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**DEPARTAMENTO DE TEORÍA E HISTORIA
ECONÓMICA**



**THE DETERMINANTS AND EFFECTS
OF FOREIGN DIRECT INVESTMENT**

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Summary

The relevance and geographical landscape of foreign direct investment (FDI) has drastically changed in the last decades. At the end of the 80s, the world's FDI stock only represented 8% of the world's Gross Domestic Product (GDP), while nowadays it FDI accounts for 39% of world GDP. This exponential growth of FDI echoes the relocation of the productive activities of Multinational Enterprises (MNEs) across borders and consequently the advent of Global Value Chains (GVCs). Moreover, while in the 70s and 80s FDI was dominated by advanced economies, now developing and tax havens countries play an important role as source and destination of FDI. Due to the importance of the expected positive impact of FDI on host countries, a great body of research has been devoted to the understanding of the factors which determine countries' capacity of attracting FDI.

The present doctoral thesis contributes to this research in several ways. First, it addresses the determinants of FDI from developing countries in general, and from China in particular. Second, it explores how countries' trade policy and involvement in GVCs affect their capacity of attracting foreign mergers and acquisitions (M&As). Third, it gives new insight into the nexus between institutions and inward greenfield investment in presence of natural resources. Fourth, it addresses the effects of cross-border M&As on investees' performance depending on the country of origin of the investing MNE. Chapters 2 to 6 address these topics, while Chapter 1 gives a general introduction and Chapter 7 offers concluding remarks and future research avenues.

Chapter 2, titled "*FDI from Emerging Countries: Motivations and Impacts*", summarizes the findings of the flourishing literature about the reasons and consequences of emerging countries outward FDI (EOFDI). It first reviews the economic theories that explain emerging multinationals investments abroad, building on the conventional theory of FDI and the institutional theory. Furthermore, it provides an overview of the expected impact of EOFDI on the host economy and report the findings of the scant studies that recently attempted to assess these effects.

Chapter 3 is titled “*Dragon meets Bull: The determinants of Chinese outward Foreign Direct Investment in Spain*”. Based on qualitative data gathered through a questionnaire, this chapter delves into the characteristics and motivations of Chinese investment in Spain. Results confirm that Chinese investment in Spain mainly seeks to export, with a special interest in accessing third countries’ markets. Furthermore, findings underline the aim of Chinese MNEs acquiring recognized brands or enhancing their brand recognition, improving quality of their products and accessing new technologies. Chinese economic environment act as a relevant push factor, regardless the intrinsic motivations of the firms to invest abroad.

Chapter 4, titled “*Mergers and acquisitions & trade: A global value chains analysis*”, examines how the insertion in international trade and GVCs of countries affect their capacity of attracting cross-border M&As. Reached evidence shows that trade openness per se does not favour M&As. Nevertheless, bilateral free trade agreements, heterogeneity of destinations for exports (and sources for imports) of intermediate and final goods, and position and participation in GVCs are relevant for explaining bilateral M&As. Moreover, their role is significantly different depending on the level of development of the home and host countries.

Chapter 5, titled “*The FDI-Institution nexus in oil-abundant countries*”, reassesses the link between natural resources, institutional quality and greenfield investment. In particular, it focuses on the impact of good governance and democracy on FDI in oil-abundant countries. Findings confirm that compliance to rule of law, lack of corruption, political stability and democracy could boost new FDI links through the extensive margin. Results could not rule out the “oil curse”, meaning that oil producers attract fewer new greenfield projects than similar countries without oil. Furthermore, reached evidence show that the impact of institutions on FDI is not undermined by the presence of natural resources. On this regard, the chapter gives insight on the necessary institutional improvements in order to overcome the “oil curse” on FDI.

Chapter 6, titled “*Does it matter where foreign direct investment comes from? The effects of cross-border M&As on France*”, focuses on the effects of M&As on French manufacturing targets’ total factor productivity (TFP), export intensity, employment and wages. Importantly M&As are not only considered as homogeneous, but the impact is

analyzed depending on the level of development from the country of origin of the investment. In particular, the study distinguishes between takeovers made by MNEs headquartered in European, other developed, and tax haven countries. Findings underline that the effects of cross-border M&As differ strongly depending on the origin. M&As from tax haven countries transcend for their negative impact on wages, while M&As from developing countries for their positive impact on TFP and employment. Then, takeovers from Europe appear to boost all considered dimensions, while from other developed countries particularly foster export intensity.

Resumen

En las últimas décadas se han producido cambios drásticos en la importancia y distribución geográfica de la inversión extranjera directa (IED). A finales de los años 80, el stock mundial de IED tan solo representaba el 8% del Producto Interior Bruto (PIB) mundial. A día de hoy, dicho porcentaje ha ascendido hasta un 39%. El crecimiento exponencial de la IED ha implicado que las empresas multinacionales (EMN) reubicasen sus actividades productivas en distintos países. Dicho proceso ha fomentado la creación de Cadenas Globales de Valor (CGV). Además, mientras que en los años 70 y 80 la IED estaba dominada por los países desarrollados, ahora los países en vías de desarrollo y los paraísos fiscales juegan un importante rol como fuente y destino de los flujos de IED. Dada la relevancia y el esperado impacto positivo de la IED en los países receptores, el estudio de los factores que determinan la capacidad de atraer dichos flujos tiene un sustancial papel en la literatura.

La presente tesis doctoral contribuye a dicha línea de investigación en varios aspectos. Primero, se adentra en la temática de los determinantes de la IED procedente de los países en vías de desarrollo en general, y de China en particular. Segundo, explora cómo las políticas comerciales y la participación en CGV afectan la capacidad de los países de atraer fusiones y adquisiciones (FyAs) extranjeras. Tercero, aporta nueva evidencia de cómo las instituciones de los países ricos en petróleo afectan su capacidad de atraer inversiones greenfield. Cuarto, ahonda en los efectos de las FyAs en el rendimiento de las empresas adquiridas, dando nueva evidencia en cómo el impacto depende de la nacionalidad de la EMN inversora. En los capítulos Capítulos 2 a 6 se abordan estas cuestiones, mientras que el Capítulo 1 presenta una introducción general y el Capítulo 7 ofrece las conclusiones y futuras líneas de investigación.

El Capítulo 2, titulado “*Inversión Extranjera Directa de países emergentes: Motivos e Impacto*”, resume los hallazgos de la creciente literatura que aborda las motivaciones y efectos de la IED de los países emergentes (EIED). Primero, el capítulo revisa las teorías que explican la IED de las EMNs procedentes de los países emergentes (EMNEs). Dicha

revisión se basa en las extensiones hechas sobre la teoría convencional de la IED y la teoría institucional. Asimismo, el capítulo da una visión general del impacto esperado de la EIED en los países receptores y hace referencia a los pocos estudios empíricos que han considerado esta problemática.

El Capítulo 3 se titula “*Los determinantes de la inversión extranjera directa china en España*”. Basado en los datos cualitativos que han sido recolectados mediante un cuestionario, el capítulo ahonda en las características y motivaciones de inversión china en España. Los resultados confirman que las inversiones chinas en España buscan principalmente exportar, con un especial interés en acceder a los mercados de terceros países. A su vez, los hallazgos subrayan el objetivo de las EMN chinas de adquirir marcas reconocidas o aumentar su reconocimiento de marca, mejorar la calidad de sus productos y acceder a nuevas tecnologías. Las circunstancias económicas de China son un factor de empuje, independientemente de las motivaciones intrínsecas de invertir en el exterior.

El Capítulo 4, titulado “*Fusiones y adquisiciones y comercio: Un análisis de las Cadenas Globales de Valor*” examina cómo el involucramiento de los países en el comercio internacional y las CGV afecta su capacidad de atraer FyAs extranjeras. La evidencia hallada muestra que la apertura comercial per se no favorece las FyAs. No obstante, los Acuerdos Preferenciales de Comercio (APC), la heterogeneidad en los destinos de las exportaciones (y fuentes de importaciones) de productos y servicios intermedios y finales, y la posición y participación en las CGV son dimensiones relevantes para explicar los flujos bilaterales de FyAs. Asimismo, la evidencia hallada resalta que el rol de las características comerciales varía dependiendo del nivel desarrollo del país inversor y receptor.

El Capítulo 5, titulado “*El nexo entre Inversión Extranjera Directa e Instituciones de países ricos en petróleo*”, reexamina el vínculo entre recursos naturales, calidad institucional e inversiones greenfield. En particular, centra su atención en el impacto del buen gobierno y la democracia sobre la IED en países ricos en petróleo. Los hallazgos confirman que la conformidad con el imperio de la ley, la falta de corrupción, la estabilidad política y la democracia pueden incentivar el margen extensivo de la IED. Los resultados no descartan la existencia de una “maldición del petróleo” sobre la IED, significando que los productores de petróleo atraen menos proyectos greenfield que los

países similares no productores. También, la evidencia muestra que el impacto positivo de las instituciones sobre la IED no es menoscabado por la presencia de los recursos naturales. En este sentido, el capítulo pone de relieve los cambios institucionales necesarios para superar la “maldición del petróleo” sobre la IED.

El Capítulo 6, titulado “*¿Importa el origen de la Inversión Extranjera Directa? Los efectos de las fusiones y adquisiciones extranjeras en Francia*”, centra su atención en el impacto de las FyAs en el sector manufacturero francés. El estudio calcula el impacto de las FyAs sobre la Productividad Total de los Factores (PTF), la intensidad de la exportación, el empleo y los salarios de las empresas adquiridas. Las FyAs no son solo consideradas como homogéneas, sino que también su impacto es analizado dependiendo del nivel de desarrollo del país de origen de la inversión. El estudio distingue entre las adquisiciones hechas por EMN con sede en Europa, en otros países desarrollados, en países en vías de desarrollo y en paraísos fiscales. Los resultados subrayan que los efectos de las FyAs extranjeras dependen del origen. Las FyAs procedentes de los paraísos fiscales trascienden por su impacto negativo en salarios, mientras que las FyAs de los países en vías de desarrollo lo hacen por su impacto positivo en PTF y empleo. Luego, las adquisiciones por EMN europeas parecen impulsar todas las dimensiones consideradas, mientras que las de otros países desarrollados en particular mejoran la intensidad de las exportaciones.

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Chapter 1: Introduction

In 1960, Hymer's dissertation (Hymer, 1976) put forward the role of Multinational Enterprises (MNEs) behaviour and characteristics for explaining Foreign Direct Investment (FDI) (Dunning & Rugman, 1985). Almost 60 years later, Hymer's dissertation is still valid and the pattern of cross-border production networks has attracted much attention in the International Economics, International Business and Industrial Organization literature. Nevertheless, in the last 60 years the relevance of FDI and the composition of the sources and destination of capital have drastically changed. Nowadays, a much more complex reality increasingly fuels research on the determinants and effects of FDI, the discussion among academics and policymakers has shifted from whether FDI should be encouraged to how countries can attract FDI. More recently, the rise of FDI outflowing from emerging countries has risen concern about their consequence on the host countries.

The relevance of FDI has rapidly increased over the last decades. At the end of the 80s, the world's FDI stock only represented 8% of the world's Gross Domestic Product (GDP). During this decade, most of FDI flows involved developed countries both as sources and receptors since 92% was from developed countries and 73% was directed to developed countries. Forty years later, the FDI landscape drastically changed. In 2017 the FDI stock represents 39% of the world's GDP. Between 2008-2017, on average developed countries were only responsible for 59% of the world's outward FDI (OFDI) and 42% of the inward FDI (IFDI) flows. This shift is explained by the surge of developing and tax havens as a source and destination of investment. During the period 2008-2017, on average, developing countries accounted for 20% of OFDI and 35% of IFDI. During this same period, 21% of OFDI emanates from tax havens while these countries receive 23% of IFDI (UNCTAD, 2018).¹

¹ See Chapter 6 for countries' classification.

In parallel to these changes in the composition of FDI, the world has witnessed significant historic events accompanied by the surge of new technologies which facilitate globalization processes. Indeed, some salient events contributed to shape a new reality such as the end of the Western decolonization of Africa and the disappearance of the Union of Soviet Socialist Republics. Democracies stopped being a characteristic specific to developed countries, and became the dominant political system in several developing countries. In fact, according to Systemic Peace (2018), between 1960 and 2016 the number of democracies increased from nearly 40 to almost 100 countries. In the framework of the World Trade Organization (WTO), developed and developing countries reached increasingly ambitious trade agreements. In Europe, the European Union (EU) and the Euro were created; in Asia, China has become a member of WTO and in South America, the Mercosur was signed. These examples of political changes enabled firms to develop different parts of their economic activity across borders.

These historical events resulted in a transformation of the analysis of FDI. Cross-border investments are no longer only the consequence of a developed country MNEs, with an oligopolistic position in their home market and competitive advantages, which seeks to access another developed countries' markets or developing countries' low labour costs. Nowadays, FDI shape increasingly complex global value chains. FDI is also made by medium sized firms from developed and developing countries, or by firms which are known as *born global*. In addition, FDI is also driven by emerging countries MNEs (EMNEs) which seek to internalize new competitive advantages, the control of natural resources and new markets. Hence, FDI consists now in a new tool through which EMNEs manage to survive and develop. OFDI is also part of developing countries' government policies to achieve countries' economic development and to expand their political influence abroad. At the beginning, FDI only responded to the objective of developing real economic activity abroad. At the moment, an increasingly share of MNEs' foreign subsidiaries are located in tax havens countries with the purpose of tax planning, enjoying a higher institutional quality and raising capital (UNCTAD, 2016). The growing heterogeneity of FDI requires further research on its motives and impact.

In general, FDI is expected to exert a positive effect on host countries' economies. The literature highlights that FDI is a source of economic efficiency, employment, integration in Global Value Chains (GVCs), higher wages, technology diffusion and economic

growth (Blomström & Kokko, 1998; Caves, 1974; Del Prete et al., 2018; Harrison, 1994). Thus, attracting FDI is often among national governments' main concerns and considered a relevant component for achieving economic development.

Besides, although FDI has drastically grown during the last decades, there is still a high inequality in terms of its geographical distribution. Several developing countries face severe difficulties to attract productive foreign capital. At the same time, the surge of investment from developing countries in general, particularly from China, is also rising policy concerns about their motivations and consequences for the host country. Moreover, the recent surge of protectionist ideas could threaten the growth of FDI. The number of governments enacting policy measures in detriment of economic liberalization is growing, and could eventually hinder FDI.

In addition, there is a strand of the literature which highlights that the expected positive impact of FDI may be overstated (Görg & Greenaway, 2004; Gugler et al., 2003; Hymer, 1970; Tsai, 1994). In this regard, the literature points that the positive (or negative) effects of FDI can be conditioned on the host countries' financial and economic development, domestic firms' absorptive capacity, the mode of investment or the origin of investment (Alfaro et al., 2004; Ashraf et al., 2016; Borensztein et al., 1998; Chen, 2011; Girma, 2005).

FDI is performed by MNEs. FDI represents investments with the aim of obtaining a lasting and controlling of at least 10% of a firm located abroad. FDI is usually divided into two categories: Mergers and Acquisitions (M&As), which entail the acquisition of an existing firm, and greenfield investment, which represents the creation of a new subsidiary abroad. Besides M&As and greenfield investment, FDI also includes reinvested earnings and intra-company loans (see IMF, 2009).

In general, FDI statistics suffer from several limitations. On the one hand, bilateral statistics have many gaps due to confidentiality and are not usually available at the sectoral level. Moreover, FDI aggregate statistics may over or under-estimate the economic activity performed by MNEs (Beugelsdijk et al., 2010; Cantwell, 1992). On the other hand, FDI is not homogeneous. The determinants and consequences of greenfield investments and M&As are different (e.g. Ashraf et al., 2016; Nocke & Yeaple, 2007).

Although FDI data availability has considerably improved, these dimensions often represent a barrier to research that needs to be overcome.

The economic relevance of FDI is increasing and its main sources and destinations countries are changing. The lack of homogeneity in FDI calls for new research. The present thesis focuses on the determinants and effects of FDI with special focus on the origin of FDI and the role of host countries' institutions, natural resources and trade policy. In the following lines, a short summary of the five chapters of this doctoral dissertation is presented.

