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Determinants of Chinese OFDI in European Union:
An empirical study on location factors

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Abstract: *What are the motives that drive Chinese investments into European Union? And even more, what determines the location choice? These are questions to which the paper seeks to find an answer to by conducting an empirical analysis with the use of panel data regression. Having most of Chinese investment flowing in only few Western European countries[1] it is important to observe what determines the location choice that triggers a preference for these, whereas other countries manage to attract only small shares. The results provide strong evidence on the importance of bilateral trade and trade openness, as well as the role of infrastructure, but provide no or little evidence to support other motives found within theoretical framework of FDI.*

Key words: China, European Union, outward foreign direct investment, location

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[1] The first countries ranked as receptors for Chinese OFDI are, excluding Luxembourg, Germany and UK with a total of 19% of the stock in 2010 (source MOFCOM).

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List of abbreviations

FDI – Foreign Direct Investment
MNE – Multi National Enterprise
MOFCOM – Ministry of Commerce
M&A – Mergers and Acquisitions
OFDI – Outward Foreign Direct Investment
SOE – State Owned Enterprise

UNCTAD – United Nations Conference on
Trade and Development
WDI – World Development Indicators
WGI – World Governance Indicators
WTO – World Trade Organization

1. Introduction

For many years China was the largest recipient of FDI which has played an important role in the economic development of China contributing to growth rates beyond the expectations of any developed country. The "Open Door policy" that started in 1978 was applied gradually and new sectors were opened for foreign investment; starting with the 1990s China became an important destination for foreign companies that were in a search for lower production costs and new markets for their products. Such a development in the Chinese economy has led to capital accumulation that allowed the leaders to pursue policies that have even further increased the degree of openness and development. In the past years Chinese opening towards global trade has started to shift the attention outside Chinese borders. WTO accession marks the beginning of the "Go Global" policy which is also a turning point for Chinese economy as it becomes truly a global economic player. Nowadays China is no longer waiting for foreign companies to bring new technology or know-how and in order to keep their comparative advantage new policies are required. Thus it has entered a new phase of development and new strategies are being adopted in pursuit for economic growth. FDI is now considered from an outward perspective considering that seeking new markets for Chinese companies has become a necessity. OFDI is also aimed to increase global competitiveness of the Chinese companies at a time when only few companies are known outside their country and brand recognition is a major problem that must be overcome in order to become truly global. At the same time SOEs are losing ground in front of private companies in China, therefore becoming internationally operating companies gives access to new markets and new possibilities of development. This also helps the companies to become more competitive and it also generates an international brand. According to the latest data provided by UNCTAD in 2013, Chinese OFDI increased by 29% last year compared to the previous year. After a decline of 5.4% in 2011, with a total of $65 billion, in 2012 it accounted for $84 billion worldwide setting a new record and taking China to the third position as a source of FDI, after USA and Japan (see figure 1 and 2).

Europe is no exception and in the past years Chinese investment in the region increased considerably and it is expected to increase even more. OFDI has tripled, according to Hanemann and Rosen (2012), from 2006 to 2009 and then tripled again in 2011 up to 10 billion USD compared to previous year despite economic slowdown. But still Europe only accounts for 5% of

Chinese investment (see figure 3) and even if growing outward investments are still small and most of them flow to tax havens like Hong Kong[2] leaving just a low share for the rest of the world, it is expected that by the year 2020 investment in Europe will reach a total of 250-500 billion USD according to the same source.

The statistics data that Eurostat has released in 2013 shows that bilateral trade between China and European Union has reached in the previous year 426 billion Euros, which is higher by 52 billion Euros than the value of trade between China and U.S. making the European Union the largest trading partner for China. This puts more emphasis on the importance of understanding location choice in the European Union as intensifying trade relations between Europe and China may signal even higher investments in the region, therefore studies are necessary for further understanding of the motives that attract such investment both from host country perspective and from Chinese perspective.

The current trend in Chinese OFDI at EU level shows a high concentration in the financial sector, services and technology in the Western countries whereas countries from Eastern Europe show that investments are more focused on manufacturing and energy industry. The enlargement of the European Union in May 2004 when Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia, Malta and Cyprus joined, and the enlargement in January 2007 bringing Romania and Bulgaria in, increased furthermore differences in the European community. The differences are expressed in level of wages, as well as skilled labor, stages of economic development, trade policies or infrastructure. This opened the stage for more foreign investment that originated outside the Eurozone as now firms had easier access to the single market through the possibility of investment in those countries which required less resources and lower operational costs according to Filippov and Saebi (2008). This determined a shift of the manufacturing investments and low-skill industries towards countries that offered the advantages mentioned above.

The paper is aimed at providing a better understanding of location choice of Chinese direct investment in the EU-27 and will be organized as follows: Section 2 is dedicated to a general overview and evolution of the Chinese OFDI; section 3 comprises the theoretical framework for FDI and relation to previous studies; section 4 includes data analysis and

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[2] Almost 80% of the OFDI stock goes to the so-called tax heavens (Hong Kong, British Virgin Islands, Cayman Islands, Singapore or Luxembourg, from which Hong Kong registers a share of 63% from the total Chinese OFDI)

methodology, as well as a description of the variables used for the study; section 5 of the paper will provide the results and interpretation. The paper ends with concluding remarks and implications of the study in section 6.

2. Overview of Chinese OFDI

2.1 An institutional perspective

After more than 30 years from the start of the reforms in China, the open policies have shaped the country to be not only one of the largest recipients of foreign investment, but at the same time it has changed it to be one of the most important sources of FDI flows into the world economy.

The immediate period after the open door policy, has met little change in the levels of OFDI keeping them at numbers close to zero. With a heavy involvement of the Chinese government such investments were highly restricted and only addressed to SOE's that were encouraged to invest in the form of joint ventures, a measure used to gain access to key sectors. A slight improvement, as it can be observed in figure 4, came along with the changes that were operated by MOFCOM in 1985 in the procedures of approval. However, it was only after the beginning of the 1990s, a moment when new regulations came into effect, which in combination with Deng Xiaoping's Southern tour in 1992 contributed to new policies aimed at expansion of the markets to all economic sectors. This has brought a slow increase of the amount of OFDI as restrictions were still in place (in the form of minimum value) and only specific projects were approved, leaving little or no chance for private companies to engage in such activities.

The new millennia has brought major improvements for trade as many barriers were eliminated, marked by the accession in WTO. This period is known as the "Go-Global policy" as the authorities became more active in supporting trade activities. With the business environment now being truly opened, companies seeking new markets in China led to an increased competition, forcing local companies to seek new markets in their turn. Institutional settings were now also favorable and supportive by simplifying application and approval procedures for companies that were interested to invest abroad.

2.2 Europe in figures

2.2.1 Geographical distribution

Chinese investments in Europe have increased considerably in the past few years, but they are not evenly distributed among EU countries as different factors have an influence over the decision of investment in certain locations. The top recipients for FDI coming from China are Germany and the United Kingdom, accounting for most of it (excluding Luxembourg). Luxembourg will be considered as a particular case as within the European Union it is number one tax heaven registering more than 53% of the total Chinese FDI flows and 46% of the stock in 2010 according to MOFCOM, from which most of the investment goes into financial sectors. The reasons for which Luxembourg is so appealing for investors are the low tax rates and high returns of investment offering a great level of stability and financial security making the country an important Offshore Financial Center destination for investors. A favorable tax regime leads to over-counting of foreign investments as these countries usually serve as platforms for investments in other locations. Of course that at the EU level there are other countries that offer a good environment for international companies, such as Malta, but the geographical positioning of Luxembourg and the proximity to the most important markets in terms of size, along with infrastructure of communication and transportation make it as the primary target for foreign companies.

As it can be seen in figure 5 and table 1 the top recipients for Chinese OFDI stock the evolution at European level has been somewhat constant having as main destinations throughout the period 2004 – 2010 Germany and UK, both with a share of approximately 20%. The outlier in this database is Sweden with an increase from 1% to 22%. By contrast, Spain has lost its share from 23.7% in 2004 to only 3.7% in 2010. The same situation was registered in Denmark with a drop from 12.5% to less than 1%. Among the Eastern European countries a notable change might be observed in the case of Hungary which registered an increase from 1% in 2004 up to almost 7% in 2010. However it must be mentioned that MOFCOM has not yet released data for the general public for 2011 or 2012, a period when other countries have experienced high investments which brought change in the rankings. France has lately became a primary target for Chinese investors which has triggered a reaction within the French media that China is buying its way into Europe (Serre, 2012). From the Central and Eastern European countries another top performer is Romania that ranks number 11 (Hanemann and Rose, 2012) which managed to

attract several greenfield investments such as Shantuo Agricultural Machinery Equipment to produce tractors.

For the OFDI flow the numbers show a similar trend having investments divided between Germany and UK as it can be observed in figure 6 and table 2. Again Sweden and Hungary are the outliers in 2010 with a share of 49.6% and 13.5% respectively, as they managed to attract a one-time large investment.

In the last years single investments on a large scale has brought changes in the rankings for a number of countries, pushing the levels of investments as high as three times in 2011 than previous year up to $10 billion (Hanemann and Rose, 2012). Hungary is one such example where an investment by Yantai Wanhua Polyurethanes in the chemical industry has pumped an inflow of Chinese FDI of $1.9 billion with the acquisition of Borsodchem in February 2010. Another country that registered a large investment is Greece where COSCO (China Ocean Shipping Company) has acquired a lease on 35 years for a terminal in the port of Piraeus. The total value of the concession rises up to $3.3 billion and it is tied to an investment of more than $500 million aimed at modernizing the port. In July 2013 COSCO has announced to invest an extra $224 million in the container terminal.

Another prime-example of one-time large investment is the acquisition of Volvo Cars by Geely in 2010 for $1.5 billion which propelled Sweden in the charts as a top destination for Chinese OFDI within the European Union.

