditor and shareholder rights: the French law provides the worst in the matter of best legal protection for shareholders, whilst the English law offers the best. The German and Scandinavian laws are in between, and the German has comparably better protection for creditors. The legal distinctions between the law sources are better related to the degree where minority investors

are protected concerning the level of legal protection given to shareholders and credit sources.

The index generated by La Porta et al. (1997) was subsequently utilized by several investigators as proxies in relation to the protection of shareholders for a variety of investigations associated with corporate governance. La Porta et al. (2000) suggested that a well-established set of protection for investors associated with a good corporate governance system leads to an increase in M&A deals. According to Pagano, Röell & Zechner (2002), organizations from countries that possess weaker legal system protection for minority shareholders are catalogued overseas more often than organizations from other nations. As per Rossi & Volpin (2004), the volume of M&A deals is notably wider in nations that possess superior accounting norms and better protection for investors. Also, the authors demonstrated that targets in international M&As are commonly located in nations that have poorer shareholder protections when compared to the acquiring nations.

The principal conclusion of Bris, Brisley & Cabolis (2008) is that the purchase of organizations where there is more fragile protection for investors done by organizations in better protective environments leads to an inflated premium whether compared to an alike target in a domestic acquisition. Their study is complemented with the study of Rossi & Volpin (2004), which demonstrates that corporate governance may be a reason for international M&As deals. Furthermore, Wang & Xie (2008) have come up with the corroboration that the purchase of badly administered organizations by satisfactorily administered companies produce a higher value compared to other types of acquisitions. After a deep analysis of shareholder rights, the authors have reached the deduction that dissimilarities in shareholder entitlements have extraordinarily favourable results on acquirer and target investor earnings, demonstrating that acquirers and targets divide the results related to valuation from corporate governance moves.

The anti-self-dealing guide idealized by Djankov, La Porta, Silanes & Shleifer (2008) has resulted in a novel way to evaluate the legal defence for minority shareholders in opposition to seizures and it was assembled with the support from the law firm Lex Mundi for seventy-two countries. The index is computed according to law regulations existing in 2003 where

the principal emphasis is on the private application of apparatus akin to litigation, approval, and disclosure which regulate a particular self-dealing deal.

Djankov et al. (2008) have tried to define what is the most reliable parameter for utilization in studies. According to the authors, investor protection when the law is taken into consideration suits better investigations related to the protection of investors when purchasing stocks instead of looking at corporate governance. At the time, only 49 nations were analysed, however, the authors have revised and extended the index to now include 72.

2.2.2.4 Other factors - Culture, geography, and bilateral trade

The latest studies demonstrate that principles related to culture influence a great number of investment transactions globally. Guiso, Sapienza & Zingales (2006) determine that culture is the traditional value along with beliefs where social, ethnic, and religious clusters pass on reasonably unalterable to their descendants. Regarding cross-border M&As, the countries of the bidders and acquired possess their unique cultural individualities, the individuals' mother tongues are different, they act following their religions and frequently have a well-established feud. The whole of these factors influences the cost of the merger beyond frontiers.

As stated by Guiso et al. (2009), cultural associations are a powerful neglected element when cross-border investment and commerce are taken into consideration. Supplementing the studies in this area, Ahern, Daminelli & Fracassi (2015), have studied the effect of local cultural morals in a sample of international M&As. The study was done with a data sample of 20,000 international mergers and acquisitions from 1991 to 2008 and 52 distinct countries, the authors observed that culture significantly impacts the magnitude of these types of international deals. According to the conclusions, there is a negative correlation between the cultural differences of two nations and the number of international M&A activities, moreover, it asserts that the cultural differences can potentially lead to conflicts between two organizations which may reduce the likelihood of a merger.

Cultural differences supposedly perform an important part in the determination of an M&A deal's performance. However, the experimental study on the association between M&A

performance and cultural differences led to undetermined answers. Some research has discovered a positive effect, while others have come across a negative effect and a few have demonstrated insignificant results. Chakrabarti et al. (2009) have obtained a positive effect concluding that international deals accomplish superior results in a longer-term perspective when the purchased company belongs to nations that have diversification from a cultural perspective. Nevertheless, Datta & Puia (1995) affirm that acquisitions distinguished by a large cultural distance have coincided with a lower wealth impact for the shareholders from the acquiring company. Taking a middle point of view, Slangen (2006), argues about the impact of cultural discrepancies in international mergers and acquisitions outcome is not regularly negative nor favourable, yet it is conditional to the degree of post-deal integration.

When two nations are taken into consideration, the degree of trade between the two of them is a significant promoter of cross-border M&A. In addition to displaying the significance of the host nation, it further works as a channel for forthright investments in the time ahead. Organizations that utilize the correlative international competitive advantage and expertise by trying to find more lasting binds with their commerce partner in a way that both get unified into their activities or make the decision to work locally employing acquisitions. The fastest method to set up a local presence is via acquisitions of assets in a specific nation. Consequently, cross-border M&A is likely to intensify when there is substantial bilateral trade. According to the studies of Hyun & Kim (2010) regarding the motivations of international mergers and acquisitions, trade is a strong noteworthy determinant of cross-border M&A. Furthermore, solid institutions and clear trade practice in the host developing nations conceivably lead to enticing additional mergers and acquisitions streams from advanced nations. Besides, Di Giovanni (2005), states that organizations are likely to do more investments with the nations where there are satisfactory trade agreements between them.

Investigations regarding length from a geographic perspective have earned impetus in studies related to international M&As (Chakrabarti et al., 2009). On one hand, geographic distance can be regarded as a reason for international mergers and acquisitions volume. However, it is not possible to find many studies investigating this element as a possible driver. As stated by Green (1987), who studied the results of distance on acquisitions in a time frame of each five years from 1955 to 1980, the acquisitions normally focused geographically near the acquiring's organization business head office and the number of deals decreases with the

distance. Erel et al. (2012), who analysed the impact of geographic closeness concerning international mergers and acquisitions, affirms as such geography is significant and chances of an acquisition of an organization in a nearby nation are considerably elevated compared to the possibility of acquiring an organization in a nation further away.

3. Methodology

3.1 Sample and data collection

The deals with the following characteristics were extracted from the database Zephyr for this research:

- (i) The acquirers come from China;
- (ii) The targets are located in the countries that are part of the European Union (EU)¹ and the European Free Trade Association (EFTA)²;
- (iii) The acquisition was announced and completed between the dates of January 01st, 2008 and December 31st, 2019;
- (iv) Where the deal type is a Merger or Acquisition;
- (v) The percentage of the acquired stake is between 50% and 100%;

During the aforementioned period, there were a total of 348 deals which have satisfied the criteria, however, not all of them had the deal value or date of completion disclosed. Taking into consideration that there should be all the details of the deals available, the sample has been reduced to 137 observations. When analysed along with the independent variables, which will be discussed later, i.e. no availability of self-dealing index for all the countries that were part of the data such as Malta, the final sample has been reduced to 136 observations, which represents a total of €42.722 billion in M&As deals.