Chapter 2: FDI from Emerging Countries: Motivations and Impacts²

The second chapter of this PhD dissertation gives a brief overview on the growing literature which addresses the determinants and impact of FDI from developing countries. In this way, this chapter is closely linked with the literature from Chapter 3, which focuses on the determinants of Chinese OFDI in Spain, and Chapter 6, which analyses the impact of takeovers from developing countries.

OFDI from developing countries has drastically increased during the last decades. This trend is driven by Brazil, Russia, India, China and South Africa (BRICS), among which China stands out. Indeed, since 2012 China has been among the world's top three investors (UNCTAD, 2013, 2014, 2015, 2016, 2017, 2018). In 2016, China was the second main country in terms of cross-border M&As with a value above one billion US dollars (UNCTAD, 2017).

Firstly, the chapter discusses to which extent EMNEs motivations to invest abroad are in line with the conventional FDI theory. To this end, the role of market, asset, efficiency and natural resource seeking are revisited along with other important motivations such as export platform and export supporting FDI, and home and host countries institutions. In addition, the empirical validations of this novel literature are reviewed.

² Chapter 2 has been accepted for publication in the number 50 of the journal *Revista de Economía Mundial* (Q4 of JCR in Economics).

Secondly, the chapter addresses the channels through which FDI may have a positive or negative effect on host countries' economy. In addition, the chapter reveals that the impact of FDI from developing countries faces a strong possibility to generate different outcomes compared with the investments coming from a developed country. Finally, the chapter provides an overview of the scant literature shedding light on the impact of FDI from developing countries into Africa, Asia, Europe and United States.

*Chapter 3: Dragon meets Bull: The determinants of Chinese outward Foreign Direct Investment in Spain*³

Since the beginnings of the 2000s, Chinese OFDI dramatically increased. At the world level, China is now the third most important source of FDI (UNCTAD, 2018). This phenomenon affected Europe in general, and specially Spain. While in 2008 Chinese FDI in Spain was negligible, in 2015 China occupies the ninth position in terms of FDI stock holder and Chinese investments nowadays affect more than 15,000 jobs (Carril-Caccia & Milgram-Baleix, 2017). The third chapter analyses the determinants Chinese OFDI in Spain.

Specifically, the analysis relies on qualitative information gathered from a questionnaire answered by 31 Chinese MNEs located in Spain. To this end, a unique firm-level database of Chinese FDI is constructed and a specific questionnaire is designed based on the literature of the FDI determinants for the case of EMNEs (see Chapter 2 for an in-depth overview). In addition, Multiple Correspondence Analysis (MCA) is used to the gathered data to detect complementarities and similarities among the different investment motivations.

In contrast to the previous works which look into Chinese FDI in Spain (Carril-Caccia & Milgram Baleix, 2016, 2017; ESADE, 2014, 2015; Goy-Yamamoto & Navarro, 2008; Quer Ramón et al., 2015, 2017; Sáez, 2010; Santacana & Wang, 2008), the present analysis is not only descriptive. Instead, a broader set of FDI determinants and sectors coverage are considered. In addition, the retrieved primary data allow to assess precisely

³ Chapter 3 has been accepted for publication on the journal of Global Business and Economics Review

the determinants of Chinese OFDI unlike other studies that usually infer the determinants based on the observations of secondary data.

Results confirm that Chinese investment in Spain mainly aims at supporting Chinese exports with a special interest in accessing third country markets outside the European Union. Respondents also validate the asset-seeking hypothesis, underlining a special interest in acquiring recognized brands or making their brands known, improving quality of their products and accessing new technologies. More surprisingly, Chinese investors are also stimulated by efficiency gains brought by the access to high-qualified workforce. Interestingly, the survey gauges the role played by the Chinese economic environment that seems to act as an outstanding push factor, regardless the intrinsic motivations of the firms to invest abroad.

Chapter 4: Mergers and acquisitions & trade: A Global Value Chains analysis

The exponential growth of FDI in the last 40 years implied that MNEs accelerated the relocation of their productive activities. Nowadays, firms which invest abroad slice up their value chain across borders seeking to exploit each country's competitive advantage and endowments (Beugelsdijk et al., 2009; Baconier et al., 2005; Krugman et al., 1995). Therefore, trade in intermediate goods predominate over trade of final goods and MNEs control approximately 80% of the world's trade (UNCTAD, 2013).

At the same time, increasingly ambitious trade agreements have been negotiated, while we have also witnessed a surge in protectionist ideas. Recent examples of the former is the signature of the African Continental Free Trade Area or the Free Trade Agreement (FTA) between the EU and Japan, while the Brexit vote or Trump's increase in tariffs on steel and aluminium imports stand as good examples of the latter. The trade policy debate tends to focus on the direct consequences of trade policy on trade, but countries' trade policies and characteristics are also prone to affect their capacity of attracting FDI.

The fourth chapter of this PhD dissertation addresses how countries' trade policies and characteristics determine their capacity of attracting foreign M&As. Previous literature on this topic tends to suggest conflicting answers. In terms of the signature of FTAs, some works show that FTA can foster bilateral FDI and others reach the opposite conclusion

(e.g. di Giovanni, 2005; Hyun & Kim, 2010; Jang, 2011). Similarly, mixed results are also obtained when countries' overall trade openness is considered as a determinant of IFDI (e.g. Kolstad & Villanger, 2008; Ramasamy & Yeung, 2010; Wheeler & Mody, 1992).

The analysis presented in this chapter has several novelties in comparison with the previous literature. First, an augmented gravity model with bilateral M&As projects is estimated to address the impact of countries' trade characteristics. Second, not only the signature of FTA or the overall gross trade openness of countries are considered. In addition, by exploiting World Input-Output Database (See Timer et al., 2012), the analysis relies on trade in value added statistics. Moreover, the degree of heterogeneity of exports destinations and imports sources of final and intermediate goods and services, and GVC position and degree of participation are considered as potential determinants of M&As. Finally, the analysis also sheds light on how the above-mentioned trade characteristics of host countries influence M&As in a different way depending on the home-host levels of development.

Results show that countries' overall trade openness does not drive inward M&As. In fact, it appears that trade openness hinders M&As between developed countries (North-North). On this regard, findings indicate that M&As from developed countries are prone to be impeded by increasing heterogeneous foreign competition through imports. Developing countries which source final goods from a wider number of countries appear to receive less Northern M&As. Then, in the North-North case, MNEs seem to be deterred by competition through imports in intermediate goods.

Nevertheless, reached evidence highlights several channels through which countries' trade policy and involvement in GVCs affect their capacity of attracting foreign capital. FTA appear to boost M&As only between developed countries, suggesting that comprehensive FTA might be necessary in order to enjoy a complementarity between M&As and trade. Moreover, diversifying the destinations of export in final goods particularly fosters M&As between countries with different level of development (North-South and South-North). Alternatively, in the case of intermediate goods, findings suggest that MNEs mostly seek to internalize in their GVCs those countries which produce intermediates just for a few set of countries. In fact, evidence indicates that countries in

the upstream of the GVC are prone to receive a higher number of M&As projects. Furthermore, GVC participation proves to be a localization advantage that particularly fosters takeovers among countries with different level of development.

Chapter 5: The FDI-Institutions nexus in oil-abundant countries

Recent decades have witnessed significant fluctuation in commodities prices, resulting in economic and social instability in oil-abundant countries. These episodes serve as a reminder for these countries of the relevance of diversifying their economies. As highlighted at the beginning of this introduction, FDI can present an opportunity for development. FDI has the capacity of bringing new technologies, broaden access to new markets and diversify the economic activity.

The expected impact of natural resource endowments on FDI is still not clear. Previous works identified both a positive and negative relationship (e.g. Mohamed & Sidiropoulos, 2010; Poelhekke & van der Ploeg, 2013). In addition, several authors suggest that natural resources may moderate the link between institutions and FDI (e.g. Aleksynska & Havrylchyk, 2013; Asiedu & Lien, 2011). How natural resources affect the relationship between FDI and institutions is a relevant research question. Policy advisors advocate political stability and a legal and regulatory environment as the main factors influencing MNEs' investment decisions (World Bank, 2018). Notwithstanding, evidence supporting this claim is not bulletproof. Empirical evidence on the impact of institutional quality and democracy is mixed (e.g. Bellos & Subasat, 2012; Li & Resnick, 2003; Paniagua & Sapena, 2014).

Chapter 5 contributes to this literature studying how institutional quality and oil production interact in their relationship with FDI. In this way, the objectives are threefold. First, the study addresses whether countries' oil endowment attracts or deters FDI, that is to say, whether there is an "*oil curse*" on FDI (Asiedu, 2013). Second, it provides new evidence on how countries level of democratization, rule of law, corruption and political stability affect FDI. Third, the chapter investigates the role of oil production changes in the relationship between FDI and the above-mentioned institutional dimensions.

The analysis is based on bilateral greenfield investments for 182 countries during the period 2003-2012. An augmented gravity equation is estimated to shed light on the role of oil production and institutions in FDI patterns.

Results indicate that improvements in rule of law, lack of corruption, political stability and democracy would increase countries' capacity of attracting new greenfield investment projects. Results also validate the hypothesis of an "oil curse" on FDI, countries in which oil production has a higher relevance in their economy attract less investment. In addition, reached evidence suggest that the benefits from improving the above-mentioned institutional dimensions are fostered by countries' oil production. Based on these findings, the institutional reforms necessary for overcoming the "oil curse" on FDI are illustrated.

Chapter 6: Does it matter where foreign direct investment comes from? The effects of cross-border M&As on France

As mentioned at the beginning of this introduction, in the last two decades the landscape of capital exporters has drastically changed. OFDI is no longer dominated by MNEs headquartered in developed countries. Nowadays, more than 40% of the world's OFDI comes from developing and tax haven countries. This trend meant a rapid surge of cross-border M&As by MNEs from both groups of countries.

Motivated by this trend, the sixth chapter of this thesis dissertation investigates whether the impact of cross-border M&As on targets' performance differs depending on the level of development of the country of the investor. In particular, this chapter focuses on the direct effect of foreign takeovers on targets from French manufacturing sector in terms of total factor productivity (TFP), export intensity, employment and wages. It distinguishes between M&As from European, other developed, developing and tax haven countries MNEs. To this end, a novel firm-level database for the period 2005-2014 is exploited.

As detailed in Chapter 2, the growth of FDI from developing countries principally motivated the study of FDI's impact in other developing countries (e.g. Gold et al., 2017; Kamal, 2015; Ni et al., 2017; Takii, 2011). Exceptionally, Chen (2011) and Chari et al. (2012) consider the case of the direct effect of M&As driven by EMNEs in targets firms

from the United States, and Javorcik & Spatareanu (2011) study the different spillovers effects depending on the origin of investment for Romania. Then, other works give certain insight into the consequences of FDI from EMNEs in developed countries (Carril-Caccia & Milgram-Baleix, 2017; Giulian et al., 2014; Piperopoulos et al., 2018; Sanfilippo, 2015). Alternatively, research on tax havens mostly focused on their impact on countries' income or the drivers of opening a subsidiary in a tax haven (e.g. Clausing, 2003; Desai et al., 2006; Dharmapala, 2008), but does not tackle how FDI from these countries affect targets' performance.

The overall effect of cross-border M&As is estimated by applying Propensity Score Matching (PSM) combined with difference in differences. In this case, takeovers are taken as homogeneous. Results show that M&As hampers TFP but boost export intensity, while they have a non-significant effect on employment and wages.

In order to gauge the heterogeneous effect of M&As, Generalized Propensity Score Matching combined with difference in differences is used. Reached evidence indicates that the post-mergers performance of the targets differs depending on the origin of investment. Acquisitions by European MNEs foster TFP, export intensity, employment and wages. In contrast, tax havens' M&As hinder TFP, employment and wages. Other developed countries takeovers also result in a decrease of TFP, but they do entail a higher export intensity and employment. Interestingly, developing countries' M&As seem to imply a growth in terms of TFP, employment and wages.

Capítulo 1: Introducción

En 1960, la tesis doctoral de Hymer (Hymer, 1976) expone el rol del comportamiento y características de las empresas multinacionales (EMN) para explicar la inversión extranjera directa (IED) (Dunning & Rugman, 1985). Casi 60 años después, la tesis de Hymer sigue estando en vigencia y el estudio de las redes de producción transfronterizas han atraído un gran interés en la literatura de Economía Internacional, Empresa y Organización Industrial. No obstante, en los últimos 60 años la importancia de la IED y su composición en términos de países inversores y receptores ha cambiado de forma considerable. Hoy en día, una realidad crecientemente compleja estimula la investigación en los determinantes y efectos de la IED. El debate entre académicos y responsables de política económica ha dejado de centrarse en si la IED debe ser incentivada para poner el foco en cómo los países pueden atraer dichos flujos de capital. Más recientemente, el aumento de la IED procedente de los países emergentes ha traído preocupaciones nuevas sobre las consecuencias que estos nuevos inversores puedan tener sobre las economías receptoras.

La importancia de la IED ha incrementado rápidamente en las últimas décadas. A finales de los 80, el stock mundial de IED tan solo representaba el 8% del Producto Interior Bruto (PIB) mundial. Durante esta década, el 92% de la IED procedía de los países desarrollados, y el 73% iba dirigida a los países desarrollados. Cuarenta años después, la situación ha cambiado de forma drástica. En el 2017, el stock de IED representa el 39% del PIB mundial. Entre el 2008 y 2017, en términos medios los países desarrollados fueron tan solo responsables del 59% de las exportaciones de IED al exterior y fueron, a su vez, receptores de solo un 42%. Este cambio viene explicado por el advenimiento de los países en vías de desarrollo y los paraísos fiscales como fuente y destino de la inversión. De media, durante el periodo 2008-2017 un 20% de la IED procedió de los países en vías de desarrollo y un 21% de los paraísos fiscales. Por otro lado, durante este mismo periodo, los países en vías de desarrollo recibieron el 35% de la IED mundial y los paraísos fiscales el 23% (UNCTAD, 2018).¹

¹ La clasificación de los países se encuentra en el Capítulo 6.

En paralelo con estos cambios en la composición de la IED, el mundo ha presenciado eventos históricos significativos acompañados del surgimiento de las nuevas tecnologías, aspectos que fueron determinantes para el proceso de globalización. Estos últimos 60 años han estado marcados por una serie de eventos trascendentales que dieron forma a una nueva realidad. En estos años tuvieron lugar la descolonización de África y la desaparición de la Unión de Repúblicas Socialistas Soviéticas. La democracia dejó de ser una característica exclusiva de los países desarrollados, y empezó a ser el sistema político dominante en muchos países no desarrollados. De hecho, según Systemic Peace (2018), entre 1960 y 2016 el número de democracias a nivel mundial pasó de estar en torno a los 40 a casi 100. En el marco de la Organización Mundial de Comercio (OMC), países desarrollados y en vías de desarrollo han alcanzado acuerdos comerciales que son crecientemente más ambiciosos. En Europa se crearon la Unión Europea (UE) y el Euro; en Asia, China se convirtió en un miembro de la OMC y, en América del Sur, se firmó el Mercosur. Estos ejemplos de cambios políticos facilitaron que las empresas pudiesen desarrollar su actividad económica en distintas partes del globo.

Estos eventos históricos resultaron en la transformación del análisis de la IED. Las inversiones transfronterizas ya no son solo dominadas por EMN procedentes de países desarrollados, con una posición de oligopolio en su mercado doméstico y con ventajas competitivas, que buscan acceder a mercados de otros países desarrollados o mano de obra de bajo coste en los países en vías de desarrollo. Hoy en día, la IED da forma a complejas cadenas globales de valor. La IED es también producto de empresas medianas de los países desarrollados y en vías de desarrollo, o de empresas denominadas *born global*. Además, la IED es ahora llevada a cabo por EMN de países emergentes (EMNEs) que buscan internalizar nuevas ventajas competitivas, controlar recursos naturales y nuevos mercados. De este modo, para las EMNEs la IED se ha convertido en una nueva herramienta de desarrollo y supervivencia. La IED procedente de los países en vías de desarrollo también forma parte de las políticas de los gobiernos para promover el desarrollo económico y expandir la influencia política en el exterior. Antes la IED solo perseguía el desarrollo de actividad económica real en el exterior. Hoy en día, una creciente cuota de las filiales en exterior de las EMN se localiza en paraísos fiscales con el fin de reducir el pago de impuestos, disfrutar de una calidad institucional superior y acceder a financiación (UNCTAD, 2016). La creciente heterogeneidad de la IED requiere investigación adicional centrada en sus motivos e impacto.