In order to have a broad perspective over Chinese investments, the impact they might have and how they are perceived by general public, two case studies are presented below:

Case study 1
In 2010 The Chinese company COSCO has signed a lease contract for the container terminal in the port of Piraeus (Greece's biggest and busiest port, and one of the 10 largest in Europe). This obviously offers the advantage of an easier penetration of the European market. Acting as a gateway to Europe it also provides access to logistics and communication and transportation infrastructure which will help China to sell its products across Europe.

Despite the fact that Greek government sees the privatization as a solution to modernize the port and attract major investments in the area, it has also triggered a wave of protests especially

among dockyard workers that complain about the worsening of working conditions, safety violations and that they are being replaced with unskilled workers. Having its own managerial system, Unions are no longer encouraged as they are seen as a political issue by the company's management, leaving the workers with no defense against irregularities. This type of management has been described by workers as a "Chinese dictatorship".

Case study 2

In 1999 Ford Motor Company has bought Volvo Cars for $6 billion, and after an increased focus on its North American and European markets it has decided to sell it in 2010 to Zhejiang Geely Holding Group Co. Ltd., one of the main car manufacturers in China established in 1986. Even if it is one of the fastest developing companies in the industry, the image on the market is one of poor quality and lack of protection. The acquisition of Volvo managed to bring an improvement on Geely's image, as Volvo is a pioneer in safety, having a high emphasis on quality and care for the environment.

The biggest concern at the moment of the transaction was that Geely will relocate production in China and the management of the company will be replaced by Chinese managers. However this fear was unfounded as the objective of the investors was to keep Volvo as a separate entity. At the same time it was more important to keep the proximity to the market and its clients even though cost with workforce is considerably higher.

Volvo has not met a significant Chinese influence and the strategy so far has paid off, as sales have increased in the last years by 11.2% in 2010 and by 20.3% in 2011. There was also an improvement in the employee's perception as now they gained more independence than compared to when it was a part of Ford.

Being an investment in one of the top car manufacturers in Europe it may be perceived as a resource seeking in technology and know-how and this is still a sensitive matter, even if the contract stipulates that Geely will not use Volvo's technology.

Even if there still are worries regarding such investments, the importance cannot be denied as another Swedish company (SAAB) that was on the edge of being acquired by a Chinese company ended in bankruptcy in 2011 when the owners (General Motor) refused the terms of the contract regarding use of SAAB technology.

2.2.2 Sectoral distribution

Table 3 provides details regarding sectoral distribution within the EU, where the targeted industries were chemical sector which is leading with 17% of the value of investments in the time span between 2000 and 2011, followed by Utilities 15.5%, Automotive12.5%, Coal, oil and gas 7.7% and Communication and Transportation services 6.5%. Considering that these industries have registered each a one-time large investment in the past years it can be affirmed that investments were spread evenly across sectors and only recently a shift in the importance of particular sectors can be observed being mainly aimed at natural resources, services, technology and communication.

2.2.3 Ownership structure

Analyzed from the perspective of ownership, SOE's still play an important role as they have the most financial resources. At the same time, state in China is actively involved in economic activity promoting and encouraging investments in specific sectors which can be observed in the patterns of investment and sectoral distribution. The majority of total investments between 2000 and 2011 were done by government controlled firms, with a share of 67%, while private companies invested only 33%. The situation is quite the opposite for the number of transactions. There is an increasing interest for Chinese private companies to invest abroad in a quest for new markets and as a natural step in business development. Private companies accounted for 63% whereas SOE's contribution was just 37% (see figure 7).

2.2.4 Market entry methods

Even though this is not the main purpose of the paper a brief description of the strategies used by Chinese companies to enter the European market is required in order to have a better understanding of the influence that different types of investments can have on the host country. At the same time, from the perspective of Chinese companies, different strategies offer access to various resources, whether they are natural, technological, know-how etc.

This is an important decision for a foreign company that seeks to invest on a new market as an entry mode that best suits the interest of the company must be pursued. This can be achieved through several ways from which the most important four are: exports, licensing, joint venture or sole venture (Agarwal and Ramaswami, 1992). Adopting one of the four methods is a

decision that is important viewed from the perspective of operational costs and resources needed for operating on the respective market.

Entering the market normally take two forms in the case of FDI. One of them is greenfield investment which may be seen as a better method to invest in a developing country as the number of benefits can be higher according to a study by Nanda (2009). Starting a new business would help the country develop more as it brings capital, technology and know-how. M&A's can be potentially harmful to the economic environment in the country of investments according to the same source and should be used as a solution of last resort to save an existing company for which all other solutions have failed, although in any case M&A is easier to achieve as it involves acquiring an existing company and doesn't require so many approvals from authorities. Wang and Wong (2009) found similar results in a study on 84 countries: greenfield investment showed a positive influence on economic growth whereas M&A's registered a negative impact. However, reallocation of resources by authorities, leading to human capital accumulation, can make investments in the form of M&A to have a positive impact according to the same authors.

From the investing company's perspective Muller (2007) has identified three main determinants when choosing the entry strategy, namely the price of acquisition, monopoly profit in case of acquisition, and the net greenfield profit. Market structure and the intensity of competition are also determinant factors for FDI and greenfield investment is more suitable for markets where competition is either very high or very low, whereas M&A fits more a market with intermediate competition. Muller (2007) has also shown that for countries from Central and Eastern Europe the most advantageous entry method is investing in greenfield projects as these countries are characterized by a specific competition.

At global level in the past years Chinese M&A were characterized by single large scale transactions that led to a smaller number of closed deals but higher in terms of value. The main targeted industry was energy and mining accounting for contracts worth of $33.52 billion, but the highest number of transactions took place in the manufacturing sector with 450 deals in 2012 according to a report by China Venture cited by MOFCOM.

Across the whole European Union, greenfield investment accounts for 74.7% of the total number of deals for the period between 2000 and 2011, leaving only a small share of 25.3% for M&A's according to Hanemann and Rose (2012) – see table 4. In Europe M&A's and greenfield

investment were both targeted towards the same sectors keeping the same rankings for the years 2000 - 2011. Chemicals, Plastics and Rubber is ranked as number one industry of interest for Chinese investors, followed by Utility and Sanitary Services, Automotive sector, Coal, Oil & Gas, Communications and Transportation. If the first four sectors attracted investments mostly in the form of mergers and acquisitions, greenfield played a much greater role for Communications and Transportation in terms of value of investment (table 3). If in terms of value M&A's brought higher investments in Europe, whereas in terms of numbers of transaction greenfield investment represent the preferred method to enter the European market.

3. Theoretical framework and relation to previous studies

Many studies were written on foreign investment in developing countries like China but outbound investment from China is only a recent trend. The ascension of Chinese OFDI from a global perspective has triggered a large number of research and papers focused on Chinese OFDI at Global level and even if the subject starts to be intensely debated most papers are focused on China's main trade partner, the U.S.

However, in recent years, Europe became increasingly important for Chinese investment with a growth of more than 300% in 2011 reaching a total share of ODI of 6%, overpassing the U.S. that has a share of 3% (Hanemann and Rose, 2012). Reasons behind this shift might be related to a higher level of openness towards foreign investment, whereas the U.S. might be considered reluctant especially when it comes to investments in more sensitive industries. Along with increasing investments in Europe the number of papers on the topic is also increasing but such studies are required for a better understanding of factors that drive it.

3.1 General FDI theory

To have a better perspective on FDI determinants an outlook on general theory is required. Among the first theories trying to explain the reasons for which companies want to invest abroad is Ohlin's (1933) model based on capital market theory. The author proposed that a higher return on investment, along with lower costs of labor give the incentives to companies to seek new markets on which they can operate.

Hymer's (1976) market imperfection approach was focused on the ownership advantages that led to the establishment of MNE's. He suggested that such advantages are necessary to

overcome the high operational costs and risks involved (for example in order to compensate for these disadvantages MNE's should bring innovative products that would differentiate them from the local companies; management skills are other ownership-related advantages that could prove beneficial for a foreign company when establishing abroad). This theory can be found in other studies as well, such as Kindleberger (1969) who believed that market imperfections, in terms of factors of production and produced goods, are a precondition for FDI. Caves (1971) also asserted that in the case of imperfect competition FDI brings more benefits than exports or licensing. Internalization theory emerged in the 1970s when Buckley and Casson (1976) brought in discussion the market imperfections that prevent trade from happening in an efficient matter. These imperfections refer to market risk and uncertainty which determine high transaction costs. This will determine the firm to internalise the foreign market through FDI if the costs are lower than transaction costs.

Another perspective on the determinants of FDI is related to behavior theory suggested by Aharoni (1966). An increased competition on the local market and rivals investing abroad will influence the behavior of companies regarding future investments. Knickerbocker (1973) also supports this theory; he stated that companies will proceed to internationalization if competitors will decide to invest on foreign markets, therefore having an imitative behavior in order not to lose their strategic advantage.

Vernon (1966) proposed the Product Life Cycle theory suggesting that in the maturity and decline stages of development, production will be transferred to developing countries, determined by saturated local markets and a need to reduce production costs.

One of the most cited papers which also comprises all determinant factors is Dunning's eclectic paradigm (1980), also known as the OLI paradigm in which he identified three main determinants for FDI that primarily refer to a set of advantages: ownership (O), location (L) and internalization (I). In a series of papers, Dunning (1977, 1979, 1980, 1988) brought in discussion the importance and benefits of owning technology or management skills; location advantages such as low risk, lower transaction and production costs, as well as tax breaks and financial incentives are mentioned as determinant factors for FDI. Technology and knowledge are easier to transfer in a foreign market, lowering the risk and costs of operation. These are usually determined by market failures which make it more beneficial for the company to turn to internalization rather than exports or licensing.

For the purpose of this paper location related advantages will be discussed. The author suggests that locational advantages are divided into resource-seeking, market-seeking, efficiency-seeking and strategic asset seeking. The incentives related to these location advantages are also discussed by Dunning (1998) in a comparison between the 1970s and 1990s, casting a new light on the factors driving investment and how these have evolved (see table 5 below).