When the sample is analysed by country, the United Kingdom was the country which received the most investments from Chinese investors regarding M&As with 30 deals and a volume of €9.8 billion, followed by France with 12 deals and a volume of €6.36 billion, the Netherlands with 11 deals and €6.3 billion, Germany with 27 deals and a volume of €5.6 billion and Switzerland with 5 deals and a volume of €3.59 billion. It is important to point out that although countries such as France and the Netherlands have had a lower number of

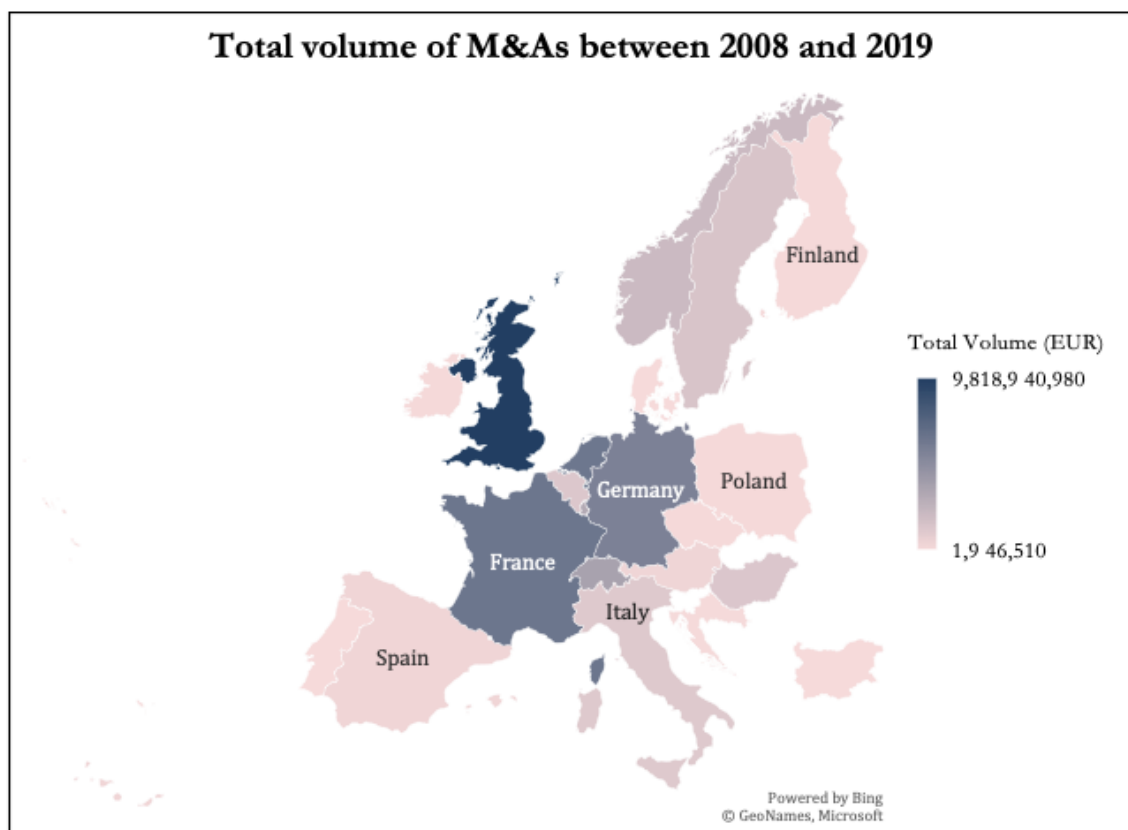
¹ All the countries that were part of the European Union as of December 31st, 2019 were considered for this study, and it includes the United Kingdom, which left the EU in the subsequent year.

² The European Free Trade Association (EFTA) is a regional trade organization and free trade area consisting of four European states: Iceland, Liechtenstein, Norway, and Switzerland.

deals, still the volume of the investments was high enough to be greater than the total volume invested in Germany.

In Figure 1 it is possible to observe the volume of investments between 2008 and 2019 for all the target countries which are part of the sample, where the darker the colour of a country, the higher the total volume in euros of M&As transactions. It is noticeable that the investments through M&As were concentrated in the main economies of Europe, nevertheless, targets in other countries such as Bulgaria, Sweden, Norway, Poland, and Portugal have been involved in M&A deals where the acquirer comes from China.

Figure 1: Total volume of M&As – Acquirer is from China

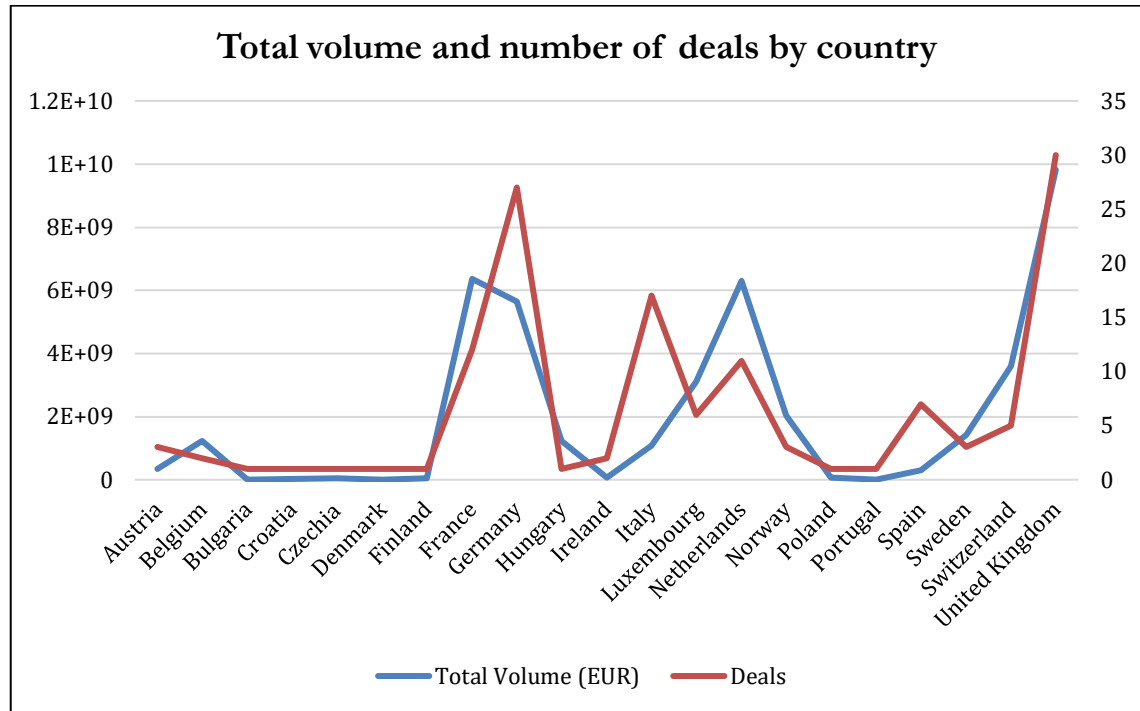


Source: Elaborated by the author based on the data extracted from Zephyr using Bing on Microsoft Excel

In Figure 2 it is possible to observe the number of deals and the total volume in Euros of the deals by country, and as previously mentioned, not necessarily a country with the highest number of deals has had the greatest amount invested.