En general, es esperado que la IED ejerza un efecto positivo sobre las economías de los países receptores. La literatura resalta que la IED es una fuente de eficiencia económica, empleo, integración en las Cadenas Globales de Valor (CGV), mayores salarios, difusión tecnológica y crecimiento económico (Blomström & Kokko, 1998; Caves, 1974; Del Prete et al., 2018; Harrison, 1994). Por tanto, atraer IED está a nuevo entre los principales objetivos de los gobiernos y es considerado como un componente relevante para la consecución del desarrollo económico.

Asimismo, aunque en las últimas décadas la IED creciese de forma exponencial, todavía existe una gran desigualdad en términos de su distribución geográfica. Muchos países en desarrollo afrontan grandes dificultades a la hora de atraer capital productivo extranjero. A su vez, el auge de la inversión de países en vías de desarrollo en general, y en particular de China, está también despertando nuevas preocupaciones políticas sobre sus motivaciones y las consecuencias para los países receptores. Por otro lado, hay un número creciente de gobiernos que están promulgando políticas económicas contra la liberalización comercial; políticas que pueden terminar impidiendo la IED.

Al mismo tiempo, hay una línea de la literatura que subraya que el impacto positivo de la IED puede estar exagerado (Görg & Greenaway, 2004; Gugler et al., 2003; Hymer, 1970; Tsai, 1994). En este sentido, la literatura señala que el efecto positivo (o negativo) de la IED puede estar condicionada por el nivel de desarrollo financiero y económico del país receptor, por la capacidad de absorción de las empresas domésticas, por el modo de inversión o por el origen de la inversión (Alfaro et al., 2004; Ashraf et al., 2016; Borensztein et al., 1998; Chen, 2011; Girma, 2005).

La IED es llevada a cabo por las EMNs. La IED representa las inversiones que tienen como objetivo obtener un control duradero de al menos el 10% de la propiedad de una empresa localizada en el extranjero. La IED es usualmente dividida en dos categorías: fusiones y adquisiciones (FyAs), que implican la adquisición de una empresa existente, e inversiones *greenfield*, que representan la creación de una nueva filial en el exterior. Aparte de FyAs e inversiones *greenfield*, la IED también incluye la reinversión de ganancias y los préstamos intraempresariales (ver IMF, 2009).

En general, las estadísticas de IED sufren de varias limitaciones. Por un lado, las estadísticas bilaterales tienen muchos datos perdidos debido a la confidencialidad y no están disponibles a nivel sectorial. A su vez, las estadísticas agregadas de IED pueden sobreestimar o infraestimar la actividad económica desarrollada por las EMNs (Beugelsdijk et al., 2010; Cantwell, 1992). Por otro lado, la IED no es homogénea. Los determinantes e impacto de las inversiones greenfield y las FyAs son distintos (ej. Ashraf et al., 2016; Nocke & Yeaple, 2007). Aunque la disponibilidad de datos de IED ha mejorado de forma considerable, estas dimensiones representan a menudo barreras que la investigación necesita superar.

La importancia de la IED está creciendo y los principales países que son fuente y destino de dichas inversiones internacionales está cambiando. La falta de homogeneidad en la IED justifica la necesidad de llevar a cabo más investigación. La presente tesis se centra en los determinantes y efectos de la IED, con un especial interés en el origen de la IED y en el papel que juegan las instituciones, los recursos naturales y la política comercial de los países de destino. En las siguientes líneas, se presenta un breve resumen de los cinco capítulos que componen esta tesis doctoral.

Capítulo 2: Inversión Extranjera Directa de países emergentes: Motivos e Impacto²

El segundo capítulo de la presente tesis doctoral da una breve visión general de la creciente literatura que aborda los determinantes e impacto de la IED procedente de los países en vías de desarrollo. De este modo, el capítulo está vinculado con la literatura del Capítulo 3, que se centra en los determinantes de la inversión china en España, y con el Capítulo 6, que analiza el impacto de las adquisiciones procedentes de los países en vías de desarrollo.

Durante las últimas décadas, la IED procedente de los países en vías de desarrollo se ha incrementado de forma radical. Esta tendencia ha sido dominada por países como Brasil, Rusia, India, China y Sudáfrica (BRICS), entre los cuales resalta el papel de China. Desde el 2012, China ha estado entre los tres principales inversores internacionales (UNCTAD, 2013, 2014, 2015, 2016, 2017, 2018). En el 2016, China fue el segundo país en términos

² El Capítulo 2 ha sido aceptado para su publicación en el número 50 la Revista de Economía Mundial (Q4 JCR en Economía).

FyAs transfronterizas por un valor superior a un billón de dólares estadounidenses (UNCTAD, 2017).

En primer lugar, el capítulo expone en qué medida las motivaciones de inversión en el exterior de las EMNEs son explicadas por la teoría convencional de la IED. Con este fin, se reconsideran el rol de la búsqueda de mercados, activos, eficiencia y recursos naturales. También se tiene en cuenta la IED que busca la creación de plataformas de exportaciones y apoyar exportaciones, y el papel que juegan las instituciones de los países de origen y destino. Además, se revisan los estudios empíricos que abordan esta novedosa literatura.

En segundo lugar, el capítulo aborda los mecanismos por los cuales la IED puede tener un impacto positivo o negativo sobre las economías de los países receptores. A su vez, el capítulo revela que el efecto de la IED originaria en países en vías de desarrollo puede llegar a conllevar consecuencias distintas a aquella proveniente de países desarrollados. Finalmente, el capítulo resume la escasa literatura que estudia el impacto de la IED de países en vías desarrollo en África, Asia, Europa y Estados Unidos.

Capítulo 3: *Los determinantes de la inversión extranjera directa china en España*³

Desde principios de los años 2000, la IED china ha crecido drásticamente. A nivel mundial, China es el tercer inversor más importante (UNCTAD, 2018). Este fenómeno afectó a Europa en general, y a España en particular. Mientras que en el 2008 la inversión china en España era mínima, en el 2015 China ocupa el puesto noveno en el ranking de inversores por stock de IED y, a día de hoy, afecta a más de 15.000 puestos de trabajo (Carril-Caccia & Milgram-Baleix, 2017). El tercer capítulo analiza los determinantes de la IED china en España.

En particular, el análisis emana de información cualitativa recolectada mediante un cuestionario contestado por 31 EMNs chinas situadas en España. Con este fin, se construyó una base de datos a nivel de empresa y un cuestionario específicamente diseñado con literatura de los determinantes de IED de las EMNEs (ver el Capítulo 2 para una visión en profundidad de dicha literatura). Además, con el fin de detectar las

³ El Capítulo 3 ha sido aceptado para su publicación en la revista *Global Business and Economics Review*.

complementariedades y similitudes entre las distintas motivaciones de inversión, se aplica análisis de correspondencias múltiples (ACM) a los datos recolectados.

A diferencia de los anteriores trabajos que centran su atención en la IED china en España (Carril-Caccia & Milgram Baleix, 2016, 2017; ESADE, 2014, 2015; Goy-Yamamoto & Navarro, 2008; Quer Ramón et al., 2015, 2017; Sáez, 2010; Santacana & Wang, 2008), el presente análisis no es solo descriptivo. En su lugar, se consideran un mayor número de determinantes de inversión y de sectores. Además, al contrario de otros estudios normalmente basados en datos secundarios para la inferencia de los determinantes de inversión, los datos primarios obtenidos permiten evaluar con precisión los determinantes de la IED china.

Los resultados confirman que la inversión china en España busca principalmente apoyar las exportaciones del país asiático con un especial interés en acceder a terceros mercados fuera de la UE. Además, los encuestados validan la hipótesis de la búsqueda de activos, resaltando un especial interés en adquirir marcas reconocidas o aumentar el reconocimiento de su propia marca, mejorar la calidad de sus productos y acceder a nuevas tecnologías. De forma más llamativa, los inversores chinos también buscan mejorar en el ámbito de la eficiencia, siendo en este sentido atraídos por el acceso a mano de obra altamente cualificada. Asimismo, el cuestionario pone de relieve el relevante rol de la situación económica china como factor de empuje para invertir en el exterior, factor que es relevante independientemente de las motivaciones intrínsecas de inversión en el extranjero.

Capítulo 4: Fusiones y adquisiciones y comercio: Un análisis de las Cadenas Globales de Valor

El crecimiento exponencial de la IED en los últimos 40 años ha implicado que las EMNs acelerasen la reubicación de sus actividades productivas. Hoy en día, con el objetivo de explotar las ventajas competitivas, mano de obra y recursos de cada país, las empresas fragmentan sus cadenas de valor por distintas partes del globo (Beugelsdijk et al., 2009; Baconier et al., 2005; Krugman et al., 1995). Por tanto, el comercio de bienes intermedios predomina sobre el de bienes finales y las EMNs controlan aproximadamente un 80% del comercio mundial (UNCTAD, 2013).

Al mismo tiempo que acuerdos comerciales crecientemente ambiciosos están siendo negociados, también hemos presenciado una oleada de ideas proteccionistas. Ejemplos recientes de lo primero son la firma del Área Continental de Libre Comercio en África o el Acuerdo Preferencial de Comercio (APC) entre la UE y Japón, mientras que el Brexit o la subida de tarifas en las importaciones de aluminio y acero por parte de Trump son buenos ejemplos de lo segundo. El debate sobre la política comercial suele centrarse en sus consecuencias directas sobre el comercio, pero las políticas y características comerciales de los países también pueden afectar su capacidad de atraer IED.

El cuarto capítulo de esta tesis doctoral centra su atención en cómo las políticas y características comerciales de los países determinan su capacidad de atraer FyAs foráneas. La literatura anterior en esta temática tiende a poner de relieve resultados contradictorios. En relación con los APCs, algunos trabajos muestran que pueden fomentar los flujos bilaterales de IED, mientras que otros llegan a la conclusión opuesta (ej. di Giovanni, 2005; Hyun & Kim, 2010; Jang, 2011). De forma similar, los estudios que consideran la apertura comercial de los países como determinante de la IED no proveen resultados homogéneos (ej. Kolstad & Villanger, 2008; Ramasamy & Yeung, 2010; Wheeler & Mody, 1992).

En comparación con la literatura anterior, el análisis presentado en este capítulo tiene varias novedades. Primero, con el fin de estudiar el impacto de las características comerciales de los países sobre la inversión, se estima una extensión del modelo de gravedad con datos bilaterales de proyectos de FyAs. Segundo, no solo la firma de APCs o la apertura comercial de los países es tenida en cuenta. Además, mediante la explotación de la base de datos *World Input-Output Database* (ver Timer et al., 2012), el análisis se basa en estadísticas de comercio de valor añadido. Asimismo, se tienen en cuenta como potenciales determinantes de FyAs el grado de heterogeneidad en los destinos de las exportaciones y en las fuentes de importaciones de bienes y servicios finales e intermedios, y la posición y grado de participación en las CGV. Finalmente, el análisis también ahonda en cómo las mencionadas características comerciales de los países afectan de forma distinta las FyAs dependiendo del nivel de desarrollo del país de origen y destino.

Los resultados muestran que la apertura comercial de los países no determina su capacidad de atraer FyAs. De hecho, en el caso de las inversiones entre países desarrollados (Norte-Norte) parece que la apertura comercial limita las FyAs. En este aspecto, los hallazgos señalan que las FyAs procedentes de los países desarrollados son más propensas a ser limitadas por la creciente competencia extranjera mediante importaciones. Los países en vías de desarrollo que importan bienes finales de un número más amplio de países parecen recibir menos FyAs del Norte. Luego, en el caso de las inversiones Norte-Norte, EMNs parecen ser disuadidas por la competencia traída por la importación de bienes intermedios.

No obstante, la evidencia encontrada pone de relieve varios canales por los cuales la política comercial y la participación en las CGV pueden afectar la capacidad de los países para atraer capital extranjero. Parece que los APCs solo fomentan las FyAs entre los países desarrollados, lo cual puede indicar que solo la firma de APCs exhaustivos en su cobertura tienen la capacidad de asegurar la complementariedad entre las FyAs y el comercio. También, la diversificación en los destinos de la exportación de bienes finales incrementaría en especial las FyAs entre países con distinto nivel de desarrollo (Norte-Sur y Sur-Norte). Alternativamente, en el caso de los productos intermedios, los resultados señalan que las EMNs buscan internalizar en sus CGV aquellos países que tan solo producen para un número limitado de destinos. De hecho, la evidencia hallada indica que los países que se encuentran en la parte superior de la CGV son más propensos a recibir un mayor número de FyAs. Asimismo, la participación en las CGV demuestra ser una ventaja particularmente significativa a la hora de atraer inversiones entre países con distinto nivel de desarrollo.

Capítulo 5: El nexo entre Inversión Extranjera Directa e Instituciones de países ricos en petróleo

En las décadas recientes hemos presenciado fluctuaciones significativas en el precio de los *commodities*, resultando en inestabilidad económica y social en los países ricos en petróleo. Estos episodios sirven como recordatorio de la importancia que tiene para estos países la diversificación de sus economías. Como ya ha sido resaltado en el principio de la presente introducción, la IED puede representar una oportunidad para el desarrollo. La

IED tiene la capacidad de traer nuevas tecnologías, facilitar el acceso a nuevos mercados y diversificar la actividad económica.

El impacto esperado de la riqueza en recursos naturales de los países sobre la IED aún no está claro. La literatura anterior ha identificado tanto una relación positiva como negativa (ej. Mohamed & Sidiropoulos, 2010; Poelhekke & van der Ploeg, 2013). A su vez, varios estudios sugieren que la presencia de recursos naturales puede moderar el vínculo entre las instituciones y la IED (ej. Aleksynska & Havrylchyk, 2013; Asiedu & Lien, 2011). Cómo los recursos naturales afectan la relación entre IED e instituciones es una pregunta relevante de investigación. Los asesores políticos abogan por la estabilidad política y la regulación legal como principales factores que afectan las decisiones de inversión por parte de las EMNs (World Bank, 2018). A pesar de ello, la evidencia que respalda tales afirmaciones no es concluyente. La evidencia empírica sobre el impacto de la calidad institucional y la democracia sobre la IED está caracterizada por resultados contradictorios (ej. Bellos & Subasat, 2012; Li & Resnick, 2003; Paniagua & Sapena, 2014).

El Capítulo 5 contribuye a esta literatura mediante el estudio de cómo la calidad institucional y la producción de petróleo interactúan en su relación con la IED. De este modo, el capítulo tiene tres objetivos. Primero, el estudio aborda si la tenencia de petróleo por parte de los países atrae o disuade la IED. Es decir, considera si hay una “maldición del petróleo” sobre la IED (Asiedu, 2013). Segundo, provee nueva evidencia de cómo el nivel de democratización, imperio de la ley, corrupción y estabilidad política afectan la IED. Tercero, el capítulo investiga la manera en que la producción de petróleo cambia la relación entre la IED y las mencionadas dimensiones institucionales.

El análisis está basado en datos bilaterales de inversiones *greenfield* de 182 países durante el periodo 2003-2012. Se estima una ecuación de gravedad aumentada para exponer cómo los patrones de IED son afectados por la producción de petróleo y las instituciones.