Table 5 Variables influencing the location choice of MNE's; source Dunning (1998)

A. Resource Seeking	In the 1970s 1. Availability, price and quality of natural resources. 2. Infrastructure to enable resources to be exploited, and products arising from them to be exported. 3. Government restrictions on F D I and/or on capital and dividend remission. 4. Investment incentives, e.g., tax holidays	In the 1990s 1. As in the 1970s, but local opportunities for upgrading quality of resources and the processing and transportation of their output is a more important locational incentive. 2. Availability of local partners to jointly promote knowledge and/or capital-intensive resource exploitation.
B. Market seeking	1. Mainly domestic, and occasionally (e.g., in Europe) adjacent regional markets. 2. Real wage costs: material costs. 3. Transport costs; tariff and non-tariff trade barriers. 4. As A3 above, but also (where relevant) privileged access to import licenses.	1. Mostly large and growing domestic markets, and adjacent regional markets (e.g.. NAFTA, EU etc.). 2. Availability and price of skilled and professional labor. 3. Presence and competitiveness of related firms, e.g. leading industrial suppliers 4. Quality of national and local infrastructure, and institutional competence 5. Less spatially related market distortions, but increased role of agglomerative spatial economies and local service support facilities. 6. Macroeconomic and macro-organizational policies as pursued by host governments. 7. Increased need for presence close to users in knowledge-intensive sectors. 8. Growing importance of promotional activities by regional or local development agencies.
C. Efficiency seeking	1. Mainly production cost related (e.g., labor, materials, machinery, etc.). 2. Freedom to engage in trade in intermediate and final products. 3. Presence of agglomerative economies. e.g. export processing zones. 4. Investment incentives, e.g., tax breaks accelerated depreciation. grants, subsidized land.	1. As in the 1970s, but more emphasis placed on B2, 3, 4, 5 and 7 above, especially for knowledge-intensive and integrated MNE activities, e.g., R&D and some office functions. 2. Increased role of governments in removing obstacles to restructuring economic activity, and facilitating the upgrading of human resources by appropriate educational and training programs. 3. Availability of specialized spatial clusters, e.g., science and industrial parks, service support systems etc.; and of specialized factor inputs. Opportunities for new initiatives by investing

		firms; an entrepreneurial environment, and one which encourages competitiveness enhancing cooperation within and between firms.
D. Strategic assets seeking	1. Availability of knowledge-related assets and markets necessary to protect or enhance O specific advantages of investing firms - and at the right price. 2. Institutional and other variables influencing ease or difficulty at which such assets can be acquired by foreign firms.	1. As in the 1970s, but growing geographical dispersion of knowledge-based assets, and need of firms to harness such assets from foreign locations, makes this a more important motive for FDI. 2. The price and availability of "synergistic" assets to foreign investors. 3. Opportunities offered (often by particular sub-national spatial units) for exchange of localized tacit knowledge, ideas and interactive learning. 4. Access to different cultures, institutions and systems, and different consumer demands and preferences.

Other studies have considered technology and factor endowments of a country as determinants for FDI, such as Helpman (1984), whereas some authors had analyzed it from an institutional perspective (Bond and Samuelson, 1986) finding a positive influence on FDI if the host country's Government has policies that include subsidies and other fiscal benefits for foreign companies.

3.2 General statement of the research questions and purpose of the study: Hypothesis

The purpose of the study is to find the reasons behind location choice for Chinese Multi-Nationals that invest in Europe which can offer a better understanding of the phenomenon. Considering that most of the Chinese OFDI flows towards developed European countries, whereas developing countries manage to attract small amounts of investment (with few exceptions), such studies can help to improve conditions and attract more investment in the region.

The paper will use as a framework Dunning's eclectic paradigm and more specifically the locational determinants enumerated above as these include most of the factors existing in other FDI theories.

3.2.1 Market seeking

Classic theory refers to market size (usually measured in terms of real GDP) or economic growth as the most important variables when it comes to determinants of foreign investment.

There are a large number of research papers on the topic that show the importance of these factors. Dunning (1980), Billington (1999) or Buckley et.al. (2007) in their studies on OFDI have found that market size has a positive impact and it's an important determinant for investment.

If the local market reaches a level of saturation the firm will then start seeking new markets that would contribute to development of the company, meaning that size of the market has an influence over the decision of investing. At the European Union level the single market may be seen as one for the whole members instead of individual economies, an argument supported by Milner and Pentecost (1996). This means that countries that are more developed in terms of level of economic development, infrastructure, political and financial security, as well as other factors, will attract more investments as they also provide access to other member states markets.

Hypothesis 1: Host market size has a positive influence on Chinese OFDI.

Hypothesis 2: Economic growth is positively related to Chinese OFDI.

3.2.2 Resource-seeking

A second reason for location choice is resource-seeking. There is much debate on the reasons of investment by Chinese companies in countries that are rich in natural resources. However this is a precondition in order to have raw material needed for production on foreign markets. At the same time, the rapid industrialization that China has experienced in the past years makes it a necessity to secure natural resources. Cheung and Qian (2009) provide strong evidence on the importance of factor endowments of the host country and availability of resources.

Hypothesis 3: Access to natural resources is positively related to Chinese OFDI.

Closely related to resource seeking is infrastructure. A better infrastructure will attract more investment than a country that lacks it. FDI becomes important for a company when such investment reduces the cost of producing their goods. At the same time it avoids trade barriers and also reduces considerably the cost of transportation, leading to increased competition. Therefore infrastructure facilities provide the means for companies to send raw materials and products to their final destination. The proxies used for infrastructure are mainly related to

transportation costs and communication systems where a number of studies, such as Helpman et.al. (2003) registered a positive impact on FDI.

Hypothesis 4: Infrastructure is positively related to Chinese OFDI.

3.2.3 Efficiency seeking

In terms of efficiency if one of the above criteria is satisfied, leading to an increased volume of sales through means of production on the new market and bringing more benefits than exports to that market would have otherwise brought (eventually leading to profit maximizing), provides a strong incentive for the company to invest abroad.

Labor has been the subject of numerous papers pointing out on the importance over investment. The relationship between labor and FDI is given by the costs that it brings for a company; the higher the costs with labor, the more negative is the effect over the level of investment; the more skilled workforce exists, providing more efficiency and higher level of productivity, more positive effect on FDI it will have (see Cushman, 1987). Availability and productivity are two of the factors also considered by Friedman et al. (1992) related to labor resources, who found a significant and positive impact on the level of FDI.

Hypothesis 5: Higher labor costs are negatively associated with Chinese OFDI.

Billington (1999) has found that unemployment levels are also important factors that determine the location choice of FDI at country level. A positive relation between unemployment rates and FDI was also found by Friedman et al. (1992). Unemployment becomes an important variable that companies might consider as this provides information on available workforce. A market with higher unemployment levels can be more attractive as unemployed individuals are believed to give more value to a job than compared to a market where the number of available jobs makes it difficult for the employer to secure its employees. Billington (1999) also refers to the influence of labor unions showing a positive impact on the level of investments. However in the case of China this may not be necessarily true as labor unions are not a characteristic of the Chinese society and it is more encountered in western countries or more liberal societies.

Hypothesis 6: Higher unemployment levels are positively related to Chinese OFDI.

3.2.4 Strategic asset seeking

With a strong focus on labor intensive industries, Chinese companies find themselves in a situation where they need to gain strategic advantages by means of OFDI in order to compete on the international market. This may be seen as a catch-up process that will provide access to new technologies and knowledge. Therefore, countries that are rich in such factors may prove to be more attractive for foreign investors, providing better access to existing assets than compared to countries which are less developed.

Hypothesis 7: Existing strategic assets are positively associated to Chinese OFDI.

3.2.5 Bilateral trade

The specific characteristics that a country has exert an impact on the level of investment that it attracts. Among the most quoted, geographic proximity is considered as an important factor and China is no exception to that rule. Most of the Chinese outward investment is oriented towards Asian countries having a percentage of 43% from the total share according to MOFCOM. The reason for this high figure - if we exclude tax heavens like Hong Kong[3] - is that it provides similar conditions to the home market and only small cultural differences, which also means a higher demand for products.

Also in a similar market it is easier to adopt or use similar marketing strategies, the same design for existing products, not to mention the fact that production capacity is easier to transfer. From the perspective of qualified personnel the proximity of a new market means lower costs for training; the possibility to transfer personnel reduces considerably the time invested bringing the firm to an efficient level of production and distribution.

The general theory for location preferences has shown that companies with less experience prefer close and similar market that resembles the one of their country of origin, whereas firms with an international experience extend their operation towards new and different markets. This theory is supported by Davidson (1980) who found a strong connection between these factors.

Even more, according to Davidson (1980) when a firm has already got a subsidiary on the foreign market it provides more incentives to invest there as it reduces the level of uncertainty.

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[3] Countries that were excluded are: British Virgin Islands, Cayman Islands, Hong Kong, Luxemburg, Singapore and South Africa.

As firms start to invest in new markets and gain more external experience the importance of subsidiaries as a precondition for investment decreases considerably. Therefore, the same study brings evidence that firms with experience in foreign operations will have less or no interest in the nearby foreign markets compared to those having little or no international experience. For China, where only few companies have international operating experience has led to a low investment flow towards foreign countries that are not situated in the immediate proximity or in a culturally similar market. However, recent trends in Chinese OFDI show an increased interest of companies to invest in other locations than Asian countries, an argument supported by the value of flows in recent years. Increasing flows of OFDI into Europe (and world-wide) might provide evidence that Chinese companies have reached a level of development that naturally leads them to seek new markets that are not located in the immediate proximity.

Hypothesis 8: Bilateral trade is positively associated with the amount of OFDI.