Regarding the sectors of the target firms, industrials have been remarkably a target of the Chinese investors, especially in the automobile and aircraft industries, followed by the energy sector, where the green energy industry such as wind farms and solar power plants stood out.

Figure 2: Total volume of M&As and number of deals - China is the acquirer



Source: Elaborated by the author based on the data extracted from Zephyr (2008-2019)

3.2 Research Hypotheses

This section aims at introducing the research hypotheses that will be empirically tested throughout this study. The formerly reviewed theoretical determinants for mergers and acquisitions are the basis for the development of those hypotheses, which provide a prediction of the impact of several variables on the determinants of M&As where a firm from China is the acquirer and a firm from the EU or EFTA is the target.

The regression model adopted in this study is based on the one used by Erel, Liao, & Weisbach (2012), which found statistically significance that movements between two nations' currencies' increase the likelihood that companies in the country with the appreciating currency purchase companies in the country with the depreciating currency. In addition,

Uddin & Boateng (2011), also found a positive correlation between outward cross-border mergers and sterling pound appreciation.

Hypothesis 1 (H1): Companies located in a country in which their national currency has depreciated in relation to the national currency of China are more likely to become a target of Chinese investors.

The relative stock market performance between two countries affects the propensity of firms in these two countries to merge, Erel, Liao, & Weisbach (2012), found that the greater the difference in stock market performance between the two countries, the more likely firms in the superior-performing country purchase firms in the worse performing country.

Hypothesis 2 (H2): Companies where the national market return has underperformed in relation to China's market return, tend to become the target of Chinese investors.

Purchasers are usually, but not always, from developed countries and they tend to purchase firms in countries with lower accounting standards. These findings by Erel, Liao, & Weisbach (2012), are consistent with governance arguments because development and accounting standards are likely to be correlated with better corporate governance. Also, Rossi & Volpin (2004) states that firms located in nations with poorer shareholder protections are more likely to become targets in international M&As.

Hypothesis 3 (H3): Companies located in countries with lower corporate governance than China tend to become the target of Chinese investors.

The findings from Erel, Liao, & Weisbach (2012) is that taxes appear to affect cross-border merger decisions since acquirers are more likely to be from countries with higher corporate income tax rates than the countries in which targets are located.

Hypothesis 4 (H4): Companies that are located in countries that have a lower corporate tax rate than China are more likely to become a target of Chinese companies through M&As.

As stated by Green (1987), acquisitions of foreign companies focused on countries near the acquirers' organizations' head office. Besides, Erel, Liao, & Weisbach (2012), states that geography is relevant, once the chances of investing in a firm in a nearby nation are substantially higher than the chances of investing in a nation far away.

Hypothesis 5 (H5): The more distant in kilometres the capital city of a target country in relation to China's capital - Beijing, the less likely it will become a target of Chinese investors.

According to Di Giovanni (2005), firms tend to invest in countries where there are substantial and satisfactory trade agreements between them. Furthermore, Erel, Liao, & Weisbach (2012), have found that mergers are likely to occur between firms of countries that trade more commonly with one another since they are more likely to have synergies and also a common cultural background.

Hypothesis 6 (H6): The higher the bilateral trade between a country from the EU or EFTA and China, as a percentage of the imports from the target nation in relation to the acquiring nation, the more likely it is for a firm of the EU or EFTA to become a target of a Chinese company.

3.3 Regression model

For this study, it was used the Ordinary Least Squares regression model so that the determinants which have an impact on the number of cross-border mergers and acquisitions as per the literature review could be tested. The regression model adopted was originally based on the one used by Erel, Liao, & Weisbach (2012).

$$\begin{aligned} \text{Number of cross - border deals}_{j,i} = & \beta_0 + \beta_1 \text{Exchange Rate}_{j-i} + \beta_2 \text{Market Return}_{j-i} + \\ & \beta_3 \text{Invest. Protection}_{j-i} + \beta_4 \text{Corporate Tax}_{j-i} + \beta_5 \text{Geographic Distance}_{j,i} + \beta_6 \text{Bil. T}_{j,i} + \\ & \beta_7 \text{GDP Growth}_{j-i} + \beta_8 \text{Log GDP per capita}_{j-i} + \varepsilon_i \end{aligned}$$

3.3.1 Definition of Variables

Number of cross – border deals_{j,i}

Study variable which measures the number of cross-border deals related to a pair of countries in the period between 2008 and 2019. In this study, the acquirer comes from country “j” and the target is located in the country “i”, where $j \neq i$, and “j” comes from China, except for Hong Kong and Macao, and “i” is any country that is part of the EU or EFTA.³

Exchange Rate_{j-i}

Explanatory variable - real exchange rate return difference between the two countries' currencies over the sample period, once changes in relative valuation are likely to lead to acquisitions (Erel, Liao, & Weisbach, 2012). The exchange rate of both countries “j” and “i” is analysed in USD and converted to the nominal prices of the 2010 level. The data related to the exchange rates is obtained from Refinitiv Datastream (Thomson Reuters Eikon) and the Consumer Price Index (CPI) from the World Bank which is used to adjust for the real exchange rates.

Market Return_{j-i}

Explanatory variable – average real 12-month stock return difference of the country indices measured in USD over the sample period for each country pair, once relative valuation likely leads to acquisitions (Erel, Liao, & Weisbach, 2012). The indices were obtained in local currency and converted to USD as per the effective exchange rate at the end of each month and adjusted to the CPI of 2010 price level.

Investor Protection_{j-i}

Explanatory Variable – difference between the two countries' "j" and "i" anti-self-dealing index are taken from Djankov et al. (2008) as a proxy for corporate governance, once regulatory and legal differences between countries potentially affect cross-border acquisitions (Erel, Liao, & Weisbach, 2012). The index assesses the protection of investors regarding

³ Differently from Erel, Liao, & Weisbach (2012), who analysed cross-border mergers from both countries in a pair – the pair could be acquirer and target at the same time, and used the number of mergers as a percentage of the total number of deals, in this study it is only taken into consideration the total number of M&As where China is the acquirer, therefore the absolute number of deals is used for the dependent variable.

conflict of interests and shareholders' rights in corporate governance and it is a proxy for the quality of a country's institutional, accounting, and legal standards (Djankov et al., 2008). The anti-self-dealing index is available to all countries of our sample, except for Malta, which was removed and left 136 deals to be analysed.