Los resultados señalan que las mejoras en el imperio de la ley, la reducción de la corrupción, la estabilidad política y la democratización tendrían un impacto positivo sobre la capacidad de los países de atraer nuevo proyectos inversión *greenfield*. Los resultados validan la hipótesis de una “maldición del petróleo” sobre la IED. Los países en los cuales

la producción de petróleo tiene una mayor relevancia en su economía atraen menos inversiones extranjeras. Asimismo, la evidencia hallada sugiere que los beneficios de mejorar las dimensiones institucionales mencionadas son incrementados por la producción petrolera de los países. Basado en estos resultados, se ilustran las reformas institucionales necesarias para evitar la “maldición del petróleo” sobre la IED.

Capítulo 6: ¿Importa el origen de la Inversión Extranjera Directa? Los efectos de las fusiones y adquisiciones extranjeras en Francia

Como ya se ha mencionado al principio de la presente introducción, en las últimas dos décadas ha habido un cambio significativo en la composición de los exportadores de capital. La IED ya no es solo dominada por las EMNs con sede en países desarrollados. Hoy en día, más del 40% de la IED global viene de países en vías de desarrollo y paraísos fiscales. Esta tendencia ha conllevado un rápido crecimiento de las FyAs internacionales por parte de las EMNs de ambos grupos de países.

Motivado por esta tendencia, el sexto capítulo de la presente tesis investiga si el impacto de las FyAs extranjeras en el rendimiento de las empresas adquiridas difiere en función del nivel de desarrollo del país de origen del inversor. En particular, este capítulo pone el foco en el impacto directo de las adquisiciones extranjeras en el sector manufacturero francés. Las dimensiones consideradas son la Productividad Total de los Factores (PTF), la intensidad de las exportaciones, el empleo y los salarios. Distingue entre las FyAs de EMNs con sede en países europeos, otros países desarrollados, países en vías de desarrollo y paraísos fiscales. Con este fin se explota una innovadora base de datos a nivel empresa para el periodo 2005-2014.

Como se detalla en el Capítulo 2, el crecimiento de la IED originaria de países en vías de desarrollo motivó principalmente el estudio de su impacto en otros países en desarrollo (ej. Gold et al., 2017; Kamal, 2015; Ni et al., 2017; Takii, 2011). De forma excepcional, Chen (2011) y Chari et al. (2012) consideran el caso del impacto directo de las FyAs por EMNEs en las empresas adquiridas en los Estados Unidos, y Javorcik & Spatareanu (2011) estudian los efectos *spillovers* según el origen de la inversión en Rumanía. A su vez, otros trabajos aportan cierta evidencia relacionada con las consecuencias de la IED de EMNEs sobre los países desarrollados (Carril-Caccia & Milgram-Baleix, 2017;

Giulian et al., 2014; Piperopoulos et al., 2018; Sanfilippo, 2015). Por otro lado, la investigación centrada en los paraísos fiscales se ha enfocado en el impacto sobre los ingresos o los determinantes de crear una filial en un paraíso fiscal (ej. Clausing, 2003; Desai et al., 2006; Dharmapala, 2008), pero no aborda cómo la IED de estos países afecta el rendimiento de las empresas adquiridas.

El impacto general de las FyAs extranjeras se estima mediante la aplicación del Pareamiento por Puntaje de Propensión o *Propensity Score Matching* combinado con diferencia en diferencias. En este caso, las FyAs son consideradas como homogéneas. Los resultados muestran que las FyAs limitan la PTF pero incrementa la intensidad de las exportaciones, mientras que no tiene un impacto significativo sobre el empleo y los salarios.

Con el fin de medir el efecto heterogéneo de las FyAs, se utiliza *Generalized Propensity Score Matching* combinado con diferencia en diferencias. La evidencia hallada señala que el rendimiento tras la adquisición de las empresas afectadas depende del origen de la inversión. Las adquisiciones hechas por EMNs europeas fomentan la PTF, la intensidad de las exportaciones, el empleo y los salarios. Por lo contrario, las FyAs procedentes de los paraísos fiscales limitan la PTF, el empleo y los salarios. Luego, las adquisiciones de otros países desarrollados disminuyen también la PTF, pero incrementan la intensidad de las exportaciones y el empleo. Curiosamente las FyAs procedentes de los países en vías de desarrollo parecen resultar en un crecimiento de la PTF, el empleo y los salarios.

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Chapter 2: FDI from Emerging Countries: Motivations and Impacts

Abstract.

In the last decade, the share of Foreign Direct Investment (FDI) outflows from emerging countries (EOFDI) increased dramatically, and substantially changed the landscape of the world economy. This paper summarises the findings of the flourishing literature about the reasons and consequences of EOFDI. We first review the economic theories that explain emerging multinationals investments abroad, building on the conventional theory of FDI and the institutional theory. We also draw the conclusions emerging from empirical studies. In a second step, we provide an overview of the expected effects of EOFDI on the host. We also report the findings of the scant studies that recently attempted to assess these effects. The existing contradictory and limited evidence on this last dimension calls for further research.

Keywords: Outward Foreign Direct Investment; Emerging countries; China; Eclectic theory; Institutions.

JEL Code: F21, F23.

1. Introduction

In the last decade, the share of FDI outflows from developing countries increased from 6.3% in 1998 to 28.1% in 2016, after plummeting about 43.5% in 2014 (UNCTAD, 2018). In particular, Outward Foreign Direct Investments (OFDI) from BRICS account for almost half of these flows, and China for 88% of BRICS outflows, in 2016. Moreover, considering the number of large mergers and acquisitions (M&A), China ranked second in 2016 (UNCTAD, 2017). These new patterns have substantially changed the landscape of the world economy and naturally raised concerns about their motivations and their implications. Policymakers fear that these flows could threaten national security or sovereignty. Similarly, domestic firms worry about these new players given that multinationals from emerging countries (EMNEs) may intensify the competition or violate property rights (PR). Instead, other countries welcome this helpful entrance of capital flows.

As far as the academy is concerned, the topic represents a new and fast growing field of research. Studies have attempted, in a first step, to provide explanations for this new trend. This gave rise to a flourishing literature that examines from a theoretical and empirical point of view, whether the conventional theory of FDI is adequate to explain the internationalization of EMNEs. Indeed, Developed country Multinational Enterprises (DMNE) built their internationalization on firm specific advantages (FSA). In contrast, EMNEs would use FDI to overcome their weaknesses or to exploit abilities different from DMNEs' ones. Home and host countries contexts may also shape these FSA. A new strand of literature has shifted onto the consequences of OFDI from emerging countries (EOFDI) on performance, growth, technology of the host countries, opening a vast and promising area of research.

This paper looks into the findings of this new literature. Section 2 reviews the competing theories explaining EMNEs' investments abroad and their empirical validations. Section 3 provides an overview of the possible effects of EOFDI on the host countries based on recent contributions. Section 4 concludes and suggests avenues for future research.

2. Why emerging countries invest abroad?

2.1 The conventional theory revisited

In the following, we discuss to which extent firms' motivations to invest abroad as described by FDI conventional theory (Dunning, 1993) adequately reflect the rationale for the surge of EOFDI.

Through FDI, investors attempt to access more consumers or to use new locations to support exports to third markets (Ekholm et al., 2007), both implying horizontal FDI. In this case, the size of the market, accessibility, infrastructure, natural and artificial trade costs are especially relevant to the investors (Horstman and Markusen, 1987). Indeed, firms face a trade-off between reducing access costs and carrying large investments costs. To the extent that EMNEs would face high trade barriers that could outweigh their price differentials, market-seeking motivations could fit with their expansion in large markets.

Firms may incur in efficiency-seeking FDI in order to reduce their inputs or labour costs, what evidently translates into vertical FDI. Typically, this was a main motivation for DMNE to invest in low wages countries (Buckley et al., 2007). At first sight, this does not seem relevant to explain OFDI from emerging countries with low labour costs. Nevertheless, for example in China wages of low- and high-qualified workers have been increasing (Cai, 2012; Lemoine, 2013). Though, EMNEs investments in low income countries in manufacturing sectors could respond to this logic.

Resource seeking FDI intend to secure access to natural resources and originates vertical FDI. This interest could obviously suit any EMNEs, but particularly benefits State Owned Enterprises (SOEs) intending to guarantee energy or food access.

Strategic asset-seeking refers to firms intending to promote their long-term competitiveness. It is representative of DMNEs aiming to exploit and expand their ownership advantages (Amal et al., 2013). Conversely, EMNEs would need to explore and acquire new assets (Luo and Tung, 2007; Sanfilippo, 2015). In both cases, developed countries would be natural recipients for these projects (Amighini et al., 2013b). EMNE would seek to overcome disadvantages related with products quality, technology, high-qualified skills, recognized brands, management and tacit knowledge (Amal et al., 2013;

Buckley et al., 2012; Brienen et al., 2013; Child and Rodrigues, 2005). For this purpose, EMNEs may rely mainly to M&A to access assets quicker and cheaper. Some findings of the international business literature challenge this view by arguing that EMNEs could also benefit from specific ownership advantages (e.g. Luo et al., 2011¹; Cuervo-Cazurra and Ramamurti, 2017).

2.2 Influence of home and host contexts

Apart from the motivations emanating from the firm itself, the literature has put forward several interactions between FSA and the home and host countries contexts.

EMNEs may flee the home country for several reasons. First, liberalization processes may lead to tighter competition (UNCTAD, 2006) or significant structural changes (Luo and Tung, 2007). Second, EMNEs may invest in developed countries to escape from institutional or economic deficiencies (See Cuervo-Cazurra and Ramamurti, 2017 for a review).

Conversely, home institutions may support actively OFDI as the Chinese “Go Global” policy does (Luo et al., 2010). Finally, SOEs facing softer financial constraints may engage in FDI for political or economic reasons (Chen and Tang, 2014; Globerman and Shapiro, 2009; Giuliani et al., 2014). Equally, institutional and market deficiencies could give rise to innovations valuable in other emerging market (Cuervo-Cazurra & Genc, 2008; Cuervo-Cazurra and Ramamurti, 2017). In this line, EMNEs may have more abilities than DMNEs in dealing with bad governance and would refrain less to invest in culturally or institutionally distant countries.

Host countries would attract FDI depending on their characteristics. Depending on firms’ motivations, investments will locate in markets with different characteristics regarding size, wages, fiscal incentives, trade costs, infrastructure, PR, technologies. Natural resources may also be a significant pull factor.

¹ Luo et al (2011) posit as source of comparative advantage the following: Combinative, hardship-surviving, intelligence, networking, and absorptive capabilities.

2.3 Empirical validations

We identified 32 related empirical studies published in the last decade. The majority concentrates on Chinese OFDI, 2 on Indian OFDI, 8 on both, and 4 on all developing countries. Macro data provided by official statistics are frequently used (13 studies), while recent studies often rely on firms' data, focusing either on greenfield investments (6), on M&As (4), or both (9).

All the studies emphasise that EMNEs are market-seekers. This is especially the case of private firms, while SOEs are more resource seekers (Amighini et al., 2013a and b; Kolstad and Wiig, 2012; Ramasamy et al., 2012). Some OFDI in developed countries correspond to intangible asset seeking (Amighini et al., 2013a; Brienen et al., 2013; Buckley et al., 2012; Yoo and Reimann, 2017), more frequent for Chinese than for Indian firms (De Beule and van Den Bulcke, 2012; De Beule and Duanmu, 2012; Nunnenkamp et al., 2012; Pradhan, 2011). EMNEs prefer acquisitions when they aim at accessing technical competences (Amendolagine et al., 2015; Piscitello et al., 2014). Though, Indian MNCs belonging to a technology-intensive industry, are more likely to opt for greenfield investments (Rienda et al., 2012).

In line with the market seeking objective, Chinese and Indian OFDI are mainly trade-supporting and follow exports (Duanmu et al., 2008 for instance). They could be induced by inward FDI in their home market (Yao et al., 2016). Investments outflows appear as long as countries get more developed (Das, 2013). Previous patterns follow the logic of an investment development path, as suggested by Dunning (1983) to explain the internationalisation of DMNEs. Though, EMNEs have switched more rapidly from exports to OFDI than DMNEs did (Luo and Zhang, 2016). Emigrants' networks are usually found to boost OFDI and Confucius institutes contribute to Chinese inflows (Akhtaruzzaman et al., 2017; Lien et al. 2012). Networks prove to help EMNEs overcoming cultural barriers, what may justify why geographic distance has often a non-significant effect.

Regarding host country characteristics, macroeconomic stability and efficient labour markets attract EMNEs, in particular greenfield investments² into Europe (Amighini and Franco, 2013; Brienen et al., 2013) and private firms' OFDI (Amighini et al., 2013a). Both Chinese and Indian EMNEs tend to avoid highly competitive markets (De Beule and van Den Bulcke, 2012) and high corporate taxes (Duanmu et al., 2009). Depreciation against host currency exerts conflicting effects on FDI. Indeed, Duanmu (2012) for Chinese outflows (especially SOEs) and Pradhan (2011) for Indian and Chinese outflows, report positive effects. Conversely, Buckley et al. (2012) unveil a negative impact on Indian acquisitions, and Zhang and Daly (2011) a non-significant effect on Chinese outflows.

Even if large amounts of Chinese OFDI fly to African countries, accessing natural resources does not always motivate these flows. In fact, only seven of the eleven reviewed studies provide evidence of this hypothesis. SOEs usually drive Chinese investments in natural resources but Chinese OFDI in Africa also spread to agriculture, manufacturing, and service (Amighini et al., 2013a; Claassen et al., 2011; Mlachila and Takebe, 2011). Africa offers great opportunities for Chinese private enterprises with strong entrepreneurship (Gu, 2009; Song, 2011) or those operating in low-skill manufacturing activities (Chandra et al., 2013).

As regards institutions, Das (2013) offers support to the institution-escapism theory. Chen et al. (2016) find that China invests relatively more in unstable African countries. This is in line with Duanmu (2012) who finds that SOEs are less political and economic risk averse. However, Kolstad and Wiig (2012) and Amighini et al. (2013a) argue that Chinese investors are attracted overall by resources, which correlate with bad governance. This echoes several studies putting forward that EMNEs are not significantly attracted by political instability, at least in last years (Pradhan, 2011; Quer et al., 2011)³. Indian and Chinese MNEs are not reluctant to similar environments but prefer host with better governance (De Beule and van Den Bulcke, 2012; Nunnenkamp et al., 2012). The prevalence of SOEs would justify why the negative effect of political risk is lower for

² Greenfield represent approximately 50 percent of all outward FDI from China and India into Europe (Milelli and Hay, 2008) but Chinese and Indian M&As in Europe most often target production plants and R&D facilities.

³ Buckley et al, (2007) find that Chinese OFDI increases with host political risks in the previous period (1984-2001).

Chinese MNEs (Quer et al., 2017) and higher corruption does not refrain large EMNEs (Cuervo-Cazurra and Genc, 2008; Cheung et al., 2012). Yoo and Reimann (2017) add that EOFDI is attracted by weaker PR protection, especially if the host possesses knowledge-based assets. Finally, institutional distance does not seem to affect South-South FDI (Aleksynska and Havrylchyk, 2013; Demir and Hu, 2016).

3. New players, new outcomes?

3.1 Expected impact of FDI on host countries

According to the standard theory, MNEs may benefit the local economy by improving domestic firms access to inputs, making new technology available, training local workforce, and increasing competition, employment and wages. However, FDI can also exert a negative impact on the host. Foreign firms can push out less productive domestic firms, make markets less competitive or directly relocate part of the acquired firms in another country⁴.

In addition, these effects may differ depending on the origin of FDI as argued by Fortanier (2007) and Demir and Duan (2018). Verifications for MNEs originating from different developed countries are few but robust⁵. Unfortunately, evidence for EMNEs is nearly inexistent.

Several works show that DMNEs are larger, more technological intensive and productive than EMNEs (Gold et al., 2017; Lipsey and Sjöholm, 2011; Liu et al., 2015; Sanfilippo, 2015), consolidating the view that DMNEs' FSA come from their home competitive advantage. Then, DMNEs would generate larger impact on productivity, R&D or wages than EMNEs (Demir and Duan, 2018; Kamal, 2015, Liu et al., 2015; Wei and Liu, 2006). In addition to the potential lack of FSA, Bertrand and Betschinger (2012) and Cozza et al. (2015) point that M&As involving EMNEs are less likely to succeed given their limited experience and reputation, and due to cultural barriers.