3.2.6 Institutional factor

The importance of institutions cannot be overlooked as they influence the environment in which a company operates. An unstable institutional environment raises uncertainty amongst companies with regards to their future investment, therefore political stability and country risk will also be included in the analysis. Many studies were focused on the influence that institutions have on FDI. Among the factors determining the amount of FDI, corruption was found to have a negative influence (Cleeve, 2008). Other factor considered by the author was political stability and civil freedom which showed no influence on FDI, whereas violence or rule of law were analysed by Asiedu (2006), both showing the expected sign, violence having a negative influence, while an effective rule of law had positive influence.

Hypothesis 9: Country risk is negatively associated with Chinese OFDI.

4. Data and methodology

Data for this study was collected from different official sources that provide public access. The source for dependent variable data, OFDI, is the Chinese Ministry of Commerce (MOFCOM) which provides on an annual basis the *Statistical Bulletin of China's Outward Foreign Direct Investment.* The statistical data includes information on OFDI flows and stock at country and regional level, distribution by industries, as well as by province of origin. Data

previous to 2007 include only non-financial sector, but considering that for the purpose of the study only stock will be taken into account it should not lead to biased results.

Another source of data is the World Development Indicators, a collection of indicators that the World Bank provides on a wide variety of topics (Education, Environment, Economic Policy and Debt, Financial Sector, Health, Infrastructure, Labor and Social Protection, Poverty, Private Sector and Trade, and Public Sector) and economies. The data covers a large time span having available data starting with the 1960s and up to 2012. The chosen indicators from WDI for this study are: GDP, GDP growth, GDP per capita, Ores and Metals exports, Fuel exports, Number of patents, Number of Internet Users, Unemployment, Tariff rates, Inflation and Taxes on income, profits and capital gains.

To control Political Stability and Country Risk the Worldwide Governance Indicators are going to be used. This data is also provided by the World Bank and it consists of individual governance indicators from 1996 to 2011. The data is collected by surveys on both companies and individuals in 215 economies and include the following dimensions: Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption.

Chinese Statistical Yearbook was used as a source for values of Chinese exports and imports to/from EU-27. These are important in order to observe the effects of bilateral trade on the amount of FDI. For calculation of the exchange rate two sources were used: Chinese Statistical Yearbook and World Development Bank.

The study will be focused on the period between 2004 and 2010, as Chinese FDI flows into Europe before that period were low, and at the same time in 2004 European Union expanded with a considerable number of new member states. Lack of OFDI flow data for the whole sample and period would have led to significant loss of observations; therefore OFDI stock was preferred as dependent variable. This should not yield any problems as there are studies which offer better explanations with the use of OFDI stock (see Rodriguez and Bustillo, 2011).

4.1 Variables description

4.1.1 Dependent variable

The estimations of the study are based on Chinese OFDI stock as a dependent variable which provides more stability to the model, whereas OFDI flow has proved to be more volatile.

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This statement is supported by evidence in previous studies as mentioned earlier. At the same time, the use of stock will provide a larger number of observations in the sample considering that OFDI flows are not on a regular basis but it is more a matter of opportunity and specific circumstances that investors may find attractive, influencing their decision to undertake such investments.

4.1.2 Independent variables

In order to test for the above mentioned hypothesis in most cases proxies will be used. To observe the effects of **market size** on the level of OFDI two variables will be used: Gross Domestic Production (GDP) and percentage growth of Gross Domestic Production (GDPg). The first variable provides data regarding absolute market size, whereas GDP growth offers a perspective on the future development of economies included in the study and the potential that those countries have. It is assumed that rich countries will attract higher levels of FDI as they have increased demand on the local market, whereas demand in poorer countries is considerably lower. However, China's comparative advantage is known to be related to labor intensive industries and low production costs and so the results may not necessarily support this assumption. Among the authors that included these variables, Buckley et.al. (2007) found a positive relation between OFDI and market size measured in terms of GDP. Similar results were also found by Cross et.al. (2007) which also used GDP per capita (GDPpc), but according to Rodriguez and Bustillo (2011) this variable doesn't reflect market size as it is not showing the purchasing power of consumers; however, this variable may be used as a proxy for efficiency seeking in terms of relative **labor costs**, as GDP per capita and relative labor costs are closely correlated.

For **resource seeking**, the share of ores and metals in merchandise exports plus the share of fuels in merchandise exports (RES) is going to be used considering the fact that a country's endowments with natural resources does not necessarily mean access to them for foreign investors. Therefore, exports show the willingness of the host country to give access to their natural resources. The factors determining resource seeking that are usually referred to in the existing literature include the limited resources that China has and the rapid economic development that require more raw materials. Buckley et al. (2007) have used the same variable and the result had the expected sign, with a positive relation between the two.

In terms of **efficiency seeking** the most common reason for which companies chose to relocate their production abroad is cheap labor. Even though this may not be the case for China as it still possesses a great advantage, there are signs that it is becoming an increasing motive as difference in wages between China and developing countries are not so high. This is supported by Cheung and Qian (2009) who used a ratio coefficient between host country wages and China, showing a significant negative result for poorer countries. As mentioned before, the proxy used for labor cost in this paper is GDP per capita (GDPpc).

Strategic asset seeking can be explained by the use of the number of patents (PAT) as not too many Chinese companies have ownership advantages; therefore they try to get access to such resources by means of FDI. In the past years there have been a number of examples where Chinese MNE's have acquired foreign companies providing access to cutting edge technology and know-how (Lenovo, Volvo).

It is also important to analyze OFDI from an **institutional perspective**; therefore country risk (RISK) was included in the model considering that institutions are a key factor in providing a stable environment. This variable was generated by the use of six indicators from the World Bank's World Governance Indicators: Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. These indicators are based on a score that varies between -2.5 and 2.5, therefore an average score for each country can be created by the use of the six above-mentioned factors. Unemployment level (UNEMP), as percentage of the total labor force in the host country, is going to be used as a proxy for available workforce. The rationale behind the usage of this variable comes from the fact that higher levels of unemployment provide a measurement of the available workforce on a market; at the same time an unemployed person would give more value to a job than compared to workers on a job-abundant market. The relationship between unemployment and FDI was studied by Billington (1999) and Friedman et al. (1992) who found a positive relation. However, the limitation of this variable is the lack of control on the skills of workers and their efficiency.

Bilateral trade is seen as a precondition for FDI to take place. Exports (EXP) help companies to gain more experience on foreign markets. As this experience increases, companies will have more interest to invest there as the level of uncertainty will decrease considerably. Even more, Davidson (1980) shows that companies with extensive international experience will

have little or no interest to invest in the nearby markets. To have a better picture of bilateral trade, imports (IMP) from the host countries in China will also be included in the model. These variables were also used in a number of papers (see Rodriguez and Bustillo, 2011; Ramasamy et al. 2012) where the results showed a positive and significant coefficient. Tariff rate is going to be used as a proxy for trade openness considering the strong relation between the variable and bilateral trade.

Infrastructure is an important factor for companies when considering investing in a new location, as this will provide the means for products to be transported to the end consumer. To control the effect of infrastructure, the number of internet users per 100 people (IU) is used as a proxy for communication and technology infrastructure. Other authors have used the number of phone landlines or mobile subscribers (Cleeve, 2008; Mhlanga et al. 2010) but considering the increasing importance of IT sector in the business environment and not only, the number of internet users would be more appropriate as a proxy for infrastructure.

4.1.3 Control variables

Macroeconomic stability of the host country is an important factor when it comes to investment. A stable environment will provide more certainty regarding future investments and in the end making a country more attractive. For the purpose of this paper inflation (INFL) will be included as a control variable and a negative influence is expected. Exchange rate of the local currency to Chinese Yuan (EXRATE) is also going to be used as a control variable for economic stability. It is expected that a devaluation of the home currency should lead to more gains. The reason is that appreciation of the home currency would naturally lower the rate of return on the foreign market in terms of national currency.

Fiscal incentives might determine an increase in the level of FDI. For this purpose Taxes on income, profits, and capital gains as a percentage of total revenue (TAX) is going to be used; a lower value of taxes is expected to provide more incentives for companies to invest on the respective market, whereas higher taxes are expected to discourage investments, therefore a negative influence of the variable is expected.

Table 6 below presents a summary of the variables included in the model and their expected sign.

Table 6 Variables summary

Name	Variable	Proxy	Unit of measure	Source	Theoretical justification	Expected sign
OFDIS	FDI stock (dependent variable)		Million USD	MOFCOM		
GDP	Market size	GDP	Constant 2005 USD	WDI	Market seeking	+
GDPg	Market growth	GDP growth	Annual %	WDI	Market seeking	+
GDPpc	Labor cost	GDP per capita	Current USD	WDI	Efficiency seeking	-
RES	Natural resources	Fuels, Ores and Metals exports	% of merchandise exports	WDI	Natural resources seeking	+
PAT	Technological development	Patents	Number of patents	WDI	Strategic asset seeking	+
UNEMP	Available workforce	Unemployment	% of total labor force	WDI	Independent variable	+
EXP	Bilateral trade	Exports	Million USD	Chinese Statistical Yearbook	Independent variable	+
IMP	Bilateral trade	Imports	Million USD	Chinese Statistical Yearbook	Independent variable	+
Tariff	Trade openness	Tariff rate	Applied rate %, all products	WDI	Independent variable	-
RISK	Political stability and country risk		Average coefficients value	WGI	Independent variable	-
IU	Infrastructure	Internet Users	Number of users per 100 people	WDI	Independent variable	+
INFL	Macroeconomic stability	Inflation	Annual %	WDI	Control variable	-
XRATE	Macroeconomic stability	Exchange rate	LCU to CNY	Chinese Statistical Yearbook and WDI	Control variable	+
TAX	Fiscal incentives	Taxes on income, profits and capital gains	% of revenue	WDI	Control variable	-

4.2 Model specification

The following economic model will be used to test the above mentioned hypothesis:

OFDI = ƒ (GDP, GDP growth, GDP per capita, resources, unemployment, patent, exports, imports, tariffs, country risk, internet users, inflation, exchange rate, tax)

This equation can also be specified econometrically and it is given below:

$\ln(OFDI)_{it} = \alpha + \beta_1 \ln(GDP)_{it} + \beta_2 GDPg_{it} + \beta_3 GDPpc_{it} + \beta_4 RES_{it} + \beta_5 UNEMPL_{it} + \beta_6 \ln(PAT)_{it} + \beta_7 \ln(EXP)_{it} + \beta_8 \ln(IMP)_{it} + \beta_9 TARIFF_{it} + \beta_{10} RISK_{it} + \beta_{11} \ln(IU)_{it} + \beta_{12} INFL_{it} + \beta_{13} \ln(EXRATE)_{it} + \beta_{14} TAX_{it} + \varepsilon_{it},$

where the subscript i is the number of observations and indicator of cross-sectional data, and the subscript t is an indicator of time-series; β represents the variable coefficient and ε_{it} is the random error.