Corporate Tax_{j-i}

Explanatory variable – the average difference in corporate income tax rates between acquirer and target countries for the sample period, once there is a possibility that international tax differences could motivate cross-border mergers (Erel, Liao, & Weisbach, 2012). The data was obtained from the Organisation for Economic Co-operation and Development (OECD) Statutory Corporate Income Taxes Rates data basis.

Geographic Distance_{j,i}

Explanatory variable - to capture the regional effect, we include the great circle distance⁴ in kilometres between the capital cities of two countries, once the distance between two nations can potentially affect the number of deals, increasing the likelihood of an M&A the closer to each other the target and acquirer are (Green, 1987).

Bil. T_{1j,i}

Explanatory variable – to control for the volume of business between the two countries, it was used the measure of bilateral trade flows - the maximum of bilateral imports between the two countries. The value of bilateral imports is calculated as the value of imports by the target firm's country from the acquirer firm's country as a fraction of total imports by the target firm's country (Rossi & Volpin, 2004). The data was obtained from the United Nations Comtrade Database.

⁴ The great circle distance was calculated based on the latitude and longitude of two capital cities of a pair of countries obtained from Google Geolocation Maps. The following formula was used to calculate the distance: Distance between capital cities of countries “1” and “2” = $(2 \times 6371000 \times \arcsin(\sqrt{(\sin((\text{Lat}2 \times (3.14159/180)) - \text{Lat}1 \times (3.14159/180))/2)^2 + \cos(\text{Lat}2 \times (3.14159/180)) \times \cos(\text{Lat}1 \times (3.14159/180)) \times \sin(((\text{Lon}2 \times (3.14159/180)) - \text{Lon}1 \times (3.14159/180))/2)^2}))/1000$.

GDP Growth_{j-i}

Control variable – to control for changes in macroeconomic conditions over the sample period, we include the average difference between the pair of countries of the annual real growth rate of GDP from 2008 to 2019, once the GDP growth of a nation may lead to an increase in M&A activities (Erel, Liao, & Weisbach, 2012). The data used to analyse this variable was obtained from the International Monetary Fund (IMF).

Log GDP per capita_{j-i}

Control Variable – to control for alterations in macroeconomic conditions over the sample, we include the difference between the countries' log of GDP in 2010 U.S. dollars level. The data was obtained from the World Development Indicators – World Bank.

4. Analysis of results

4.1 Overview of results

Table 1 below illustrates the mean, median, maximum, and minimum of the variables regarding the analysis. It displays the descriptive statistics of all observations of this study – that is information regarding the 136 mergers and acquisitions that took place between 2008 and 2019 where China is the acquirer and a country of the EU or EFTA is the target.

Table 1: Descriptive statistics of the M&As deals sample

	Dependent	Exchange Rate	Market Return	Investor Protection	Corporate Tax	Geographic Distance	Bilateral Trade	GDP Growth	Ln (GDP) per capita
Mean	1.789474	0.707073	0.000562	0.356581	5.129802	7,727.043	0.071499	0.065571	10.12937
Median	1.00000	0.962037	-0.003475	0.388889	5.0000	7,644.62	0.062279	0.059	10.53183
Maximum	9.00000	1.60042	0.06993	0.58125	16.0000	9,667.51	0.158244	0.175	11.48822
Minimum	1.00000	-0.342527	-0.037712	-0.1875	0.0000	6,322.24	0.026976	-0.182	5.438079
Std. Dev.	1.339809	0.527131	0.019147	0.190883	4.054049	760.1819	0.031775	0.035883	1.059787
Skewness	2.666107	-0.26999	0.896047	-1.347044	0.846709	0.668833	0.891594	-0.728014	-1.56053
Kurtosis	12.78160	1.403505	3.713302	4.36476	3.400337	3.615011	3.584526	11.5907	5.592097
Obs.	136	136	136	136	136	136	136	136	136

Source: Elaborated by the author based on the data used in the regression analysis

The results above denote that considering all the number of M&As deals where China is the acquirer and a country of the EU or EFTA is the target within a year available in Zephyr between 2008 and 2019, the average of the number of deals in a pair of countries is 1.789474 per year, where 9 is the maximum of deals for a pair of countries within a year.

Regarding the exchange rate, the average difference in adjusted USD in the sample period between the acquirer and the target is 0.707073 and the maximum is 1.60043. In our study, the higher the difference, the more depreciated is the Renminbi in relation to the target country currency, which is likely to reduce the number of deals, once it becomes more costly to invest abroad.

Overall, the average difference between the corporate tax rate of China and the target countries between 2008 and 2019 is 5%, meaning that target countries have on average a corporate tax rate 5% lower than China, and the minimum average difference is 0%, meaning that none of the target countries has a corporate tax rate higher than China.

Concerning investor protection, the mean of our sample is 0.356581, meaning that firms in China buy firms in countries that have lower investor protection standards compare to China, however, it is possible to observe that for the minimum the number is -0.1875, which demonstrates that firms in China purchased firms in countries with higher investor protection.

Geographic distance does not have high discrepancies, once the European countries are close to each other, however, it is interesting to observe that the farthest capital city of a target country in our sample is 9,667.51 kilometres away from Beijing, which turned out to be Lisbon – Portugal. On the other hand, Helsinki – Finland, is the closest.

From the total amount of imports in target countries, those that come from China, are on average 7.14%. However, there is in our sample a nation where the imports from China account for 15.82% of the total imports of the target country, demonstrating a high dependency on Chinese products.

The average difference of market return from China and a target country is 0.0562%, which means that the market returns can be aligned, and possibly when one market goes up, so does the Chinese. The maximum difference is 6.993%, meaning that in this case, the market return of China was almost 7% higher than that of the target nation.

4.2 Correlation between variables

To verify the existence of multicollinearity between the explanatory variables used in this study, a correlation matrix between each one of them was constructed. Table 2 below shows the correlation of each variable of the regression model and also the *p-values* significance. The *p-values* are indicated in parenthesis.

Table 2: Correlations - China is the acquirer

	N. Deals	Exchange Rate	Market Return	Investor Protection	Corporate Tax	Geographic Distance	Bilateral Trade	GDP Growth
N. Deals	1.000000							
Exchange Rate	0.376929 (0.0000)***	1.000000						
Market Return	-0.032638 (0.6061)	0.071226 (0.2600)	1.000000					
Investor Protection	-0.172857 (0.0059)***	-0.381743 (0.0000)***	-0.024884 (0.6942)	1.000000				
Corporate Tax	-0.103511 (0.1011)	0.085347 (0.1768)	0.002579 (0.9675)	-0.353219 (0.000)***	1.000000			
Geographic Distance	0.11119 (0.07810)*	0.537366 (0.0000)***	0.098562 (0.1168)	-0.189348 (0.0025)***	0.021571 (0.7333)	1.000000		
Bilateral Trade	0.143303 (0.0229)**	-0.165982 (0.0083)***	-0.045664 (0.4705)	0.03732 (0.5554)	-0.176251 (0.0050)***	-0.258083 (0.0000)***	1.000000	
GDP Growth	-0.120211 (0.0567)*	-0.021428 (0.7350)	-0.027419 (0.6649)	0.062611 (0.3222)	-0.181587 (0.0038)***	0.049971 (0.4296)	-0.034128 (0.5897)	1.000000
Ln (GDP per capita)	0.14429 (0.0220)**	0.25915 (0.0000)***	-0.07437 (0.2395)	0.02405 (0.7040)	-0.50495 (0.000)***	0.020834 (0.7421)	0.004003 (0.9496)	0.132094 (0.0361)**

***, ** and * refers to the significance levels of 1%, 5% and 10%, respectively

Pearson's correlation coefficient is a measure of the direction and degree in which two variables are linearly correlated. This coefficient provides a result that is unaffected by the magnitude of the measurements used in the series and it varies from -1 to 1, where the lower one denotes a perfect negative linear relationship and the higher one denotes a perfect positive linear relationship.