Similarly, FDI would generate positive spillovers on condition that the affiliates meet the capacity to absorb managerial changes, implement new technologies and survive the surge of competition (Aitken and Harrison, 1999; Caves, 1974). In fact, positive spillovers are more likely and larger, the smaller is the technological gap between the investor and the recipient country and industry (Amighini and Sanfilippo, 2014; Santangelo, 2018). Furthermore, Javorcik and Spatareanu (2011) and Ni et al. (2017) stress that MNEs' interactions with local suppliers are prerequisites for spillovers to

⁴ About the impact of FDI see for example Aitken & Harrison (1999), Bertrand & Zitouna, 2008, Blomström & Kokko (1998), Blonigen et al. (2014), Caves (1974), Girma & Görg (2007), Hymer (1970), Myeong-Gu & Hill (2005).

⁵ See for example Bloom et al. (2012), Bertrand and Zitouna (2008) and Girma and Görg (2007).

emerge. Similarly, higher trade costs are expected to incentive MNEs sourcing from the local economy, while larger institutional and technological differences would refrain it. Kamal (2015) and Liu et al. (2015) add that cultural similarity between source and host countries could stimulate these outcomes. Alternatively, M&As by EMNEs improve affiliates access to acquirer's markets; affiliates could benefit from different competitive advantages (Bertrand and Betschinger, 2012) and from diversified technologies and managerial styles (Zhang et al, 2010).

In countries with underdeveloped institutions, Gold et al. (2017) argue that EMNEs prove to be more successful than DMNEs and exert a larger positive impact. EMNEs, conscious of the bad reputation of their home country, would contribute more actively to the host country development to counteract this disadvantage (D'Amelio et al., 2016; Demir and Hu, 2016; Gold et al., 2017). In contrast, Santangelo (2018) refutes these findings and reveal that DMNEs have more incentives to foster welfare and development due to social and institutional pressures received from their home country.

In sum, EOFDI might generate lower positive impact than DMNEs owing to their technological and knowledge disadvantages. On the opposite, EMNEs might generate larger positive spillovers in low-income countries (LICs) where this gap is smaller. Moreover, EMNEs could outperform DMNEs in LICs thanks to their capacity to deal with weaker institutions and through innovations valuable for low-income consumers.

3.2 EMNEs' impact: Empirical findings

Evidence on EOFDI impact is still scant and focuses mainly on Africa and selected Asian countries, while evidence for the case of investments from EMNEs in developed countries is even scarcer. Only two studies tackle this issue in a broad geographic framework with conflicting conclusions: Demir and Duan (2018) emphasize that South-South FDI would foster human capital growth to a certain extent, while having no significant impact on productivity and Demir (2016) reports that South-South FDI worsens institutions.

- **Africa**

In the context of Africa, discrepant findings are reported. Amighini and Sanfilippo (2014) show that greenfield projects from EMNEs provoke a larger export diversification and

better quality in low-tech industries than investments from elsewhere. Similarly, Gold et al (2017) indicate that FDI in Sub-Saharan Africa has a larger positive impact on productivity when it comes from non-OECD. However, only FDI from other African countries generates employment. Focusing on Nigeria, Izuchukwu and Ofori (2014) highlight that Chinese FDI foster economic growth while Busse et al. (2016) find no significant effect for Africa, at least during 1991-2005.

Relying on case studies, Mlachila and Takebe (2011) look into the consequences of large investments in the mineral and oil sectors, oil-related services and manufacturing realized by BRICS into Angola, Liberia, Sudan and Zambia. They conclude that BRIC's FDI has improved the exploitation of natural resources, infrastructure and regional integration, enhanced manufacturing capacity and technological spillovers. In this line, D'Amelio et al. (2016), discover that FDI in 15 Sub-Saharan countries, have promoted access to electricity. These indirect effects are larger when investors come from countries with lower institutional quality, thanks to their experience in operating in similar environments. Santangelo (2018) reports experiences that are more negative: Chinese and Indian FDI in agriculture have damaged environment in some developing countries and the acquisition of land by Southern investors would have worsen food security.

- **Asia**

Most of the works exploring the implications of South-South FDI in Asia, focus on investments made in China and compare FDI from OECD countries with other Asiatic sources such as Hong Kong, Macao and Taiwan (HMT). Du et al (2012) and Wei and Liu (2006) evidence larger productivity spillovers for investments coming from OECD. According to Chen et al (2011), FDI overall increases inter-firm wages inequality since MNEs pay a wage premium and have a negative effect on domestic firms' wages⁶. Turning to the impact of FDI according to the source, investments from HMT would generate larger negative spillovers on domestic wages, perhaps because of weaker technological spillovers compared with the rest of MNEs. Domestic firms' access to new technology could offset this negative effect. Kamal (2015) indicates that OECD affiliates outperform HMT ones in terms of post-acquisition productivity, profits, wages and

⁶ MNEs hire the best qualified workers with higher salaries, while domestic firms end hiring low-qualified workers with lower wages.

capital intensity. Similarly, Liu et al (2015) demonstrate that acquisitions from HMT, Japan, Korea and Singapore stimulate employment, while those from UK, Germany, France, US and Canada foster wages. They conjecture that the differential impact on wages is due to the technological superiority of DMNEs, which tend to pay a wage premium to limit labour-turnover. Anwar and Sun (2015) outline that FDI in R&D in the transport equipment sector exacerbates the likelihood of firms to exit the market, regardless if investors come from HMT or not. The origin of FDI would be more relevant when backwards and forward linkages are considered. In contrast, for the textile sector, Sun and Anwar (2017) find that FDI reduces indigenous firms' domestic revenues, but increases their export revenues, irrespective of the origin⁷.

Turning to other destinations in Asia, Takii (2011) reports that East Asian MNEs provoke larger positive productivity spillovers than Japanese and non-Asian MNEs in the Indonesian manufacturing sector. In Vietnam, unlike non-Asian firms, Asian firms (mainly from China and Taiwan) exert positive backwards spillovers (i.e. domestic firms improve their product to meet MNEs' demand), and negative horizontal spillovers by crowding out domestic firms (Ni et al., 2017).

Overall, results are not clear-cut but tend to confirm that FDI coming from DMNEs would translate into larger wages.

- **Europe and USA**

Although significant attention has been paid to the drivers of EMNEs' growth in Europe and USA, little is known about the implications. Javorcik and Spatareanu (2011) analyze the FDI productivity spillovers in Romania originating from European, American and Asian MNEs, and report that only Americans generate significant backward and forward effects. Sanfilippo (2015) compares BRICS MNEs with other MNEs located in Europe and evidences a productivity-gap between EMNEs and their local competitors, except when the affiliates are located in Eastern Europe. Likewise, this difference vanishes when comparing the most productive and successful firms between both sides. On balance, EMNEs investment would have harmed the European productivity at the industry level.

⁷ They divide the origin by HMT and non-HMT countries.

More interestingly, the impact of EMNEs on innovation investments may prove to be positive. Hofmann et al. (2012) show that M&As from countries less technologically intensive than Spain tend to boost R&D efforts of the affiliates. In contrast, when investments come from countries with similar technological level as Spain the impact is not significant, and negative when it comes from Germany, USA and Japan. Through a qualitative analysis, Giuliani et al. (2014) explore the consequences of FDI in the Italian and German sectors of industrial machinery and equipment, on innovation⁸. EMNEs' subsidiaries are usually less passive than DMNEs. DMNEs rely on their headquarters' knowledge, they do not interact with the local innovative networks and neither invest in R&D. In contrast, EMNEs transfer knowledge back to headquarters and some of them engage in local innovative activities with research centers, universities and local suppliers. Then, the increasing presence of EMNEs' subsidiaries could boost R&D in advanced economies. Piperopoulos et al. (2018) offer additional support for these positive outcomes, based on innovation realised by Chinese subsidiaries in developed countries.

Unfortunately, other results are less optimistic. For the USA, Chen (2011) studies the impact of M&As on public listed firms. Takeovers from DMNEs would lead to higher increase in labor productivity and profitability than takeovers from EMNEs. Similarly, investments from DMNEs would increase employment while EMNEs' investments would translate into employment losses. Chari et al. (2012) report a positive response to the entrance of EMNEs investors on firms' valuation. In terms of performance, their study indicates that profitability increases, but employment, sales and plant property and equipment decrease after the acquisition.

⁸ They interview 47 firms from 25 countries.

4. Conclusions and future research

Ten years ago, South-North FDI looked opportunistic if anything, while South-South investments were assimilated only with natural resources. Recent research draws now a less naïve but more complex picture. Overall, EMNEs seek markets while resource seeking is more evident for SOEs. In the North, EMNEs also seek technological and knowledge assets, in particular through M&As. But private EMNEs have valuable assets to exploit in LICs, which could also provide them with efficiency gains and generate positive outcomes for the host country. Clearly, the institutional and economic home contexts contribute to shape firms' advantages and in turn, their motivations to invest abroad, their location choice and finally, the impact of these investments. Thanks to recent studies, motivations and location choices are now better understood, but more research is needed to clarify the rest of the process.

In particular, further work is needed to understand how EMNEs achieve their advantages. The crescent availability of firm level data could shed some lights on this issue. Besides, the evidence about the impact of OFDI is still scant and heterogeneous, making any generalization risky, but these preliminary results suggest that the origin could matter and EMNEs may bring both positive and negative outcomes. To consolidate these results, the coverage of studies could be extended in several directions. First, most works do not consider the entry mode, or focus on the consequences of M&As, while EMNEs tend predominately to invest abroad through greenfield investment (71.8% of outward FDI)⁹. Second, the literature overlooks OFDI from emerging countries other than China and EMNEs' investments in South America and developed countries. Finally, to shed light on the non-yet understood interactions, it seems crucial to differentiate investments made by private firms and SOEs and to account jointly for the entry mode, the origin and destinations in terms of countries and sectors. The issue is key for FDI- promoting policies and of interest for growth-promoting policies in the South, and PR, R&D and labour policies in the North.

⁹ Authors' calculations based on UNCTAD (2017) for the period 2003-2016.

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Chapter 3: Dragon meets Bull: The determinants of Chinese outward Foreign Direct Investment in Spain

Abstract

This study examines the characteristics and motivations of Chinese investors in Spain. First, we track Chinese investments by merging different sources and ends with a firm-level dataset that allow us to draw a more realistic picture of Chinese outward Foreign Direct Investment in Spain. Second, we gather qualitative information thanks to a unique and detailed questionnaire to check systematically the different hypothesis regarding FDI determinants. Third, the interactions among these factors are studied using Multiple Correspondence Analysis. Results confirm that Chinese investment in Spain mainly aims at supporting Chinese exports with a special interest in accessing third country markets outside the European Union. Respondents also validate the asset-seeking hypothesis, underlining a special interest in acquiring recognized brands or making their brands known, improving quality of their products and accessing new technologies. Chinese economic environment acts as an outstanding push factor, regardless the intrinsic motivations of the firms to invest abroad.

Keywords: asset seeking; China; Spain, market seeking; Multiple Correspondence Analysis; outward FDI

JEL Code: F20; F21; F23

1. Introduction

Chinese outward Foreign Direct Investment (OFDI) has increased dramatically during the last decade. In 2015, China ranked the third amongst the largest investors worldwide, behind USA and Japan (UNCTAD 2016). As part of this phenomenon, Chinese FDI in Europe, and especially in Spain, has registered an exponential growth. This trend is expected to continue since the Chinese government has consolidated the “go global” policy, and enact new ones, like the Manufacturing 2025 plan or the One Belt and One Road initiative, in which Chinese Multinationals expansion are central (Huang, 2016; Luo et al., 2010; Wuttke, 2017). Moreover, recent bilateral meetings between China and Spain demonstrate that both countries are going towards deeper collaboration and economic relationship (El País, 2011; Expansión, 2014; La Vanguardia, 2017).

Given the novelty of the subject and scarcity of the data, the determinants and implications of Chinese OFDI has been understudied (see Berning and Holtbrügge (2012) for review). The scant empirical studies of the determinants of Chinese OFDI are substantiated by macro-level data, descriptive statistics or case studies. These studies highlight the role of market- and asset-seeking motivations for Chinese OFDI in OECD and European countries¹. When it comes to Spain, studies on Chinese OFDI are rather few. Exceptions are the descriptive works of Goy-Yamamoto and Navarro (2008), Santacana and Wang (2008), Sáez (2010) and Quer Ramón et al. (2015). More recently, Quer Ramón et al. (2017) analyse the determinants of Chinese MNEs entry mode in Spain; the study reports that M&As tend to be asset seeking and favoured by low economic growth in Spain in line with the Fire Sale hypothesis. ESADE (2014, 2015) stand out as the first studies based on primary data. The results of two questionnaires answered by Chinese firms located in Spain indicate that these investments are driven by market seeking considerations. Finally, Carril-Caccia and Milgram Baleix (2016) focus on specific sectors to draw some profiles of Chinese investors.

¹For results refereeing to the OECD countries see Amighini, Rabellotti, and Sanfilippo, 2013a; Amighini, Rabellotti, and Sanfilippo, 2013b; Buckley et al. 2007; Cheung and Qian, 2009; Kolstad and Wiig, 2012; Li and Liang, 2012, Lien, Oh, and Selmier 2012. For the case of Europe see Blomkvist and Drogendijk, 2016; Brown, 2012; Clegg and Voss, 2011; Di Minin, Zhang, and Gammeltoft 2012; Hanemann and Rosen, 2012; Nicolas, 2009; Rios-Morales and Brennan, 2010. Then, the country level studies are: France (Nicolas, 2010), Germany (Klossek, Linke, and Nippa 2012; Schüler-Zhou and Schüller, 2013), Italy (Gattai, 2012; Pietrobelli, Rabellotti, and Sanfilippo 2011), Spain (ESADE, 2014; Sáez, 2010) and the United Kingdom (Burghart and Rossi, 2009; Liu and Tian, 2008).

This paper extends the previous empirical evidence by looking in depth into the characteristics and motivations of Chinese investors in Spain. First, we track Chinese investments by merging different sources and ends up identifying more Chinese projects than other previous datasets. These firm-level data allow us to draw a more realistic picture of Chinese OFDI in Spain. In particular, this is, to the best of our knowledge, the first attempt to quantify the relevance of Chinese investments entering into Spain through transit countries. This may imply that Governments' official statistics are underestimating the importance of Chinese OFDI in Europe.

Second, we gather qualitative information thanks to a unique and detailed questionnaire that allows us to go one-step further in the analysis of Chinese investors' motivations. Questions were designed to check systematically the different hypothesis of the eclectic view of FDI determinants à la Vernon-Dunning and the hypotheses that the recent phenomenon of OFDI from emerging countries have brought about. The gathered primary data allows to assess the determinants of Chinese OFDI in detail, rather than referring to broad motivations of investments. Third, we apply *Multiple Correspondence Analysis* (MCA) to the gathered data to detect complementarities and similarities among the different motivations.

Results confirm that Chinese investment in Spain mainly aims at supporting Chinese exports with a special interest in accessing third country markets outside the European Union (EU). Respondents also validate the asset-seeking hypothesis, underlining a special interest in acquiring recognized brands or making their brands known, improving quality of their products and accessing new technologies. More surprisingly, Chinese investors are also stimulated by efficiency gains, in some cases related with high-qualified workforce. Interestingly, the survey gauges the role played by the Chinese economic environment that seems to act as an outstanding push factor, regardless the intrinsic motivations of the firms to invest abroad. These results have sounding consequences for Spain. To the extent that Spain shares its trade policy with other EU countries, most considerations might well be extrapolated to them.