4.3 Choice of model

For this study a panel data regression will be used which is the most appropriate for the data set used in this paper. The panel data consists of 27 cross-section data over a period of seven years, starting with 2004 (the year that marked the fifth enlargement of European Union) up to 2010. According to Asteriou and Hall (2011:416), a panel data set should allow the observation of the same individuals over a period of time; considering that the same unique set of countries is going to be used for the whole time period analyzed, it makes it possible for the data to be used as panel data.

The most common methods of estimation are divided in three: Pooled Ordinary Least Squares (Pooled OLS) method, or common constant method – mostly recommended for homogenous data sets; Fixed Effects (FE) method, or Least Squares Dummy Variable estimator; and Random Effects (RE) method. The difference between the last two is that in the Random Effects method, constants are treated as random parameters for each section (Asteriou and Hall, 2011:419).

In order to choose the appropriate model, a series of tests were used. To determine the model that best fits the regression analysis between FE and RE, a Hausman test was performed. The value of chi2 equal to 16.53, and with a p-value of 0.2819 indicated strong evidence that RE model is more fitted.

A Breusch-Pagan Lagrange multiplier (LM) test was also conducted in order to decide between RE and Pooled OLS. LM tests the null hypothesis that there is no significant difference between the individuals (in this case, countries). The value of chi2 equal to 65.08 and the p-value of 0.0000 provide strong evidence that there are significant differences between countries and therefore a RE model should be used.

The Modified Wald test showed that data is not homoskedastic with a value of chi2 of 2373.20 and p-value of 0.0000. In order to control for heteroskedasticity, Huber-White robust standard errors are going to be used in the regression. Other common tests for panel data are serial correlation and unit root, but these are applied to macro panels, whereas for panels with only few years of observations (such as in this case) they are not required.

5. Results and discussion

The regression results are presented in table 7 below, showing the output for the whole sample model including Luxembourg (EU-27), and the output for the model in which Luxembourg, which is considered an Offshore Financial Center, is excluded (EU-26). The negative influence on data analysis that Luxembourg has can be observed by the change in the value of R-squared, as well as changes in both values and significance of coefficients. Due to missing values for OFDI between 2004 and 2006, period in which financial sector was not included in MOFCOM's *Statistical Bulletin of China's Outward Foreign Direct Investment*, the loss of observations is only minor[4] in the EU-26 model. Considering that the effect of some variables is non-linear, natural logarithms were used for the dependent variable, as well as for a number of other variables[5].

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[4] The number of dropped observations is 4, leaving a total of 182 valid observations.
[5] Natural logarithms were used for: OFDI, GDP, GDP per capita, Exports, Imports, Exchange rate and Internet users.

Table 7 Results of analysis

VARIABLES	EU-26	EU-27
	OFDI	OFDI
GDP	-0.312	-0.391
	(0.319)	(0.335)
GDP growth	0.0425*	0.0497*
	(0.0255)	(0.0267)
GDPpc	-1.418*	-0.275
	(0.767)	(0.732)
RES	-0.0236	-0.0248
	(0.0277)	(0.0293)
PAT	0.351	0.360
	(0.247)	(0.260)
EXP	0.719***	0.576**
	(0.268)	(0.273)
IMP	0.420**	0.305
	(0.192)	(0.195)
RISK	-0.256	-0.753
	(0.919)	(0.952)
INFL	-0.0519	-0.0417
	(0.0501)	(0.0530)
UNEMPL	-0.00683	-0.00329
	(0.0427)	(0.0452)
EXRATE	-0.00642	9.99e-05
	(0.0980)	(0.103)
IU	1.453**	1.535**
	(0.667)	(0.705)
tariff	-2.136**	-2.727***
	(0.935)	(0.979)
tax	0.0238	0.0184
	(0.0286)	(0.0298)
Constant	7.394	0.371
	(6.814)	(6.710)
Observations	182	186
R-squared (overall)	0.6623	0.5743
Number of Country	26	27

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1 indicate the significance of coefficients at 1%,
5% and 10% levels

The main findings show that in terms of **market seeking,** absolute market size measured by the value of GDP is not significant for Chinese investors. Although this criteria is found to be one of the most important determinant factors for FDI in many papers, when it comes to European Union its importance is not supported by evidence. Therefore hypothesis 1 that absolute market size is an important determinant factor is not supported. The reason might be found in the fact that European Union acts as a single market, therefore investing in any country would give investors access to the whole European market. Another plausible explanation causing such behavior for investors is given by the latest financial crises that started in 2008 which has had a significant impact on purchasing power of consumers, therefore making economic growth being more important when considering investment in one of the member countries, as it also provides a measure of stability in the country of interest. Such an explanation is supported by the results for GDP growth showing a significant and positive influence at 90% confidence level. This provides support for hypothesis 2, meaning that market seeking remains an important motivation.

GDP per capita shows a significant influence on OFDI stock, having a negative impact as expected. Considering that GDP per capita is mostly a measure for economic development, less developed countries seem to be more attractive for Chinese investors. As this variable is used in the study as a proxy for relative labor costs we can draw the conclusion that **efficiency seeking** is an important factor determining the level of investment (supporting hypothesis 5), even though China still possesses a comparative advantage regarding cheap labor costs. Unemployment, contrary to the expectations, has a negative sign. Although it is statistically insignificant (not supporting hypothesis 6), the negative influence shows that unemployment is more an evidence of instability and not a measure of available workforce.

Hypothesis 3 stating that Chinese investments are **resource** oriented is not supported by statistical evidence as the coefficient shows no significant influence. This may be determined by the fact that European Union member states are stricter when it comes to exporting natural resources compared to other countries where the factor of endowment with natural resources is considerably higher and restrictions are looser (such examples can be found in developing countries in Middle East or Africa). At the same time, developing countries usually lack the capital or skills needed to extract and export the natural resources available, therefore FDI plays an important role and provides an explanation for why studies that have included such countries

in their analysis found a significant relation between resources and the level of foreign investment and why it may be seen as a preferred solution instead of imports.

The results do not show any support for **strategic asset seeking** as a motivation for investing in EU (hypothesis7). Proxied by the number of patent applications in the countries of interest, the results even though having a positive sign, are not significant. Even if the catch-up process which is referred to when it comes to China seems to take place through other means rather than OFDI; access to new technology and innovation can be made through inward FDI and also, weak intellectual property rights offer easy access to more advanced products. Still this proxy does not offer a perspective over other strategic assets that may be of interest for Chinese companies such as managerial skills with more extensive international experience, or brands considering that only few of the companies are known on the international market.

Bilateral trade is an important criteria and a determinant factor for investments. The coefficient for exports is positive and statistically significant at 99% confidence level supporting the hypothesis that Chinese exports are positively associated with the amount of OFDI (hypothesis 8). The results provide evidence that exports are a complement and a precursor for FDI and countries that are engaged in trade with China are more likely to attract higher investment from their economic partner. The same conclusion can be drawn from the coefficient of imports which is significant at 95% confidence level with a positive influence, therefore imports from European Union countries can also be seen as a complement and a determinant factor for future investments. Trade openness proxied by percentage of tariff rates has a significant and negative impact showing that the more a country closes its borders to trade, the lower the level of Chinese OFDI will be. Considering that exports are an important factor in lowering the risk of doing business in a foreign country and that tariff limits the amounts of exports flowing to the host country makes results plausible. The reason for such an effect might be explained by the lack of international experience of Chinese firms.

Even though country risk has the expected sign, the results are statistically insignificant, not supporting hypothesis 9 that risk is negatively associated with Chinese OFDI. This may be due to the fact that companies might ignore instability in order to achieve their goal of improving competitiveness.

Infrastructure plays an important role in taking the decision of investment as it is a key factor for companies to get access to the end consumer. Proxied by the number of internet users

per 100 people, the findings show a statistically positive and significant influence at a 95% confidence level, therefore supporting hypothesis 4.

Among the control variables, inflation has a negative impact on Chinese OFDI but it is insignificant, therefore macroeconomic stability, as well as country risk, is unlikely to influence the level of Chinese investments on long term. Exchange rate, even if it has a negative coefficient, is statistically insignificant meaning that decision to invest in a foreign country is not based on this factor. In terms of financial incentives the level of taxes in the host country doesn't have any significant impact.

The regression output for the model which includes Luxembourg shows statistically significant and positive results for GDP growth, exports and infrastructure, results that are similar to findings in previous model. Similar results are found for tariffs as well, having a significant and negative impact on the OFDI stock. The main differences between the two models are found in the coefficient values of GDP per capita and imports which are not statistically significant at any confidence level. It is also important to mention that value of R-squared is significantly affected by including Luxembourg in the model which explains for only 57.43% of the sample, whereas EU-26 model has explanatory power for 66.23%. A plausible explanation can be found in the value of financial stocks which account for 46% of the total OFDI in EU-27. Being considered a tax heaven neither labor costs nor bilateral trade influence value of investments as the fiscal advantages provide more beneficial for Chinese companies.