Furthermore, the *p-value* attempts to provide a measure of the strength of test results. If the null hypothesis is true and the chance of random variation is the only reason for the sample differences, then the *p-value* is a quantitative measure to feed decision-making as evidence. Consequently, the lower the *p-value*, the more evidence exists. If the *p-value* is lower than 10% then the null hypothesis is rejected.

As can be observed in table 2, none of the coefficients catalogued is classified as having a strong correlation between the variables, once for it to happen, the coefficients should be higher than 0.8.

However, it can be seen a moderate positive correlation between the appreciation of the acquirer's currency (Exchange Rate) and the more distant the capital city of the acquirer's in relation to the target's one (Geographic Distance). This makes sense in our sample, once the target country with the highest number of deals, is the United Kingdom and its capital city, London, is not the closest to Beijing and the number of deals increased when the Chinese Renminbi has appreciated in relation to the Great British Pound.

Regarding the variable Corporate Tax and the Ln (GDP per capita), it is possible to observe a moderate negative correlation between them. Furthermore, the *p-value* demonstrates a significance of 1%, which indicates that the higher the corporate tax difference between a pair of countries, the lower the GDP per capita difference between the acquirer and the target nations.

The correlation between the Number of Deals and the Exchange Rate was classified as a moderate correlation. In this case, the *p-value* is also demonstrating a significance of 1%. Based on these results, it is possible to infer that the number of deals is higher when there is an appreciation of the exchange rate of the acquirer's currency in relation to the target's currency.

It was also possible to detect a weak negative correlation of 0.38 between Exchange Rate and Investor Protection, where the higher the appreciation of the acquirer's currency in relation to the target's currency, the lower the anti-self-dealing index difference between the two countries.

Lastly, it was possible to realise that there is a weak negative correlation of 0.35 between the Investor Protection and Corporate Tax, meaning that the higher the difference between the two countries' anti-self-dealing index, the lower the corporate tax difference between them.

4.3 Analysis of the regression model

This section will discuss the main results of the regression model adopted. Table 3 below contains the regressions' results of 5 OLS regressions. The first column (1), represents a regression where only Exchange Rate and Market Return along with the control variables are taken into consideration. The regression in column (2), only considers the investor protection and control variables, regression (3) is based on the corporate tax and control variables, regression (4), geographic distance and control variables, and regression (5) is the regression of our interest where all the independent variables are taken into consideration.

The *p-values* for the regression's coefficients are in parentheses underneath the coefficient estimates. It is also possible to assess R^2 , which is a measure that indicates the impact of the variation of independent variables on the variations of the dependent variable.

Table 3: Cross-sectional data results - China is the acquirer

	(1)	(2)	(3)	(4)	(5)
Exchange Rate	0.863924*** (0.0000)				0.942016*** (0.0000)
Market Return	-2.936097 (0.3748)				-3.323735 (0.3127)
Investor Protection		-1.006059*** (0.0046)			-0.481488 (0.2048)
Corporate Tax			-0.008674 (0.6655)		-0.051993** (0.0110)
Geographic Distance				0.000234** (0.0112)	-0.000129 (0.2070)
Bilateral Trade	7.040049*** (0.0005)	5.021660** (0.0179)	4.586194** (0.0371)	6.220183*** (0.0048)	5.473686*** (0.0091)
GDP Growth	-3.466615* (0.0512)	-3.871007** (0.0411)	-4.322922** (0.0261)	-4.395335** (0.0208)	-3.829178** (0.0318)
Ln (GDP per capita)	0.053339 (0.3927)	0.171054*** (0.0077)	0.152015** (0.0430)	0.165403** (0.0102)	-0.055857 (0.4578)
R²	0.201969	0.089792	0.060289	0.083820	0.225997
N Observations	136	136	136	136	136

This table presents the estimation output of the base model through OLS regressions for 22 target countries. The independent variables are regressed against the number of cross-border deals where the acquirer is from China and the target is located in a country in the EU or EFTA. The exchange rate is the difference between

the adjusted USD exchange rates of a pair of countries. The market return is the difference between the average market return of the acquirer and target countries. Investor protection is the difference between the anti-self-dealing index of a pair of countries. Corporate Tax is the difference in corporate tax between acquirer and target. Geographic Distance is the distance between the capital cities of a pair of countries. Bilateral trade is the relative participation of imports from an acquirer country in the target country. To control for macroeconomic factors, it was included as control variables the difference of the GDP growth between a pair of countries and logarithm of GDP per capita. Panel-corrected standard errors robust to heteroscedasticity and cross-sectional dependence are reported in parenthesis. Statistical significance is denoted by * at 0.10, ** at 0.05 and *** at 0.01.

Our results suggest that the exchange rate is relevant for Mergers and Acquisitions, where the acquirer is from China and the target is in the EU or EFTA. The variable aligns with the findings from Erel et al. (2012) and Uddin & Boateng (2011) and confirms H1, where the more appreciated the Chinese Renminbi has become, the more likely to purchase in the target countries of our sample.

On the other hand, the Market Return did not meet our expectations and it was not possible to confirm our hypothesis of interest H2. Preliminary, without looking at the statistical significance, the signal indicates that Chinese investors have engaged in M&As when target countries' markets have outperformed China. However, there is no statistical significance to confirm this finding. This might be because the European markets tend to give a similar return and Chinese investors were willing to access new markets even when the assets were more expensive.

The hypothesis H3, investor protection, could not be confirmed once it has no statistical significance, however, the signal demonstrates that acquirers from China tend to buy firms in countries where the standards protection for investors are lower than in China, which is in line with the findings from Rossi & Volpin (2004).

Corporate tax is relevant and is in line with our expectations, confirming hypothesis H4. Therefore, Chinese investors are more likely to engage in M&As deals in Europe when the corporate tax rate of the target country is lower than the corporate tax in China. Corroborating with Erel et al. (2012) findings.