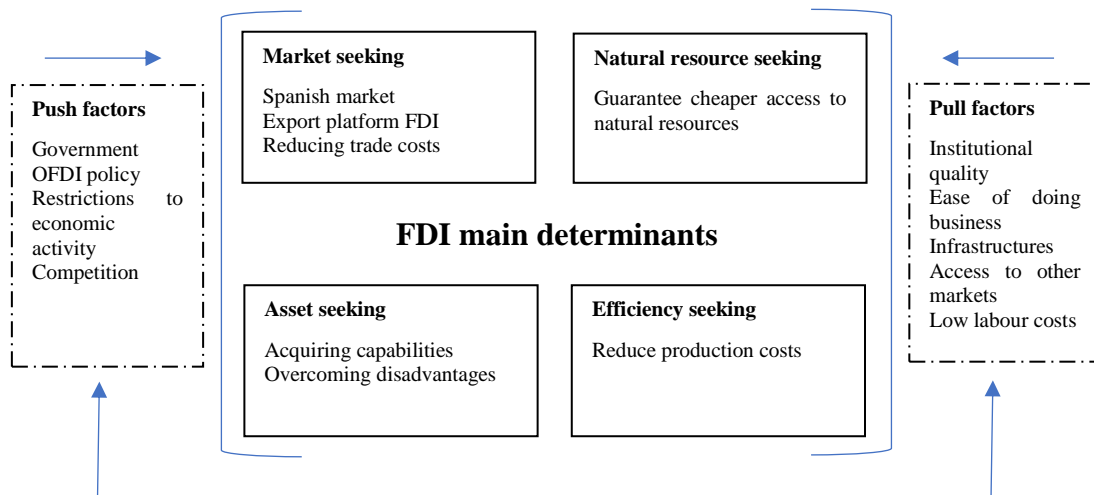
This article is organized as follows. In *Section II*, we summarize the FDI determinants according to the theoretical literature that served as a basis for building our questionnaire. In *Section III*, we describe the Chinese OFDI in Spain and the methodology used is

available in *Section IV*. In *Section V*, we analyse the results obtained from our questionnaire. Finally, in *Section VI*, we conclude by summarizing our findings and suggesting directions for future research.

2. The determinants of Chinese OFDI in Europe and Spain

A growing strand of literature points out that existing Multinationals (MNEs) theory has to be tailored in order to address the internationalization of emerging countries multinationals (EMNEs). In this regard, several particularities of Chinese OFDI have to be highlighted. Diagram 3.1 illustrates the conceptual framework of the FDI determinants considered in this study. As showed, the intrinsic (micro) motivations for FDI are not independent from the (macro) factors, which push firms to invest abroad or attract them into the host country.

Diagram 3.1: Conceptual framework of FDI determinants



Source: Authors' own elaboration based on the literature review

2.1. The conventional theory revisited

According to Dunning (1993), FDI motivated by **market seeking** aims at entering new markets or at improving the presence of the company in an existing one. In this way, market-seeking motivations are closely linked with **horizontal FDI**, which serves to evade tariffs, anti-dumping measures and other variable costs related to trade (Horstmann and Markusen 1987). On top of that, certain Chinese exports have faced increasingly anti-dumping measures from the EU. In addition, the Ekholm et al. (2007) and Krautheim (2013) have underlined two types of strategy, namely export-supporting and platform FDI, that would be complementary with trade, and therefore is expected to be positively attracted by transport infrastructure to access other markets (Buckley and Casson. 2009).

Resource-seeking FDI aims to gain access to natural resources and/or assets (Dunning 1993). Natural resource seeking targets the guarantee of cheaper access to natural resources. Concerning this determinant, the literature suggests that Chinese MNEs might be less sensible to low quality of institutions than developed countries' MNEs (e.g. Amighini et al., 2013b; Buckley et al., 2007; Yang et al., 2017). Although much attention has been paid to Chinese MNEs' search for natural resources, we do not expect this determinant to be relevant in the case of Spain since it does not stand at an abundant natural resource country.

In the conventional view of FDI, firms invest abroad because they have a firm specific advantage (Hymer, 1976; Dunning, 1988). **Asset-seeking FDI** intends to improve the ownership advantages of the investing firm by accessing complementary and useful resources and new capabilities (Dunning 1993, 2001). Although this kind of FDI can take place from both emerging and developed firms, their objective may differ from one case to another. Developed-country MNEs attempt to acquire assets that are complementary to theirs, and expand their ownership advantages. In contrast, the internationalization of EMNEs is motivated by overcoming existing disadvantages, rather than exploiting existing resources or advantages (Amal et al. 2013; Child and Rodrigues 2005; Luo and Tung 2007). In addition, MNEs usually invest abroad to exploit their asset motives, while EMNEs are more likely to engage in FDI driven by asset exploration considerations (Jormanainen and Koveshnikov, 2012). For the Chinese case, Amighini et al. (2013b) note that asset-seeking FDI tends to be directed to developed countries. According to the literature², some of the limited ownership advantages that EMNEs seek to improve are quality of products, technology, highly qualified labour skills, acquiring recognized brands, improving brand recognition and poor management. In addition, EMNEs subsidiaries in developed countries also serve as listening ports to the latest consumer and technological trends (Zhao et al., 2010).

According to Buckley et al. (2007), **efficiency-seeking FDI** mainly aims to access lower labour cost locations. When it comes to this motivation, it has to be taken into account that labour costs in China, for both low and highly qualified workers, have been increasing in recent years (Cai 2012; Lemoine 2013), even if they clearly remain below

² Amal et al. 2013; Child and Rodrigues 2005; Deng 2009; Jormanainen and Koveshnikov, 2012.

developed countries' average. We posit that due to the reduction of the salary differential between China and Spain, highly qualified Spanish workers may have become more attractive to Chinese firms. In this way, contracting high-qualified labour for a relatively low cost might well be an incentive for Chinese OFDI.

2.2. Influence of home and host countries' institutions and economic and cultural environments.

The theory on FDI determinants emphasizes the positive role played by the **quality of the host country's institutions** in attracting FDI, since a favourable context is expected to reduce the costs and risks of investment and may contribute to firms' performance (Dunning 1993). Several authors³ test this hypothesis by using different proxies for the quality of institutions like indicators of political stability, property rights and rule of law and the conclusions they reached are mixed. Moreover, Bayraktar (2013) argues that the **"Easiness of doing business"**, measured by indexes from the World Bank, are relevant determinants of FDI. For the Spanish case, we ask respondents to value: Easiness of starting a business, credit availability and investor protection.

FDI theory generally fits private enterprises' incentives. However, SOEs represent a significant share of Chinese OFDI, which appear to be driven by different motivations (Amighini et al., 2013b; Deng, 2013; Du and Zhang, 2018; Luo et al., 2017). Besides, **home country government policy** appears to play an important role in fostering EMNEs' internationalization process (Buckley et al., 2007; Gallagher and Irwin, 2014; Luo et al., 2010). In fact, Chinese government has recently included OFDI as one of the pillars of two new policies: China Manufacturing 2025 and One Belt and One Road Initiative (Huang, 2016; Wuttke, 2017). These policies foster Chinese OFDI, which seeks to acquire new technologies and natural resources, and to foster the market penetration of their exports. Du and Zhang (2018) demonstrate that the One Belt and One Road Initiative had a positive effect on M&As towards the host countries, which the policy refers to.

In turn, a non-friendly **environment in the home country** may act as a push factor for their domestic firms where FDI provides a way of escaping domestic institutional restrictions (Child and Rodrigues, 2005; Deng, 2009; Luo and Tung, 2007). Related to

³ Amighini et al., (2013a); Buckley et al. (2007), Kolstad and Wiig (2012), Li and Liang (2012) and Yang et al., (2017).

this, Chinese OFDI is particularly driven into tax haven countries. On average, at the world level, 30% of FDI is directed towards this type of countries (Haberly and Wójcik, 2015) against 66% in the Chinese case (Buckley et al., 2015; Luo et al., 2017). Buckley et al. (2015) and Davies (2012) suggest that Chinese OFDI does not only use this strategy for tax planning activities, but also to escape government control; besides, Chinese OFDI pursue better access to finance and higher institutional quality than the ones provided by their home country. We expect the importance of these home country's push factors to be highly correlated with how Chinese firms perceive Spanish institutions. We believe that firms escaping from a hostile environment are more likely to give greater importance to the quality of institutions in the host country.

Another characteristic of emerging economies is that they are still undergoing significant liberalization policies, facing high rates of economic growth and structural changes in their industries (Luo and Tung, 2007). These drastic changes imply that domestic firms face higher **competitive pressures in the home market** (UNCTAD 2006), needing to adapt quickly to this changing environment and to relax their dependence on their home market. Therefore, we hypothesize that Chinese firms' internationalization has partly been pushed by this phenomena: firms invest abroad to diversify the markets they operate in and to acquire new capabilities useful to survive the surge of competition at home.

3. Chinese OFDI in Spain

Since there is no comprehensive database of Chinese OFDI publicly available, we built a firm level database in order to provide a comprehensive view of Chinese OFDI in Spain. We gathered information concerning 96 firms located in Spain with capital from China or Hong Kong⁴. These firms have been identified using the Spanish firm database SABI (Bureau Van Dijk), ESADE (2014) report, the Ministry of Foreign Commerce of China, the Global Asia website and several news websites⁵.

Chinese FDI in Europe has registered an exponential growth, from US\$487 million in 2003 to US\$53'161 millions in 2013 (MOFCOM 2014). A similar exponential growth took place in Spain during the same period. According to the Spanish Ministry of Economy and Competitiveness, China evolved from having an insignificant role investing in Spain to occupying the 11th position in the ranking of inward FDI stock in Spain in 2014. Moreover, during 2013 and 2014, China was the ninth most relevant investor and the sixth in 2015. According to our dataset (see *Figure 3.1*), the number of Chinese firms in Spain started to increase constantly from 2003 onwards, and at a faster rate during the period 2010-2014. A similar trend is displayed by Spanish official statistics. MOFCOM statistics also emphasize a rapid increase during 2009-2012 but report a decrease of its stock in 2013.

Discrepancies between official statistics and our database may be explained by the methodology we use to identify Chinese investors. Unlike previous empirical works on this subject, our dataset includes investments realized by Chinese investors through transit countries⁶. According to available information⁷, 40% of Chinese investors have invested

⁴We also take into consideration firms from Hong Kong because it serves as a platform to Chinese firms in order to invest abroad (Buckley et al., 2015; Sutherland and Anderson, 2015). However, all recorded investments come from Mainland China.

⁵From the initially gathered firms, we eliminated those that were not suitable for our study: those that have invested through Hong Kong but are not Chinese companies, those we could not clearly ascertain to be originally from China or Hong Kong, those that have invested in the past but no longer have activities in Spain, and those that have gone bankrupt. This was mainly done by visiting each firm's website and/or any other reliable source.

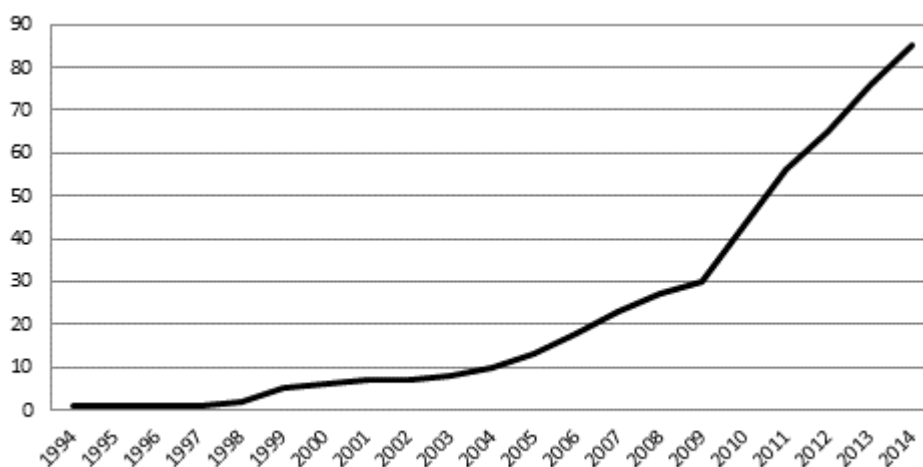
⁶ In order to identify the origin of investors, we use the information provided by SABI concerning ownership. The database indicates the countries of origin of the subsidiary's shareholder and of the parent company. If the indicated countries are different, this means that the parent company used the country of origin of the subsidiary's shareholder as a transit country. We select data of all firms whose parent company are from Mainland China while the subsidiary shareholder might come from Cayman Islands, Luxemburg or Hong Kong..

⁷We only have information for 81% of the total sample.

through a tax haven country, being Hong Kong the main one (26%). Additionally, we find that a significant share of Chinese firms in Spain entered through another European country (19%).

Due to the role played by tax haven countries in international capital flows, the distribution of Chinese OFDI is far from being comprehensible at first sight. According to MOFCOM statistics, Hong Kong holds 84% of the total FDI stock in Asia in 2013; Cayman Islands and Virgin Islands together hold 88% of the stock in Latin America and Luxembourg hold 20% of the stock in Europe. The majority of these flows do not materialize in real investments – Chinese firms only use these countries as transit countries to later invest in third countries or bring these investments back to China (Davies 2012; Ramasamy et al., 2012; Sutherland and Ning, 2011). According to Luo et al. (2017) and Sutherland and Anderson (2015), this phenomenon may have biased previous findings.

Figure 3.1: Number of firms with Chinese participation located in Spain



Source: Own calculation from the database elaborated by the authors.

Regarding the mode of entrance, our database indicates that 43.8% of the recorded FDIs were carried out through greenfield investment and 42.7% through M&A⁸. In addition, the majority are private investors (58.3%) followed by State-Owned Enterprises (SOEs) (31%) while companies with mixed ownership account for 10.7%. Most of them display healthy balance accounts: in 2014, 63.8% of these firms registered positive benefits. Most

⁸ The mode of entry of the remaining 13.5% firms is unknown.

of these firms are small firms in terms of employment. However, approximately 74.6% of these companies surpassed a sales' volume of one million euros and for 9.9% of them sales overpass one hundred million euros. In terms of employment, Chinese FDI hire approximately 10,300 persons⁹ in 2014, that is, a non-negligible contribution to employment. At the regional level, Chinese firms are concentrated in Catalonia (40%) and Madrid (38.9%). Chinese firms are present in the following sectors: wholesale and retail trade (41.7%), other services (20.8%), manufacturing (17.7%), transport and related activities (9.4%), energy production (9.4%) and fishing and agriculture (1%).

⁹ Employment and financial data is only available for 70% of the firms.

4. Methodology

4.1. Methodology and characteristics of the sample

In order to shed light on the motivations of Chinese firms' investment, we created a questionnaire¹⁰ with 91 items conducted by telephone on behalf a specialized company. This company contacted the 96 firms identified in the firm-level database described in the previous section. Firms were asked to value the importance of each hypothesis rated on a 5-point Likert-type scale (where 0 is not importance and 4 very important).

First, we independently analyse the average and the mode of each item of the questionnaire, and consider a motivation or activity to be relevant whenever its average value is above 2, and its mode presents a high value. Second, we apply *Multiple Correspondence Analysis* (MCA). MCA is a technique which allows to reduce the dimensionality of a set of data through the creation of indexes which account for a large share of the data available. This technique is particularly appropriate for ordered categorical variables in which the difference between categories is prone to be not lineal. For instance, in our case, the "distance" between valuing the importance of an investment motivation 0 or 1 is likely to differ from the one between 3 or 4. In this way, MCA allows us to analyse the latent relationship between different categorical variables and to obtain an index that summarizes them (Abdi and Valentin, 2007; Booyesen et al., 2008; Kohn, 2012). By applying MCA, the objective is to detect complementarities and similarities among the different FDI motivations and, pull and push factors. Following the FDI theory previously described, we construct 9 indexes: Market Seeking, Trade, Access to other markets, Quality, Asset Seeking, Efficiency Seeking, Spanish Institutions, Ease of Doing business, and Chinese environment (see table 3.1).

¹⁰ Questionnaire available in the appendix 3.1.