6. Conclusions, policy implications, limitations and further improvements

The paper investigates determinant factors of location choice for Chinese OFDI and more specifically what determines a country to be more attractive for investors than other at European Union level. The findings of the paper provide strong evidence on the importance of bilateral trade between China and member countries of the European Union. Regression results show that OFDI is a complement of exports, instead of considering it as a substitute. Strongly related to trade, level of openness also plays an important role in determining the amount of investments. Infrastructure is also important in determining the level of investments in the host country as it provides the means to get access to end-users. Even though China possesses a comparative advantage when it comes to labor costs, the role of this factor cannot be overlooked as it shows a significant impact on OFDI stock; therefore the hypothesis that Chinese investments are oriented

towards efficiency seeking is supported. In the light of economic crisis, market growth became more important for investors as this factor shows future market opportunities, instead of focusing on current environment. However, there is no empirical evidence to support some of the determinant factors existing in general FDI theory. Activities such as resource seeking, strategic asset seeking or even market seeking in absolute terms show only insignificant coefficients. Taking into account the latest trends in Chinese OFDI focused on a one-time large investment we can draw the conclusion that the general theory does not apply as companies make use of opportunities that come along, disregarding other factors.

Even though there are differences between member countries, from the perspective of operational risk the European Union may be seen as a business environment that offers security to investors, as well as a strong institutional framework and legal system, therefore macroeconomic factors don't have a significant impact on the amount of Chinese OFDI.

The implications of the study for policy makers include, but do not limit to, keeping and improving the level of trade openness, as protectionist measures would not benefit Europe. The fear that China is buying its way into Europe that has been lately presented by media is unfounded since Chinese FDI is significantly lower than compared to that of other countries investing in the region. Instead, better competition policies should be adopted, allowing imports from China, as well as exports to China, to take place considering that future investments are expected to increase considerably which will lead to greater capital inflows, creation of jobs as well as tax spillovers. Further improvements of communication and transportation infrastructure must also be considered in order to attract more investments on the long-run.

The limitations of the study: the choice of variables itself is a limitation of the study knowing that there is no consent on what variables are best to be considered when conducting an empirical research on determinant factors of Chinese investments. Other limitations are given by the short time period analyzed, but considering it is a new phenomenon and Chinese investments in Europe have started only recently, this study casts a new perspective on what the determinant factors are, providing empirical evidence to support them. Taking into account that the number of papers on the topic is limited, the importance of such studies becomes more significant. Due to unavailability of data, the study does not include the years 2011 and 2012, years in which

other countries have attracted significant Chinese investments. The latest trends show an increasing interest for other European countries and not only the main recipients (Germany and UK); according to Haneman and Rose (2012), France already accounts for 5722 million USD total value of investment which propelled the country to first position as receptor within EU-27. Therefore future studies might provide a better picture on determinant factors that attract Chinese OFDI. Even more, expanding the study on company level should provide better indication on the factors determining decision of investment. Such a study can also comprise an analysis of distribution by industries, as well as market entry methods as they provide indications regarding the effects that investments might have on the host country.

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Appendix A

Figure 1 Chinese OFDI flows and stock in billions USD. Source MOFCOM; UNCTAD data was used for 2011-2012
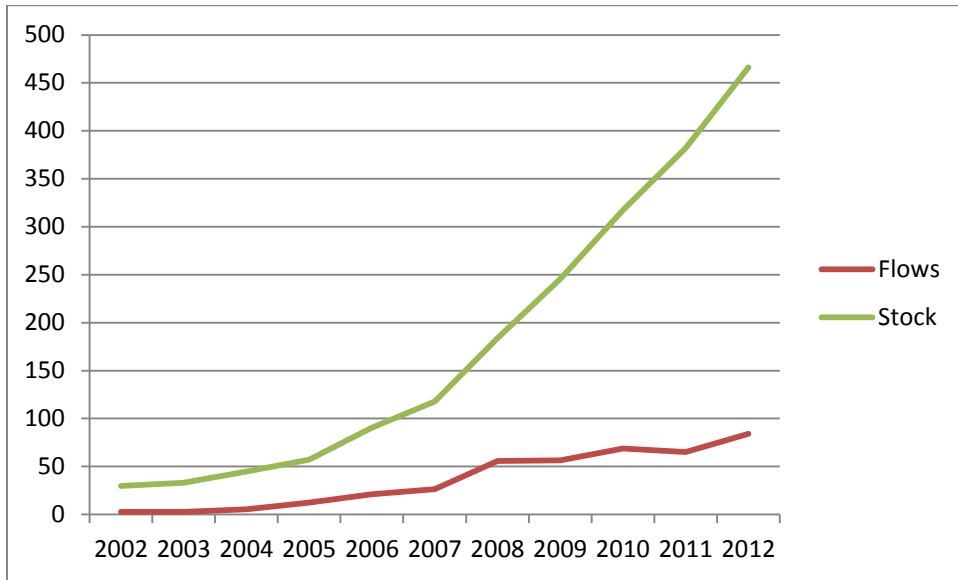
Figure 2 Main global outward FDI sources; Source UNCTAD; million USD
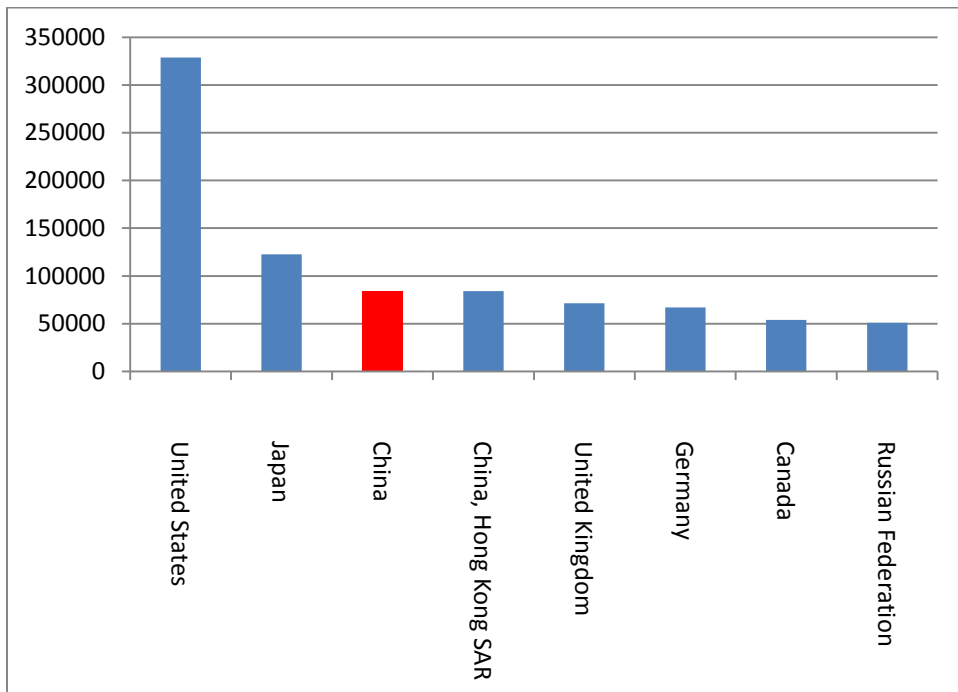
Figure 3. Global distribution of Chinese OFDI; source MOFCOM
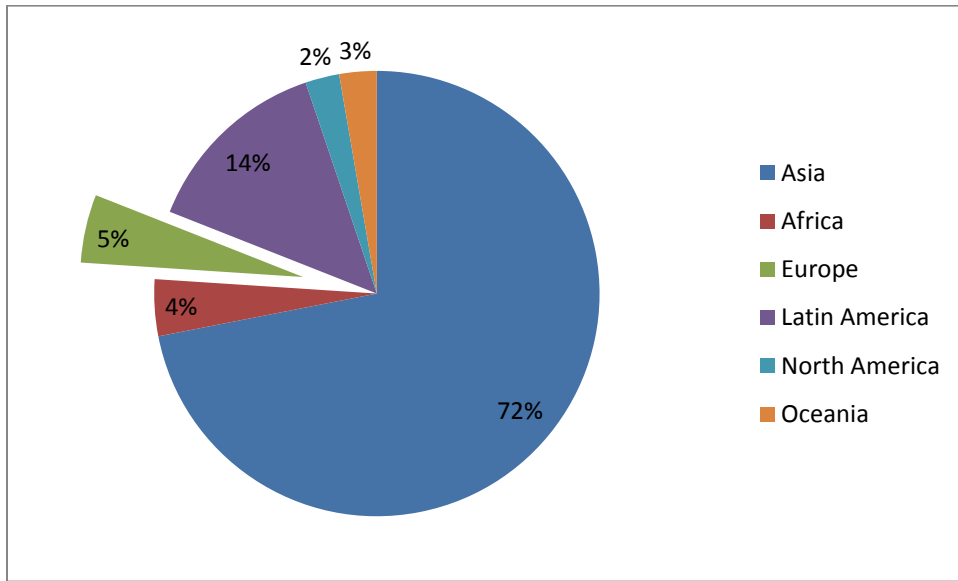
Figure 4. Chinese OFDI evolution; source UNCTAD
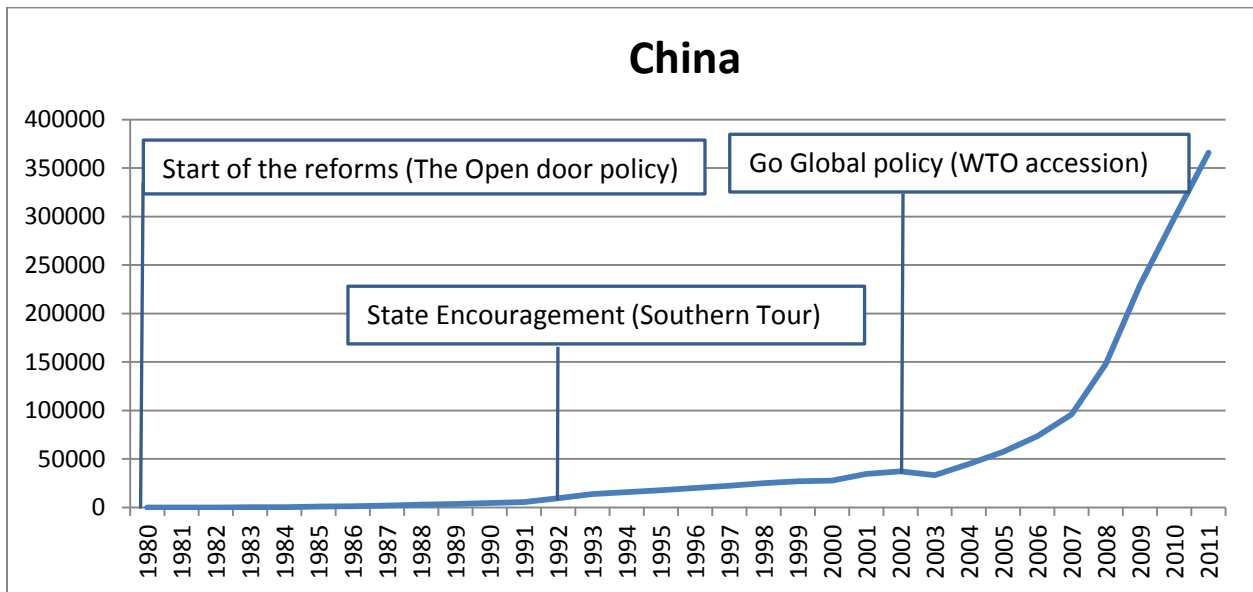
Figure 5. OFDI Stock in EU-26; Source MOFCOM 2010; Data for 2004-2006 include only non-financial sector