The hypothesis H5 related to geographic distance could not be confirmed when analysed along with all the other independent variables, regression (5), once there is no statistical significance, however, the expected signal aligns with the findings from Green (1987). Where

the shorter the distance between the capital cities of a pair of countries, the more chances of them engaging in M&As deals.

Hypothesis H6 related to bilateral trade could be confirmed, once there is statistical significance in our findings. It means that the more a target country of our sample imports from China, the higher the chances of firms in this country to become targets of firms from China, which is in line with the findings from Di Giovanni (2005) and Erel et al. (2012).

Concerning the control variables, GDP growth is relevant and indicates that Chinese investors not necessarily invested in the target nations of our sample when the GDP growth has performed well, opposing the findings from Erel et al. (2012). This may be due to the fact that our sample is in the range from 2008 to 2019, where two economic crises hit Europe, the Great Recession from 2007 to 2009, and the European Debt crisis. On the other hand, $\ln(\text{GDP per capita})$ has no statistical significance and we cannot infer any conclusions from this variable.

5. Conclusions

The present work analysed 136 mergers and acquisitions deals where a firm from China was the acquirer and a firm located in the European Union or EFTA was the target between 2008 and 2019, representing a total of €42.722 billion in M&As transactions.

The principal goal of this study was to analyse the determinants that lead firms from China to invest in companies in the European Union or EFTA. In order to reach this goal, it was utilized the regression model from Erel et al. (2012), with a few modifications, once it was not used religion or common language as originally proposed by the authors, it would only be sensible to add such variables if the sample covered more regions of the world other than the ones used in this work.

It was possible to test and confirm that four variables have an impact on the decision for Chinese investors to undertake M&As in Europe. The appreciation of the Renminbi in relation to the currency of a European nation makes it more likely to become a target of Chinese firms, countries with lower corporate tax are more likely to become a target of Chinese investors, the more bilateral trade between a European country and China, the higher the chances of the firms in the European country to become targets and our control variable GDP growth has demonstrated that firms in countries with gross domestic product growth lower than China tend to become targets in M&As deals.

The findings are in line with the expected results as per the discussion from Uddin & Boateng (2011) for the currency valuation, Erel et al. (2012) for corporate tax, Rossi & Volpin (2004) for bilateral trade and is inverse to the expected results for GDP growth as per Erel et al. (2012).

On the other hand, it was not possible to confirm the impact of the market return, investor protection, geographic distance, and Ln (GDP per capita) on the number of M&As. The market return may be impacted by the fact that the European nations have similar returns and usually move alike unless there is a specific situation in a country that causes an abnormal return. Besides, there were two crises during the sample period, which may have added noise to the data. Regarding geographic distance, since European capitals are quite close to each

other - especially where most of the acquisitions took place, it might be a reason for the non-relevance of the variable. Furthermore, the deals were distributed mainly among the United Kingdom, Germany, France, the Netherlands, and Italy, equilibrating the origin of the laws that rule regarding shareholders' rights, which could be a reason for the non-statistical significance of the variable investor protection.

Our conclusions confirm three hypotheses out of six and one control variable shows relevance to the model, which demonstrates that the explainable variables previously discussed can be used for the studies of determinants of cross-border M&As.

The limitations of this study may be a reason why the other three hypotheses could not be confirmed. Due to the lack of complete data we had to reduce the number of observations to 136 out of 348 deals, also we have only analysed the countries in the European Union and EFTA, which have a number of similarities among them, namely, currency, capital distances, market returns, and investor protections.

Since the regression model proposed by Erel et al. (2012) could only be partially validated using the deals involving European countries and China, it is a suggestion for future research to increase the sample beyond Europe to test the determinants of Chinese investments in cross-border deals in different regions of the world.

6. References

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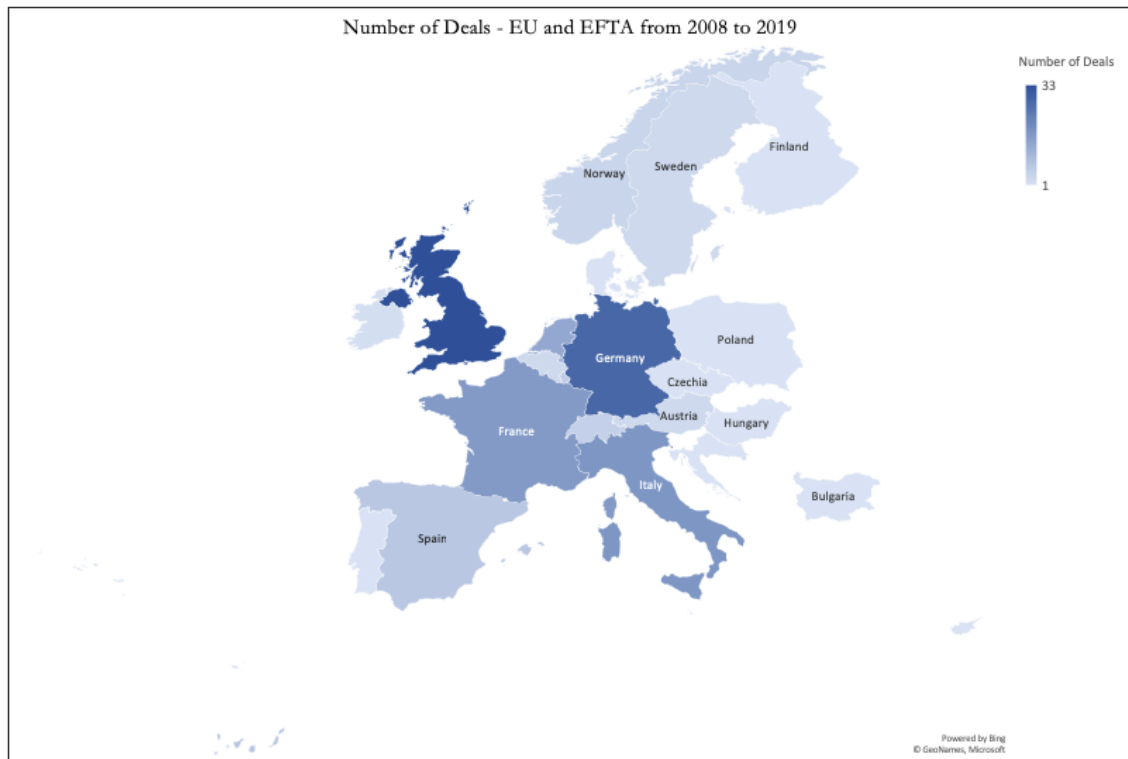
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7. Appendices

Figure 3: Number of M&As deals - China is the acquirer



Source: Elaborated by the author based on the data extracted from Zephyr using Bing on Microsoft Excel