Table 3.1: MCA variables and main statistics

Indexes	Variables	Obs.	Principal Inertia (%)	Mean	Std. Dev.	Min	Max
Chinese environment	Reduce the risk associated with the economic activity of the company; Institutional restrictions on parent firm's activity in the home country; Competition from other companies in the home country; Fiscal incentives from the origin country	29	39.03	2.80	0.99	1.00	4.42
Ease of doing business	Ease of starting up a company; Ease of access to finance; Investor protection	29	58.81	2.22	1.02	1.00	3.65
Spanish Institutions	Political stability; Private property protection; Legal framework	29	43.31	2.91	1.01	1.00	4.03
Efficiency seeking	Produce goods/services in a more efficient way; Increase of wage costs in China; Produce products in Spain to export them to China; Low wage costs and high qualification in Spain; Low wage costs in Spain	29	32.26	2.03	1.20	1.00	5.97
Asset seeking	Acquire a recognized brand; To access qualified workforce; For access to new technologies; Acquire management techniques; Make the company's brand known in Spain/Europe	29	35.5	4.03	1.00	1.00	4.98
Quality	To adapt to the European norms for quality; To adapt to the Spanish norms for quality; To increase the quality of the firm's products	29	54.93	3.61	1.01	1.00	4.18
Access to other markets	Ease of access to markets outside the European Union from Spain; Exports; Transport infrastructure for access to other markets; To Access markets outside Europe	31	45.06	3.33	0.97	1	4.85
Trade	To avoid tariff barriers set by the European Union; To avoid anti-dumping measures of the European Union; Reduce export costs	29	32.54	2.33	1.01	1.00	4.28
Market seeking	Merchandising; Marketing; Customer service	30	55.54	2.84	1.02	1.00	3.65

Source: Authors' calculations from original questionnaire.

4.2. Sample

Among the 96 firms contacted, 31 firms answered the questionnaire partially or completely¹¹. To test whether our analysis suffers from a non-response bias, we follow Whitehead et al. (1993) and estimate the following probit model:

$$\begin{aligned} Answer_j = & \alpha_j + Wholesale_j + Manufacturing_j + OtherServices_j + Transport_j \\ & + noMADCAT_j + Catalonia_j + InvestmentYear_j + Greenfield_j \\ & + CNdirect_j + Private_j + Age_j + FirmSize_j + \varepsilon_j \end{aligned}$$

where $Answer_j$ is a dummy which takes value 1 if firm j answered the questionnaire and 0 if not. $Wholesale_j$, $Manufacturing_j$, $OtherServices_j$ and $Transport_j$ are dummies for the sector of activity of the firm (wholesale and retail trade, manufacturing, other services, or transport and related activities). $noMADCAT_j$ is a dummy which takes value 1 if the firms are not located in either Madrid or Catalonia, and $Catalonia_j$ a dummy indicating if the firm is located in Catalonia. Then, to take into account the characteristics of the investment, we include the year of investment ($InvestmentYear_j$), dummies for greenfield investments ($Greenfield_j$), private companies ($Private_j$) and investments made without using a transit country ($CNdirect_j$). In addition, we control for the age and size of the Chinese subsidiary in Spain¹² (Age_j , $FirmSize_j$). Finally, ε_j stands for the error term.

Results from the probit model are reported in table 3.2. Due to different data availability for each independent variable, we first restrict the model to the variables available for the whole sample (column 1). In a second step, we add independent variables which result in a smaller sample (columns 2 and 3). As it can be gathered, none of the independent variables have a significant impact on the likelihood of answering the questionnaire.

¹¹ The questionnaire was answered by Directors and Managers mainly from Accounting and Financial departments.

¹² $FirmSize_j$ is a categorical variable which takes the value 1 if the firm is small (less than 49 workers), 2 if it is medium (between 50 and 249 workers) and 3 if it is large (more than 250 workers).

Overall the model has no explanatory power¹³, suggesting that the sample of firms answering the questionnaire does not suffer from any self-selection bias.

Table 3.2: Selection bias test

<i>Answer_j</i>	(1)	(2)	(3)
<i>Wholesale_j</i>	0.036 (0.94)	-0.016 (0.98)	-0.178 (0.75)
<i>Manufacturing_j</i>	0.088 (0.87)	-0.143 (0.81)	-0.058 (0.94)
<i>OtherServices_j</i>	0.041 (0.94)	-0.065 (0.91)	-0.031 (0.96)
<i>Transport_j</i>	0.440 (0.46)	0.389 (0.58)	0.355 (0.64)
<i>noMADCAT_j</i>	0.150 (0.69)	0.248 (0.54)	0.173 (0.72)
<i>Catalonia_j</i>	-0.122 (0.69)	-0.166 (0.64)	-0.436 (0.30)
<i>InvestmentYear_j</i>		0.006 (0.88)	0.007 (0.90)
<i>Greenfield_j</i>		-0.274 (0.45)	-0.443 (0.32)
<i>CNdirect_j</i>		-0.231 (0.48)	-0.408 (0.30)
<i>Private_j</i>			-0.018 (0.96)
<i>Age_j</i>			-0.034 (0.16)
<i>FirmSize_j</i>			-0.153 (0.62)
Observations	96	82	67
Pseudo R ²	0.011	0.032	0.076
Prob> Chi2	0.970	0.946	0.873

p-values in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

¹³ As reported in table 3.2, the Likelihood Ratio Chi-Square test (Chi2) accepts the null hypothesis suggesting that all coefficients in the model are equal to zero.

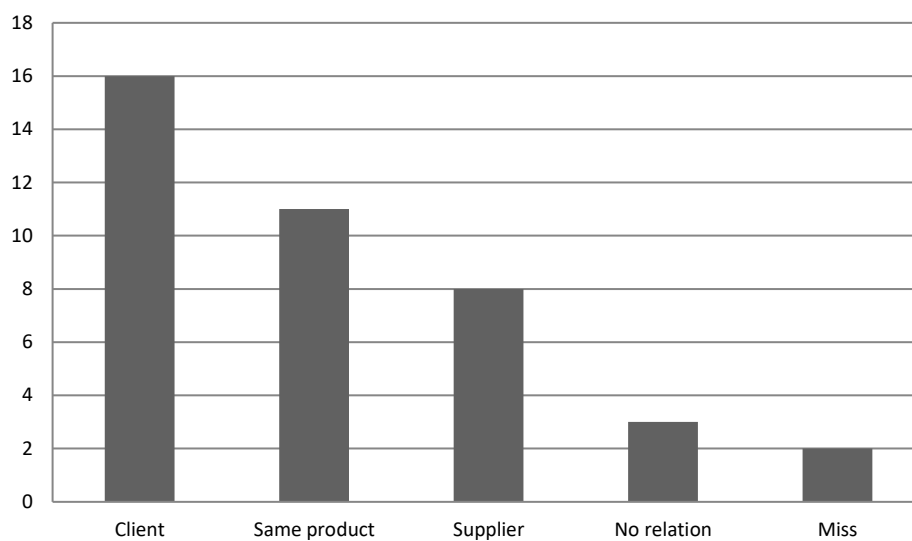
As far as the characteristics of the respondents are concerned, most of the firms that participated in the questionnaire invested through M&A (68.0%). Among the ten gathered greenfield investments, three consist in investments realised jointly with another firm. As regards ownership of the investing Chinese firm, the majority are wholly private (58.1%) while SOE and mixed ownership represent 16.1% and 22.6%¹⁴, respectively. The respondents invested between 1999 and 2014, with most of the investments belonging to the period 2009 - 2014 (77.4%). Following the NACE 2 two digits classification, the main recipient sectors are: wholesale trade, except motor vehicles and motorcycles (25.8%), legal and accounting services (9.7%), manufacture of fabricated metal products (9.7%), manufacture of chemicals and chemical products (6.5%), and warehousing and support activities for transportation (6.5%). Most of these firms are small firms (71%) and medium firms (16.2%) while only 6.5% are large firms¹⁵. Finally, Figure 3.2 illustrates the relation between subsidiaries and parent companies¹⁶. Most affiliates are clients of the parent company, which goes in accordance with the fact that most of them operate in the wholesale sector and are aimed at supporting exports of the matrix. Notwithstanding, a considerable share of the affiliates supply the parent company and/or sell the same product.

¹⁴ The remaining 3.2% refers to missing data.

¹⁵ The remaining 6.3% refers to missing data.

¹⁶ In this case the firm could choose more than one option. For example, it is possible for a firm to indicate that is client and supplier from the parent company.

Figure 3.2: Relation with the parent company



Source: Own calculation from the database elaborated by the authors.

5. Determinants of Chinese OFDI in Spain

In this section, we explore the motivations of Chinese firms to invest in Spain differentiating the reasons owing to the intrinsic characteristics of the company and its strategy (microeconomic motivations), from the incentives related with the host or home countries environment. The results of the first set of answers are reported in Table 3.3 while the opinions concerning the role of institutional and economic environment as pull and push factors are displayed in Table 3.4.

5.1. Intrinsic motivations of Chinese firms

The overall picture of the results indicates that market-seeking and asset-seeking are the most important drivers of Chinese investments in Spain. Access to other markets also notably justify these capital flows. In contrast, efficiency seeking and avoiding trade costs have a lower weight in Chinese investors' decisions.

Asset seeking appears as the most popular motivation among Chinese firms. In particular, Chinese firms are mainly concerned by acquiring a recognized brand and by making the company's brand known in Spain or Europe. Accessing a qualified workforce and new technologies also seem to play a dominant role in their decision to invest in Spain. As suggested by previous literature, Chinese firms seek to overcome their technical disabilities and to improve their brand awareness. Additionally, they seem to be particularly interested in specifically adapting their products to European consumers' standards. Respondents are not so much concerned by pure market seeking motivations but quality seeking motivations. In this line, the surveyed firms give greater meaning to the adaptation to European and Spanish norms and to increase the quality of the firm's products among the different categories of market seeking. This result is in harmony with the reported by Carril-Caccia and Milgram Baleix (2016), which indicate that merchandising and service production are the most salient activities made by Chinese firms in Spain. The results lend strong support to the hypothesis that investments in Spain meet the Chinese firms' need to upgrade the quality of their products through better technology, qualified labour and adaptation to European standards.

Table 3.3: Investment's motivations of the Chinese firms.

	Determinants	Obs	Mean	Std. Dev.	Mode (frequency)
Acquire a recognized brand	Asset seeking	29	3.31	1.07	4 (17)
To adapt to the European norms for quality	Market seeking, Access to other markets and Quality	28	2.96	1.29	4 (13)
Make the company's brand known in Spain/Europe	Market seeking and Asset seeking	29	2.83	1.51	4 (15)
To access to markets outside Europe	Access to other markets	29	2.76	1.38	4 (11)
To Access qualified workforce	Asset seeking	29	2.72	1.41	4 (12)
Merchandising	Market seeking	30	2.63	1.54	4 (13)
To adapt the Spanish norms for quality	Market seeking and Quality	29	2.62	1.4	3 (11)
To increase the quality of the firm's products	Quality	29	2.62	1.47	4 (12)
Produce services	Market seeking	30	2.6	1.69	4 (15)
To access to new technologies	Asset seeking	29	2.55	1.5	4 (12)
Produce goods/services in a more efficient way	Efficiency seeking	29	2.48	1.5	4 (10)
Marketing	Market seeking	30	2.17	1.56	4 (8)
Acquire management techniques	Asset seeking	28	2.14	1.46	3 (7)
Costumerservice	Market seeking	30	2	1.72	0 (10)
To avoid tariff barriers set by the European Union	Trade	27	1.78	1.67	0 (11)
Reduce export costs	Trade	28	1.68	1.49	0 (9)
To avoid anti-dumping measures from the European Union	Trade	28	1.5	1.6	0 (13)
Increase of wage costs in China	Efficiency seeking	26	1.38	1.33	0 (9)
Produce products in Spain to export them to China	Efficiency seeking	28	1.07	1.41	0 (15)

Source: Authors' calculations from original questionnaire. Ordered from the most important motivations to the least one according to the average.

An important feature to keep in mind when analysing the results is that a great part of Chinese affiliates' activity in Spain is related to the export activities of the matrix. *Figure 3.3* illustrates the relevance of China and Hong Kong as the origin of the imports made by the subsidiary, confirming that the investee supports exports from the parent company and that OFDI may contribute to Chinese export expansion. In addition, the gathered data

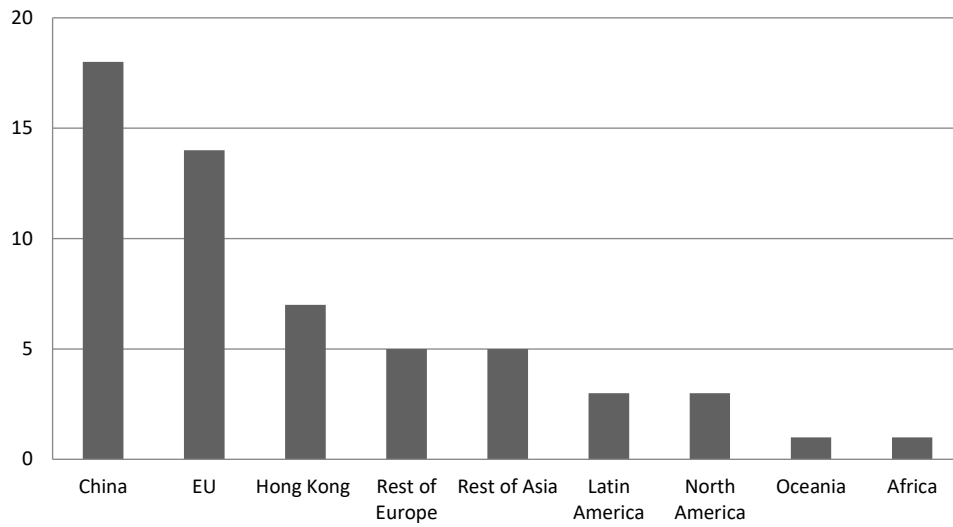
indicate that most firms are clients of the parent company and are concentrated in the wholesale and retail sectors. Turning to the surveyed firms, China is the main supplier for 67% of the surveyed firms (Figure 3.5) while the destination of their exports is quite heterogeneous (Figures 3.4 and 3.6). Actually, “access to markets outside Europe” is among the motivations reaching highest scores in Table 3.3, and the “ease of access to markets outside the EU from Spain” is rated as the most interesting characteristic of the Spanish market (Table 3.4).

Therefore, Chinese investors are expected to worry about trade barriers. Surprisingly, results of the survey indicate that most firms are not concerned at all by avoiding tariffs or anti-dumping measures, and neither by reducing export costs. This seems to be in contradiction with the fact that respondents testify that Chinese OFDI is frequently carried out in order to support exports, or with a view to accessing markets outside Europe. One plausible explanation of why they do not care about export trade costs could be that EU trade policy does not really constitute a major barrier for Chinese exports.

A less plausible hypothesis in case of EMNEs is that they invest abroad to improve their efficiency. As expected, Chinese investments in Spain are less motivated by efficiency gains than by the aforementioned aspects. Nevertheless, the results show an important heterogeneity among the surveyed firms: almost 25% of the surveyed firms attribute a high value (3 or 4) to “Increase of wage costs in China” and “Low wage costs in Spain”, and 34.5% to “Low wage costs and high qualification in Spain”. It appears that firms seeking to improve their efficiency also have motivations related to overpass ownership disadvantages¹⁷, which sounds coherent. This might well indicate that Chinese firms aim to access capabilities that are cheaper and more abundant in Spain than in China, as firms from developed countries do when investing into developing countries: both try to take advantage of production factors which are scarce in their home market. This may be good news for Spain since this could be an excellent opportunity for the unemployed high-qualified Spanish workers to get a job.