Figure 6. OFDI Flow in EU-26; Source MOFCOM 2010; Data for 2004-2006 include only non-financial sector

Figure 7 Distribution of Chinese FDI in EU-27 by ownership structure, 2000-2011; source Rhodium Group

Appendix B

Table 1. OFDI Stock in EU-27; Source MOFCOM 2010; Data for 2004-2006 include only non-financial sector (million UDS)

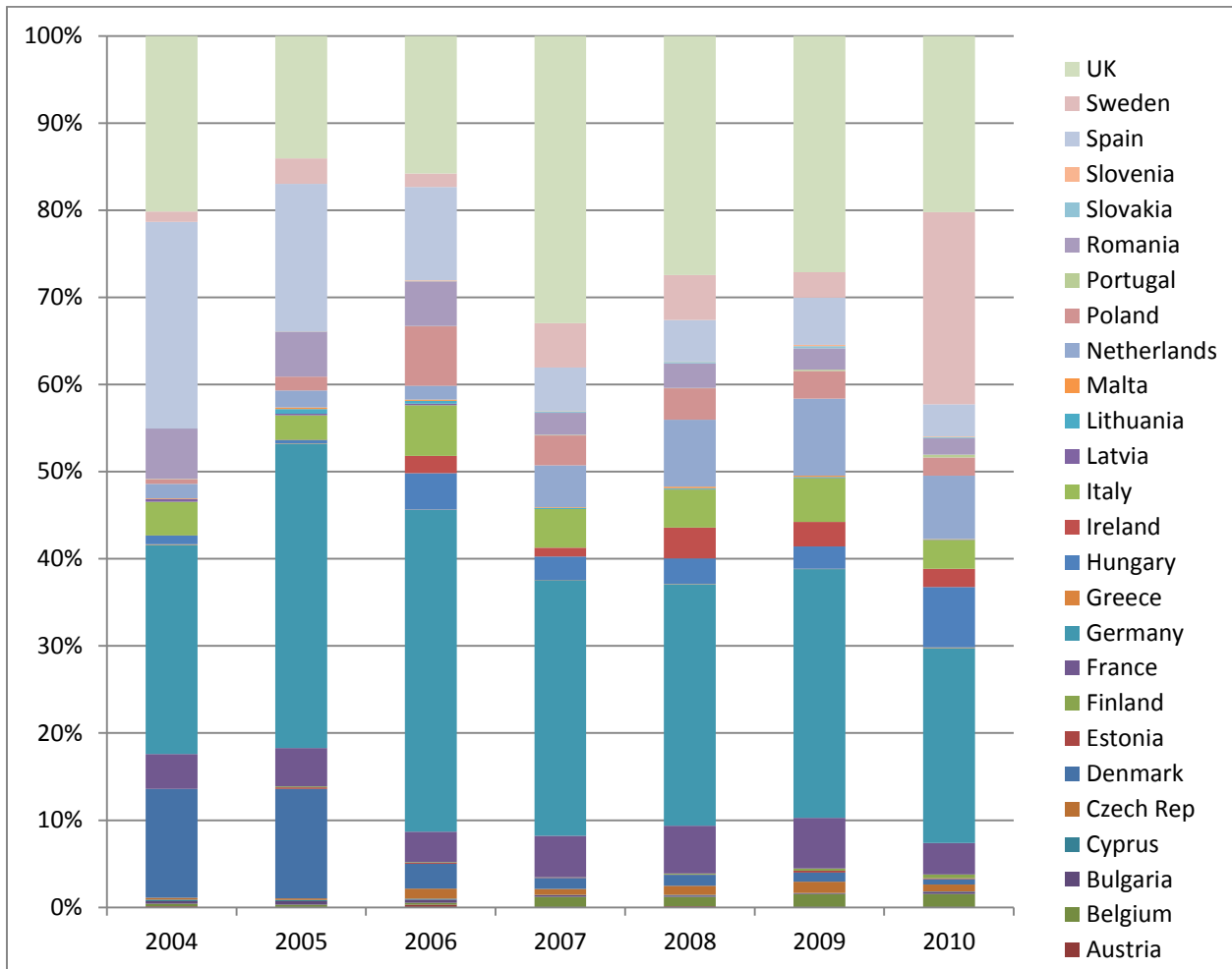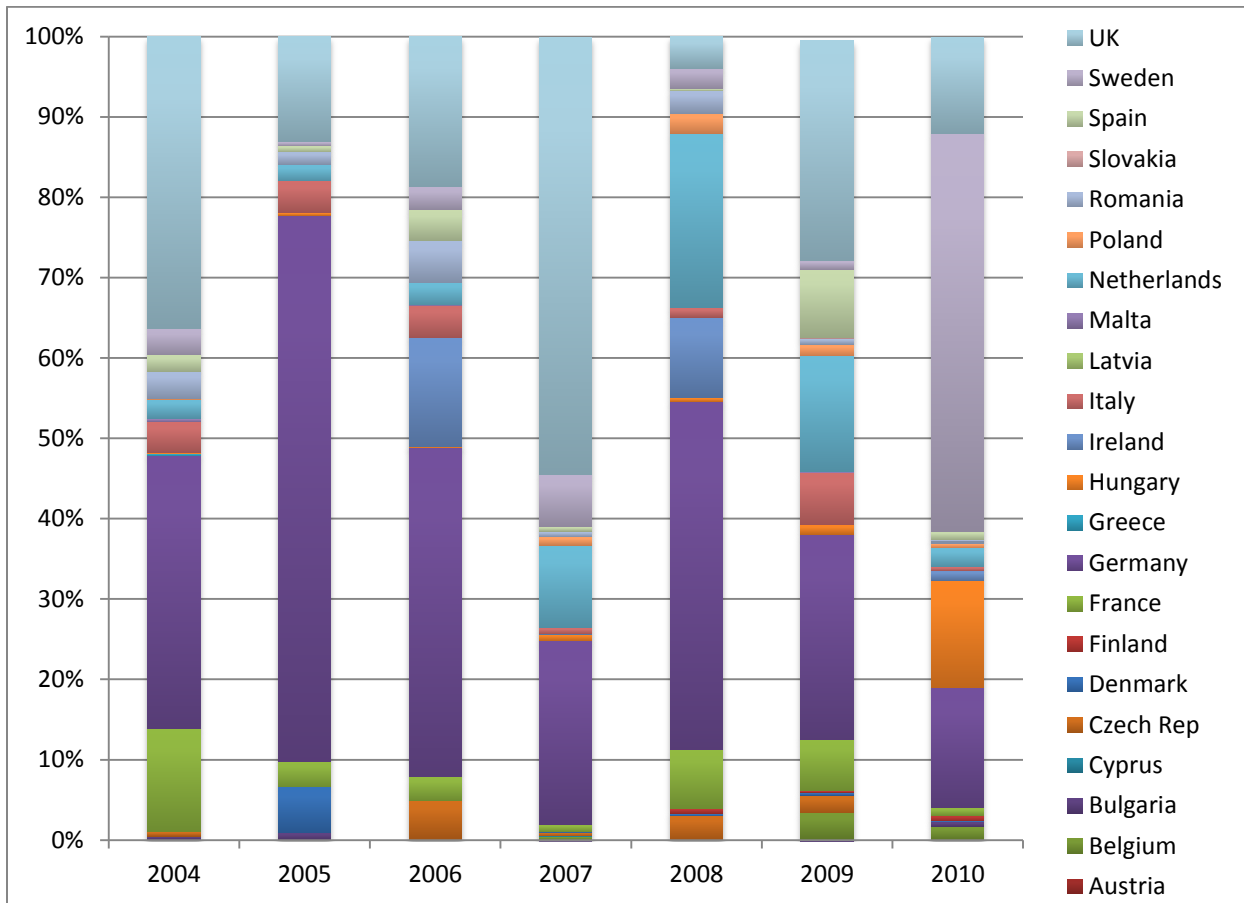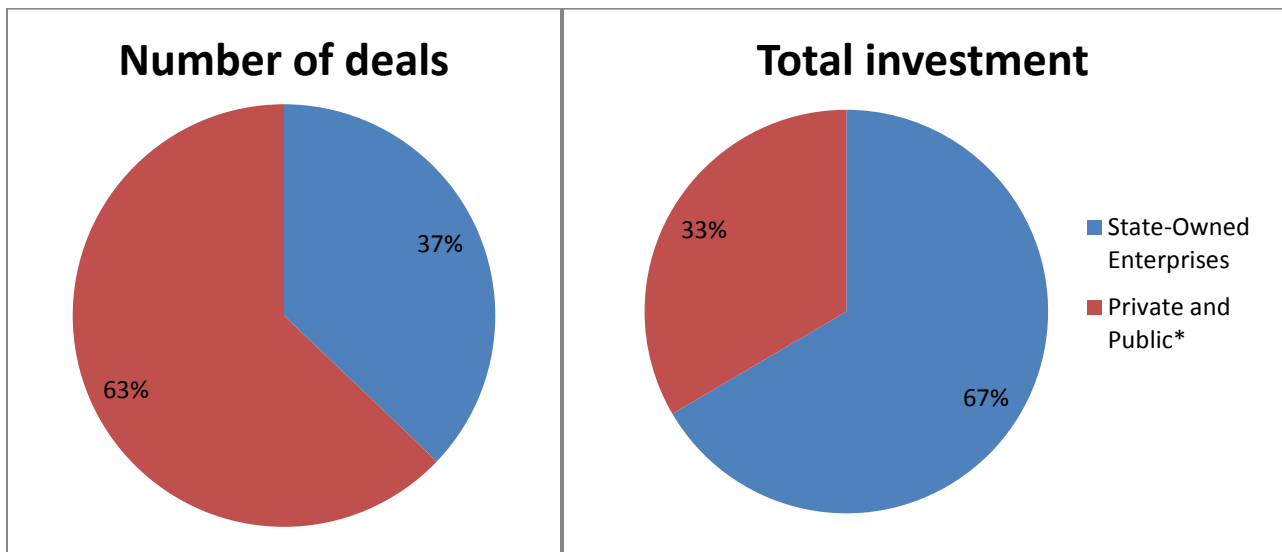| Country	2004	2005	2006	2007	2008	2009	2010
Austria	0.7	0.07	4.04	1.19	4.04	1.55	2.01
Belgium	1.64	2.34	2.67	33.98	33.3	56.91	101.01
Bulgaria	1.46	2.99	4.74	4.74	4.74	2.31	18.6
Cyprus	1.06	1.06	1.36	1.36	1.36	1.36	1.36
Czech Rep	1.11	1.38	14.67	19.64	32.43	49.34	52.33
Denmark	67.2	96.59	36.48	36.75	38.08	40.79	42.47
Estonia		1.26	1.26	1.26	1.26	7.5	7.5
Finland		0.9	0.93	0.94	3.59	9.04	27.25
France	21.68	33.82	44.88	136.81	167.13	221.03	243.62
Germany	129.21	268.35	472.03	845.41	845.5	1082.24	1502.29
Greece	0.35	0.35	0.35	0.38	1.68	1.68	4.23
Hungary	5.42	2.81	53.65	78.17	88.75	97.41	465.7
Ireland	0.04	0.04	25.3	29.23	107.77	106.82	139.91
Italy	20.84	21.6	74.41	127.13	133.6	191.68	223.8
Latvia	1.61	1.61	2.31	0.57	0.57	0.54	0.54
Lithuania		3.93	3.93	3.93	3.93	3.93	3.93
Luxembourg				67.02	122.83	2484.38	5786.75
Malta	0.37	1.37	1.97	1.87	4.81	5.03	2.66
Netherlands	8.97	14.95	20.43	138.76	234.42	335.87	486.71
Poland	2.87	12.39	87.18	98.93	109.93	120.3	140.31
Portugal	0.2		0.2	1.71	1.71	5.02	21.37
Romania	31.1	39.43	65.63	72.88	85.66	93.34	124.95
Slovakia	0.1	0.1	0.1	5.1	5.1	9.36	9.82
Slovenia		0.12	1.4	1.4	1.4	5	5
Spain	127.67	130.12	136.72	142.85	145.01	205.23	247.76
Sweden	6.44	22.46	20.02	146.93	157.59	111.89	1479.12
UK	108.46	107.97	201.87	950.31	837.66	1028.28	1358.35