Table 4: Anti-self-dealing index

Country	Legal Origin	Disclosure in periodic filings	Standing to sue	Rescission	Ease of holding Mr. James liable	Ease of holding approving body liable	Access to evidence	Ease of proving wrongdoing	Ex-post private control of self-dealing	Anti-self-dealing index
Austria	French	0,40	1,00	0,00	0,50	0,50	0,25	0,45	0,43	0,21
Belgium	English	0,80	1,00	0,50	0,50	0,50	0,50	0,60	0,70	0,54
Bulgaria	French	0,80	0,00	0,00	0,00	0,00	0,75	0,15	0,48	0,65
Croatia	German	0,40	0,00	0,00	0,50	0,50	0,25	0,25	0,33	0,25
Czech Rep.	German	0,40	1,00	0,00	0,50	0,50	1,00	0,60	0,50	0,33
Denmark	German	0,80	1,00	0,00	0,50	0,50	0,75	0,55	0,68	0,46
Finland	German	1,00	1,00	0,00	0,50	0,50	0,75	0,55	0,78	0,46
France	French	0,80	1,00	1,00	0,00	0,50	0,25	0,55	0,68	0,38
Germany	German	0,40	1,00	0,00	0,50	0,50	0,25	0,45	0,43	0,28
Greece	French	0,40	0,00	0,00	0,50	0,50	0,50	0,30	0,35	0,22
Hungary	German	0,20	1,00	0,00	0,50	0,50	0,63	0,53	0,36	0,18
Iceland	German	0,40	0,00	0,00	0,50	0,50	0,75	0,35	0,38	0,26
Ireland	English	0,80	1,00	0,50	1,00	0,50	1,00	0,80	0,80	0,79
Italy	French	1,00	1,00	0,00	0,00	0,50	0,25	0,35	0,68	0,42
Latvia	German	0,40	1,00	0,00	0,50	0,50	1,00	0,60	0,50	0,32
Lithuania	French	0,80	0,00	0,00	0,50	0,50	0,75	0,35	0,58	0,36
Luxembourg	French	0,60	0,00	0,00	0,50	0,50	0,00	0,20	0,40	0,28
Netherlands	French	0,60	0,00	0,00	0,00	0,00	0,50	0,10	0,35	0,20
Norway	German	0,20	1,00	0,00	1,00	0,50	0,75	0,65	0,43	0,42
Poland	German	0,20	1,00	0,00	0,00	0,50	0,75	0,45	0,33	0,29
Portugal	French	1,00	1,00	0,00	0,50	0,50	0,50	0,50	0,75	0,44
Romania	French	0,60	1,00	0,00	0,50	0,50	0,50	0,50	0,55	0,44
Spain	French	0,60	1,00	0,00	0,50	0,50	0,25	0,45	0,53	0,37
Sweden	German	0,40	1,00	0,00	0,50	0,50	1,00	0,60	0,50	0,33
Switzerland	German	0,40	1,00	0,00	0,50	0,50	0,50	0,50	0,45	0,27
United Kingdom	English	1,00	1,00	0,50	1,00	0,50	1,00	0,80	0,90	0,95
China	French	0,80	1,00	0,00	0,00	0,00	0,25	0,25	0,53	0,76

Source: The law and economics of self-dealing (Djankov et al., 2008)

Table 5: Corporate tax by country from 2008 to 2019

LOCATION	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Austria	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00
Belgium	33,99	33,99	33,99	33,99	33,99	33,99	33,99	33,99	33,99	33,99	29,00	29,00
Bulgaria	10,00	10,00	10,00	10,00	10,00	10,00	10,00	10,00	10,00	10,00	10,00	10,00
Croatia	20,00	20,00	20,00	20,00	20,00	20,00	20,00	20,00	20,00	20,00	18,00	18,00
Czech Republic	21,00	20,00	19,00	19,00	19,00	19,00	19,00	19,00	19,00	19,00	19,00	19,00
Denmark	25,00	25,00	25,00	25,00	25,00	25,00	24,50	22,00	22,00	22,00	22,00	22,00
Finland	26,00	26,00	26,00	26,00	24,50	24,50	20,00	20,00	20,00	20,00	20,00	20,00
France	33,33	33,33	33,33	33,33	33,33	33,33	33,33	33,33	33,30	33,33	33,00	31,00
Germany	29,51	29,44	29,41	29,37	29,48	29,55	29,58	29,72	29,72	29,79	30,00	30,00
Hungary	16,00	16,00	19,00	19,00	19,00	19,00	19,00	19,00	19,00	9,00	9,00	9,00
Ireland	12,50	12,50	12,50	12,50	12,50	12,50	12,50	12,50	12,50	12,50	12,50	12,50
Italy	31,40	31,40	31,40	31,40	31,40	31,40	31,40	31,40	31,40	24,00	24,00	24,00
Luxembourg	29,63	28,59	28,59	28,80	28,80	29,22	29,22	29,22	29,22	27,08	26,01	26,01
Netherlands	25,50	25,50	25,50	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00
Norway	28,00	28,00	28,00	28,00	28,00	28,00	27,00	27,00	25,00	24,00	23,00	22,00
Poland	19,00	19,00	19,00	19,00	19,00	19,00	19,00	19,00	19,00	19,00	19,00	19,00
Portugal	25,00	25,00	25,00	25,00	25,00	25,00	23,00	21,00	21,00	21,00	21,00	21,00
Spain	30,00	30,00	30,00	30,00	30,00	30,00	30,00	28,00	25,00	25,00	25,00	25,00
Sweden	28,00	26,30	26,30	26,30	26,30	22,00	22,00	22,00	22,00	22,00	22,00	21,40
Switzerland	19,20	18,96	18,75	18,31	18,06	18,01	17,92	17,92	17,92	17,77	18,00	18,00
United Kingdom	30,00	28,00	28,00	26,00	24,00	23,00	21,00	20,00	20,00	19,00	19,00	19,00
China	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00	25,00

Source: Organisation for Economic Co-operation and Development (OECD) - Statutory Corporate Income Taxes Rates data basis