Table 2. OFDI Flow in EU-27; Source MOFCOM 2010; Data for 2004-2006 include only non-financial sector (million USD)

Country	2004	2005	2006	2007	2008	2009	2010
Austria	0		0.04	0.08			0.46
Belgium	0.05		0.13	4.91		23.62	45.33
Bulgaria	0.35	1.72				-2.43	16.29
Cyprus				0.3			
Czech Rep	0.46		9.1	4.97	12.79	15.6	2.11
Denmark		10.79		0.27	1.33	2.64	1.61
Estonia							
Finland				0.01	2.66	1.11	18.04
France	10.31	6.09	5.6	9.62	31.05	45.19	26.41
Germany	27.5	128.74	76.72	238.66	183.41	179.21	412.35
Greece	0.2			0.03	0.12		
Hungary	0.1	0.65	0.37	8.63	2.15	8.21	370.1
Ireland			25.29	0.2	42.33	-0.95	32.88
Italy	3.1	7.46	7.63	8.1	5	46.05	13.27
Latvia				-1.74		-0.03	
Lithuania							
Luxembourg				4.19	42.13	2270.49	3207.19
Malta	0.37		0.1	-0.1	0.047	0.22	-2.37
Netherlands	1.91	3.84	5.31	106.75	91.97	101.45	64.53
Poland	0.1	0.13		11.75	10.7	10.37	16.74
Portugal							
Romania	2.68	2.87	9.63	6.8	11.98	5.29	10.84
Slovakia						0.26	0.46
Slovenia							
Spain	1.7	1.47	7.3	6.09	1.16	59.86	29.26
Sweden	2.64	1	5.3	68.06	10.66	8.1	1367.23
UK	29.39	24.78	35.12	566.54	16.71	192.17	330.33

Table 3. Chinese FDI in EU-27 by sectors of activity and method of investment, 2000-2011; source Rhodium Group

Sector	Value USD million			Number of projects		
	Greenfield	**M&A**	**Total**	**Greenfield**	**M&A**	**Total**
Chemicals, Plastics and Rubber	126	3505	3631	13	9	22
Utility and Sanitary Services	0	3259	3259	0	1	1
Automotive OEM and Components	655	1961	2615	23	12	35
Coal, Oil & Gas	18	1603	1621	4	7	11
Communications Equip. & Services	1180	177	1357	95	5	100
Transportation Services	784	546	1329	9	7	16
Metals Mining and Processing	25	1200	1225	13	14	27
Consumer Electronics	187	983	1170	33	9	42
Industrial Machinery & Equipment	495	499	993	34	23	57
Food, Tobacco and Beverages	110	570	679	10	9	19
Financial Services and Insurance	495	31	526	26	2	28
Real Estate	146	340	486	4	1	5
Pharmaceuticals	21	280	300	4	3	7
Electronic Equip.0 & Components	133	152	285	22	5	27
Software & IT services	256	13	269	21	5	26
Aerospace, Space and Defense	79	174	253	7	4	11
Textiles and Apparel	137	96	233	8	4	12
Alternative/Renewable energy	145	84	229	45	7	52
Healthcare and Medical Devices	30	63	93	9	2	11
Paper, Printing & Packaging	74	0	74	2	1	3
Leisure & Entertainment*	48	0	48	3	0	3
Other Transport Equipment	31	15	46	4	1	5
Business Services	43	1	44	13	2	15
Minerals Mining and Processing	1	42	43	1	2	3
Semiconductors	18	17	35	4	3	7
Biotechnology	24	10	34	6	2	8
Consumer Products and Services	28	0	28	9	1	10
Furniture and Wood Products	0	27	27	0	3	3
Engines & Turbines	14	4	18	2	1	3
Construction Services	6	0	6	4	0	4
TOTAL	5309	15652	20956	428	145	573

Table 4. Type of investment in EU-27 by ownership structure, 2000-2011; source Rhodium Group

Number of Deals	Greenfield	% share	M&A	% share	All Deals	% share
State-Owned Enterprises	148	34.57	64	44.75	212	37.12
Private and Public*	280	65.42	79	55.24	359	62.87
Total	428		143		571	
Total Investment (USD mn)						
State-Owned Enterprises	2738	51.59	8814	73.13	11552	66.54
Private and Public*	2569	48.40	3238	26.86	5807	33.45

Appendix C

	OFDI	GDP	GDPg	GDPpc	RES	UNEMP	PAT	EXP	IMP	tariff	Risk	IU	INFL	EXRATE	TAX
OFDI	1														
GDP	0.3614	1													
GDPg	-0.1943	-0.0834	1												
GDPpc	0.2644	0.2171	-0.1815	1											
RES	-0.1094	-0.1102	0.0772	-0.4117	1										
UNEMP	-0.0268	0.1359	-0.1704	-0.336	0.0727	1									
PAT	0.3613	0.9164	-0.0863	0.1283	0.003	0.153	1								
EXP	0.77	0.5141	-0.1915	0.5577	-0.2016	-0.1177	0.4472	1							
IMP	0.6656	0.3833	-0.1999	0.6243	-0.3689	-0.0539	0.3762	0.8516	1						
tariff	-0.332	-0.0157	0.6055	-0.0281	-0.0905	-0.1345	-0.0343	-0.2147	-0.1478	1					
Risk	0.1409	0.0219	-0.1158	0.8459	-0.3447	-0.3514	-0.0318	0.3265	0.4831	0.0231	1				
IU	0.3706	0.1642	-0.2909	0.5953	-0.1928	-0.1015	0.141	0.4099	0.4909	-0.4057	0.7199	1			
INFL	-0.1742	-0.0209	0.3099	-0.5619	0.2861	-0.1129	0.0226	-0.2766	-0.3889	0.2385	-0.5047	-0.3837	1		
EXRATE	0.0163	-0.0548	0.1128	-0.2954	-0.0723	0.124	0.033	-0.1671	-0.0397	0.0766	-0.1456	0.0042	0.187	1	
TAX	0.2233	-0.0271	-0.0763	0.595	-0.186	-0.4348	-0.1182	0.3777	0.3254	0.0584	0.3978	0.1151	-0.2383	-0.33	1