Table 6: GDP per capita by country from 2008 to 2019

Country Name	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Austria	49 110,00	49 000,00	49 610,00	50 590,00	50 060,00	50 700,00	50 370,00	47 450,00	46 220,00	45 150,00	49 400,00	51 300,00
Belgium	46 470,00	46 840,00	46 950,00	46 400,00	47 100,00	47 880,00	47 800,00	45 540,00	43 440,00	42 750,00	45 940,00	47 350,00
Bulgaria	6 070,00	6 670,00	6 940,00	7 220,00	7 430,00	7 590,00	7 740,00	7 450,00	7 430,00	7 640,00	8 910,00	9 410,00
Switzerland	63 190,00	70 370,00	77 570,00	79 720,00	84 880,00	88 740,00	86 560,00	85 800,00	82 110,00	81 120,00	84 430,00	85 500,00
Czech Republic	18 340,00	18 690,00	19 280,00	19 420,00	19 350,00	19 270,00	18 800,00	18 260,00	17 590,00	17 970,00	20 230,00	22 000,00
Germany	43 570,00	43 520,00	44 550,00	47 220,00	46 530,00	47 190,00	47 620,00	45 850,00	44 290,00	43 680,00	47 150,00	48 520,00
Denmark	60 390,00	60 090,00	61 220,00	61 990,00	61 650,00	63 200,00	63 670,00	60 510,00	58 040,00	56 210,00	60 920,00	63 240,00
Spain	32 190,00	32 460,00	31 880,00	30 950,00	29 520,00	29 210,00	29 130,00	28 430,00	27 530,00	27 060,00	29 320,00	30 390,00
Finland	50 070,00	48 800,00	49 600,00	50 150,00	48 940,00	49 480,00	49 390,00	47 150,00	45 490,00	44 740,00	48 300,00	49 580,00
France	43 460,00	43 930,00	43 850,00	44 350,00	43 380,00	43 780,00	43 320,00	41 100,00	39 070,00	38 340,00	41 080,00	42 400,00
United Kingdom	48 580,00	44 220,00	41 650,00	41 070,00	41 700,00	42 740,00	44 330,00	44 290,00	42 980,00	41 370,00	41 730,00	42 370,00
Croatia	14 270,00	14 110,00	14 070,00	14 000,00	13 420,00	13 550,00	13 260,00	12 970,00	12 380,00	12 640,00	14 010,00	14 910,00
Hungary	13 230,00	13 380,00	13 190,00	13 170,00	12 990,00	13 480,00	13 540,00	13 220,00	13 050,00	13 080,00	14 760,00	16 140,00
Ireland	50 920,00	46 810,00	44 880,00	41 900,00	40 590,00	43 480,00	46 320,00	50 350,00	52 490,00	53 480,00	59 640,00	62 210,00
Italy	37 910,00	37 870,00	37 850,00	37 900,00	36 200,00	35 550,00	34 890,00	32 980,00	31 950,00	31 360,00	33 770,00	34 460,00
Luxembourg	88 000,00	71 220,00	78 220,00	76 260,00	75 450,00	75 500,00	76 470,00	72 470,00	68 670,00	66 430,00	70 910,00	73 910,00
Netherlands	52 670,00	53 670,00	53 900,00	54 480,00	52 930,00	52 950,00	51 980,00	49 810,00	46 900,00	47 140,00	51 310,00	53 200,00
Norway	87 520,00	87 910,00	88 560,00	90 420,00	99 220,00	104 330,00	104 560,00	93 110,00	81 810,00	76 210,00	80 640,00	82 500,00
Poland	11 970,00	12 530,00	12 770,00	12 950,00	13 300,00	13 530,00	13 680,00	13 350,00	12 680,00	12 740,00	14 150,00	15 200,00
Portugal	22 590,00	22 920,00	22 960,00	22 720,00	21 150,00	21 370,00	21 190,00	20 440,00	19 930,00	20 050,00	21 990,00	23 080,00
Sweden	55 480,00	52 470,00	54 580,00	56 570,00	58 930,00	61 580,00	61 690,00	58 250,00	54 370,00	52 970,00	55 620,00	55 840,00
China	3 100,00	3 680,00	4 340,00	5 050,00	5 930,00	6 770,00	7 510,00	7 940,00	8 270,00	8 740,00	9 620,00	10 410,00

Source: World Development Indicators – World Bank

Table 7: Real GDP growth by country from 2008 to 2019

GDP Growth	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Austria	1,50%	-3,80%	1,80%	2,90%	0,70%	0,00%	0,70%	1,00%	2,10%	2,50%	2,40%	1,60%
Belgium	0,40%	-2,00%	2,90%	1,70%	0,70%	0,50%	1,60%	2,00%	1,50%	2,00%	1,50%	1,40%
Bulgaria	6,10%	-3,40%	0,60%	2,40%	0,40%	0,30%	1,90%	4,00%	3,80%	3,50%	3,10%	3,40%
China	9,70%	9,40%	10,60%	9,50%	7,90%	7,80%	7,30%	6,90%	6,80%	6,90%	6,70%	6,10%
Croatia	1,80%	-7,40%	-1,50%	-0,30%	-2,20%	-0,50%	-0,10%	2,40%	3,50%	3,10%	2,70%	2,90%
Czech Republic	2,70%	-4,80%	2,30%	1,80%	-0,80%	-0,50%	2,70%	5,30%	2,50%	4,40%	2,80%	2,60%
Denmark	-0,50%	-4,90%	1,90%	1,30%	0,20%	0,90%	1,60%	2,30%	3,20%	2,00%	2,40%	2,40%
Finland	0,80%	-8,10%	3,20%	2,50%	-1,40%	-0,90%	-0,40%	0,50%	2,70%	3,10%	1,60%	1,00%
France	0,30%	-2,90%	1,90%	2,20%	0,30%	0,60%	1,00%	1,10%	1,10%	2,30%	1,70%	1,30%
Germany	1,00%	-5,70%	4,20%	3,90%	0,40%	0,40%	2,20%	1,70%	2,20%	2,50%	1,50%	0,60%
Hungary	1,10%	-6,70%	0,70%	1,80%	-1,50%	2,00%	4,20%	3,80%	2,20%	4,30%	5,10%	4,90%
Ireland	-4,50%	-5,10%	1,80%	0,30%	0,20%	1,40%	8,50%	25,10%	3,70%	8,20%	8,30%	5,50%
Italy	-1,00%	-5,30%	1,70%	0,70%	-3,00%	-1,80%	0,00%	0,80%	1,30%	1,70%	0,80%	0,30%
Luxembourg	-1,30%	-4,40%	4,90%	2,50%	-0,40%	3,70%	4,30%	4,30%	4,60%	1,80%	3,10%	2,30%
Netherlands	2,20%	-3,70%	1,30%	1,50%	-1,00%	-0,10%	1,40%	2,00%	2,20%	2,90%	2,60%	1,80%
Norway	0,50%	-1,70%	0,70%	1,00%	2,70%	1,00%	2,00%	2,00%	1,10%	2,30%	1,30%	1,20%
Poland	4,20%	2,80%	3,60%	5,00%	1,60%	1,40%	3,30%	3,80%	3,10%	4,90%	5,10%	4,10%
Portugal	0,30%	-3,10%	1,70%	-1,70%	-4,10%	-0,90%	0,80%	1,80%	2,00%	3,50%	2,60%	2,20%
Spain	0,90%	-3,80%	0,20%	-0,80%	-3,00%	-1,40%	1,40%	3,80%	3,00%	2,90%	2,40%	2,00%
Sweden	-0,20%	-4,20%	6,20%	3,10%	-0,60%	1,10%	2,70%	4,40%	2,40%	2,40%	2,20%	1,20%
Switzerland	2,10%	-2,20%	2,90%	1,80%	1,00%	1,90%	2,50%	1,30%	1,70%	1,90%	2,70%	0,90%
United Kingdom	-0,30%	-4,20%	1,90%	1,50%	1,50%	2,10%	2,60%	2,40%	1,90%	1,90%	1,30%	1,40%

Source: International Monetary Fund (IMF)