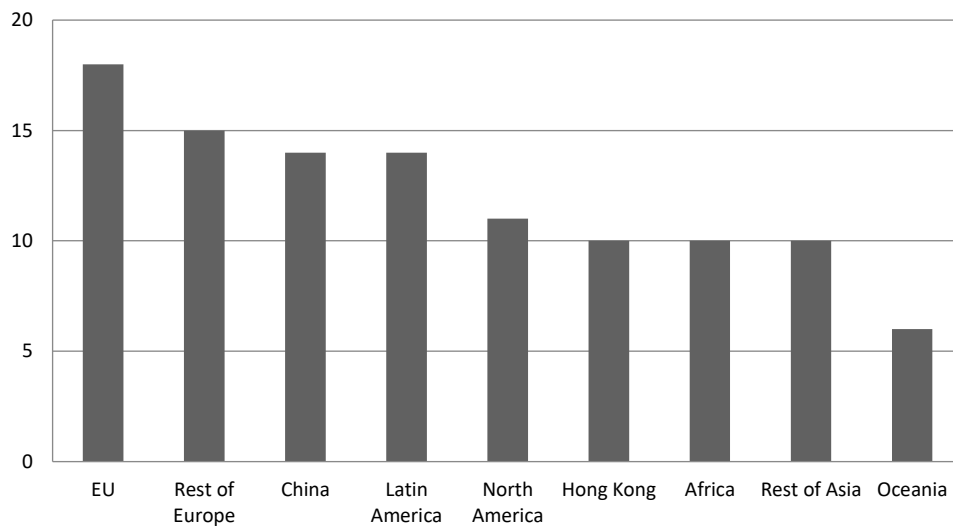
¹⁷ The item “Produce goods/services in a more efficient way” is significantly correlated with the following investment motivations: “To increase the quality of the firm’s products”, “To access new technologies”, “To access a qualified workforce” and with the following coefficients of correlation, respectively, $r = 0.46$, $r = 0.53$ and $r = 0.47$

Figure 3.3: Imports



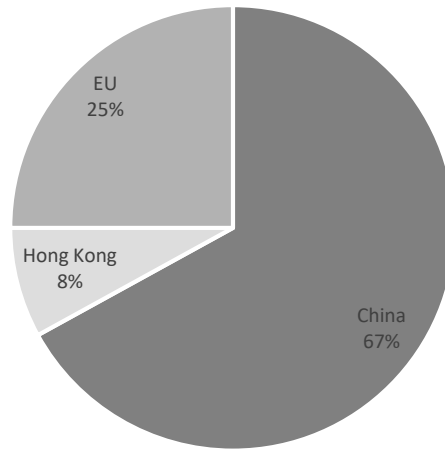
Source: Data from authors' survey. Based on multiple-choice questions with more than one possible answer. The firm had to indicate the origin of its imports.

Figure 3.4: Exports



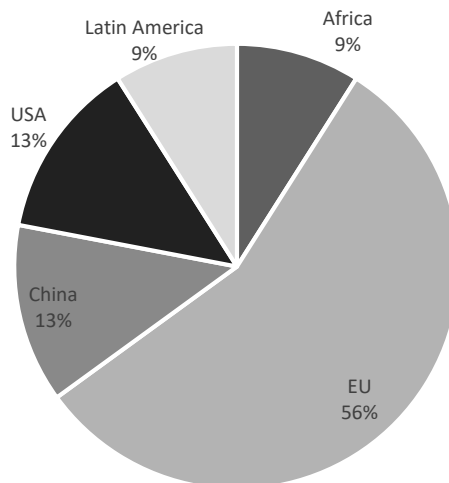
Source: Data from authors' survey. Based on multiple-choice questions with more than one possible answer. The firm had to indicate the destination of its exports.

Figure 3.5: Main import countries



Source: Data from authors' survey. The firm had to indicate the main origin of its imports.

Figure 3.6: Main export countries



Source: Data from authors' survey. The firm had to indicate the main destination of its exports.

5.2. Pull and push factors from China and Spain

According to the survey, both the Spanish and Chinese environment matter to Chinese investors. But overall, what they run after first and foremost when locating in Spain, is to access easily to markets outside the EU. However, “Transport infrastructure for access to other markets” is poorly valued on average. Together with previous results, these findings suggest that Chinese investors are interested in more intangible assets such as knowledge

of the Latin American markets and consolidated distribution channels that would complement their own capacities to boost their exports.

Turning to the aspects of Spanish institutions that make a difference in the Chinese investors' way of thinking, respondents point out property rights protection, legal framework and political stability among the most attractive characteristics of Spain for their investment. Since these are basic characteristics of quality institutions which are quite common to all developed countries, this result only confirms that Chinese investors are aware of these advantages and that Spain successfully diffuses the information regarding these aspects. More interestingly, Chinese firms value quite badly the aspects related with the ease of doing business in Spain. This clearly points out a room for improvement for Spanish policies. Spanish authorities could make Spain more attractive to potential investors by improving investor protection, access to finance and procedures for starting up a company.

As far as the Chinese institutional framework is concerned, it does not significantly influence the decision to invest in Spain: government's support to Chinese firms' internationalization and restrictions on its economic activity in China are not well valued as push factors. In contrast, the economic environment that firms face at home does play an important role in their decision to invest abroad. Chinese OFDI is in part a reaction to competition in their domestic market that they perceive as stronger and Chinese firms consider the diversification through FDI as a way to reduce their risk of failure.

Table 3.4: Institutional and economical pull and push factors.

	Determinants	Obs	Mean	Std. Dev.	Mode (frequency)
Ease of access to markets outside the European Union from Spain	Access to other markets	28	2.54	1.62	4 (11)
Competition from other companies in the home country	Home competition	29	2.41	1.30	3 (10)
Private property protection	Host institutions	28	2.14	1.48	0, 2 and 3 (7)
Reduce the risk associated with the economic activity of the company	Home competition	27	2.11	1.31	2 (9)
Legal framework	Host institutions	29	2.00	1.31	3 (9)
Political stability	Host institutions	29	1.86	1.27	2 (10)
Transport infrastructure for access to other markets	Access to other markets	28	1.86	1.41	2 (10)
Low wage costs and high qualification in Spain	Efficiency seeking	29	1.76	1.38	0 (8)
Institutional restrictions on parent firm's activity in the home country	Home institutions	28	1.50	1.58	0 (12)
Low wage costs in Spain	Efficiency seeking	29	1.41	1.35	0 (11)
Fiscal incentives from the origin country	Home institutions	26	1.35	1.23	0 (10)
Investor protection	Ease of doing business	29	1.34	1.42	0 (11)
Ease of access to finance	Ease of doing business	29	1.21	1.21	0 (13)
Ease of starting up a company	Ease of doing business	29	1.17	1.17	0 (13)

Source: Authors' calculations from original questionnaire. Ordered from the most important motivations to the least one according to the average.

5.3. Multiple Correspondence Analysis (MCA)

The correlation matrix of the MCA indexes adds further insight into the relationships between the Chinese FDI determinants (*Table 3.5*). Market seeking appears as an independent motivation, since it is probably the most common motivations in wholesales, which is, at the same time, the most frequent economic activity developed by Chinese firms in Spain. Remaining indexes are highly correlated between them confirming that motivations are fully dependent among each other. In particular, the strong correlation between the Quality and Asset seeking indexes is worth highlighting. Yet, this result provides a validation of our prior conjecture. Upgrading quality is the motivation shaping the overall strategy of Chinese investors in Spain. Lack of quality is considered as the main disadvantage to be overcome through access to recognized brand, qualified workforce, and to a lesser extent new technologies or managerial skills.

Also of particular meaning is the high correlation of the Chinese environment index with all the other indexes except market seeking. This points out how the Chinese framework enhance the urge of Chinese firms to internationalize regardless their intrinsic

motivations. These results support the hypothesis that Chinese firms are adopting strategies to improve their products and accessing new markets in response to the intensification of competition in the home market. These aspects may be a lesser concern for firms who focus on investing in services aiming to support their exports.

In contrast, the Spanish context is not linked to any specific motivations at the firm level but with the Chinese environment, indicating that it is positively valued in comparison with the home context, but not in the light of the firm-specific motivations. Sounded exceptions are the firms concerned with trade barriers and access to other markets for whom, Spanish institutions quality appear to be of great relevance. Actually, the more a firm is concerned with trade costs, the more likely it is to exploit Spain's commercial connections with other countries. This finding may suggest that Chinese firms may use some European locations as a platform to re-export to other countries where European products are granted better access than Chinese ones.

Table 3.5: MCA indexes correlation matrix

	Market seeking	Trade	Access to other markets	Quality	Asset seeking	Efficiency seeking	Spanish institutions	Ease of doing business
Market seeking	1							
Trade	0.258	1						
Access to other markets	-0.121	0.381**	1					
Quality	0.109	0.453**	0.321*	1				
Asset seeking	0.243	0.185	0.073	0.503***	1			
Efficiency seeking	0.149	0.301	0.011	0.215	0.272	1		
Spanish institutions	-0.066	0.527***	0.772***	0.446**	0.02	-0.084	1	
Ease of doing business	0.201	0.586***	0.573***	0.492***	0.17	-0.012	0.692***	1
Chinese environment	0.195	0.534***	0.43**	0.398**	0.447**	0.33*	0.472***	0.489***

Source: Authors' calculations from original questionnaire.

6. Conclusions

By combining different sources, we build an original dataset of firms established in Spain with Chinese participation. Thanks to this unique dataset, we are able to draw a more realistic picture of Chinese OFDI in Spain. This analysis is completed by a survey of Chinese affiliates in Spain to assess directly the motivations of Chinese OFDI. 31 firms out of the 96 firms with Chinese capital answered the questionnaire. Despite the high rate of responses, the sample remains small; this prevents us from realizing a rich statistical analysis. Another potential limitation of this study is that the qualitative information is collected from Chinese affiliates managers, so we cannot ensure that their answers are completely representatives of the investor company's opinions. If anything, the present work provides a unique overview of the determinants for Chinese OFDI by disentangling in detail the determinants of Chinese OFDI specific to the firm and the motivations related to the Chinese and developed countries' environment, in particular Spain.

The methodology used to identify Chinese investments in Spain yields information overlooked by other studies. Only 50% of the recorded investments come directly from Mainland China, while 26% transit through Hong Kong and 19% enter through another European country. As pointed by Sutherland and Anderson (2015), this issue deserves further research and should be accounted for. Apart from that, this new evidence reinforces the view that Governments' official statistics are probably underestimating the importance of Chinese OFDI in Europe. Unfortunately, our dataset does not allow us to study whether there are differences in the FDI motivations between those firms that use transit countries and those who do not. This limitation is an invitation to conduct future research on this issue.

Results from the survey confirm some previous findings in the literature and provide a new insight into Chinese OFDI motives and the relationship among the different factors. The most important motivations mentioned by the respondents of our study are in line with an eclectic view of FDI determinants à la Vernon-Dunning. They indicate that Chinese firms invest in Spain in order to cope with their ownership disadvantage, which clearly relate with the quality of their products or the lack of well-known brands. Moreover, Chinese OFDI clearly aim at supporting exports not only to the Spanish market

but also to markets outside Europe. In this line, trade costs do not appear to concern Chinese investors unanimously but matter for those firms with export platform strategy.

Broadly speaking, the amount of Chinese investments in Spain remains small but already relevant as it involves approximately 10,000 jobs, and it is increasing at a fast rate. Our results suggest that, as long as the competition in the Chinese market increases, more Chinese firms will be pushed out to invest abroad. The analysis also highlights that the way of doing business in Spain is perceived as uneasy, or not considered as a specific advantage of the Spain location. These are important elements to include in the agenda of Spanish institutions. Indeed, Chinese OFDI could represent great opportunities for Spanish recovery since Chinese investment seeks qualified jobs and new technologies. Public policies could provide precise information to potential investors concerning these aspects and promote the image of Spain as a source of skilled workforce and fruitful environment for R&D.

Finally, another axis of possible improvement consists in promoting the Spanish market as a good platform to export to other regions, such as Spanish-speaking countries in Latin America or neighbour countries in North Africa. However, Spain will not reap much benefit from these FDI if it serves as a simple warehouse for Chinese goods. Conversely, Spain could obtain huge value added by offering professional services in transport, business, and consulting to Chinese firms based on its own experience as exporter. Most of these considerations could undeniably be extrapolated to other European countries sharing common features with Spain.

Appendix 3.1- Questionnaire

Each question is valued from 0 to 4

Investment's motivations of the parent company

Indicate the importance of each one.

1. Access to natural resources
2. To adapt to the quality norms from the Spanish market
3. To adapt to the quality norms from the European market
4. To avoid tariff barriers set by the European Union on the parent company's products
5. To avoid anti-dumping measures from the European Union to the parent company's products
6. To access to markets outside Europe
7. To increase the quality of the firm's products
8. To access to new technologies
9. To access qualified workforce
10. Produce goods/services in a more efficient way
11. Institutional restrictions on parent's firm activity in the home country
12. Competition from other companies in the home country
13. Increase of wage costs in China
14. Acquire a recognized brand
15. Make the company's brand known in Spain/Europe
16. Previous investment relations with the investee
17. Reduce export costs
18. Produce products in Spain to export them to China
19. Acquire management techniques
20. Fiscal incentives from the origin country
21. Reduce the risk associated with the economic activity of the company

Indicate to what extent you consider the following characteristics of the Spanish market as a pull factor for this investment

Indicate the importance of each characteristic

22. Lower taxes than other alternative countries where the same investment could had been realized
23. Economic situation in Spain
24. The investment represented an opportunity due to the low price of the acquired assets
25. Low wage costs and high qualification in Spain
26. Low wage costs in Spain
27. Quality of infrastructures in Spain
28. Presence of the Chinese community in Spain
29. Easiness to open a company
30. Easiness to access to finance

31. Investor protection
32. Legal framework
33. Political stability
34. Legal framework from the labor market
35. Easiness to access to markets outside the European Union from Spain
36. Private property protection
37. Spanish fiscal incentives for foreign investment
38. Transport infrastructure to access to other markets

Investee's motivations to accept the investment from the parent company

Only answer if the investment consisted in the acquisition of an existing company

39. Financial restrictions
40. Increase in capital
41. Strategic Alliance
42. Previous commercial relations between the parent company and the subsidiary
43. Economic problems
44. Starting a common project
45. Diversify the export markets
46. Diversify the import markets
47. Previous investment relations with the parent company

Information about the firm in Spain

48. Name of the firm (new firm or investee)
49. Economic activity (new firm or investee)
50. Location (City)
51. Name and position in the firm
52. Contact telephone
53. Investment type made by the parent company

Choose the correct one

Greenfield investment (investment in a complete new firm)

Merger or acquisition of an existing firm

Does not know/ does not answer

Other:

54. In case of a complete new investment (greenfield investment) Has the parent company invested jointly with another company?
 Yes
 No
 Does not know/ does not answer
55. In case of a merger or acquisition of a previously existing firm:
 Name of the investee or acquired firm (in case of being different from the current name)

56. Origin of the capital of the company that received the investment (Before the investment)
- Public
 - Private
 - Mix (public and private)
 - Other:
57. Year in which the investment/acquisition took place
58. Amount of the investment (in euros)
59. Indicate the percentage of the capital invested, by the parent company, in the acquired/investee or created firm

Activity of the firm (investee or new)

Indicate the importance that each of these activities have for the firm located in Spain (investee/new)

60. Products production
61. Services production
62. Exports
63. Imports
64. Marketing
65. Customer service
66. Merchandising
67. Research and Development (R&D)
68. Product design
69. Other activity that the company carries out that you consider important
70. In relation with the relationship with the “parent company”, the firm (new or investee) is:
- Choose the correct options
 - Client of the parent company
 - Supplier of the parent company
 - Same product that the parent company (produces and sells the same products as the parent company does)
 - Has no relation
 - Does not know/ Does not answer
71. Does the firm contract Chinese workers?
- The investee or new firm
 - Yes
 - No
 - Does not know/ Does not answer

Exports and Imports from the firm (investee or new)

Answer in case that the investee or new firm does export and or import

72. Exports, indicate destinations

Indicate all the destinations to which the firms exports

Africa

European Union

Rest of Europe

China (without Hong Kong)

Hong Kong

Rest of Asia

Latin America

North America

Oceania

73. Indicate the main destination of firm's exports
74. Indicate the percentage exports represents in the total sales of the firm.
75. Imports, indicate the origin

Indicate all the zones from which the firm imports

Africa

European Union

Rest of Europe

China (without Hong Kong)

Hong Kong

Rest of Asia

Latin America

North America

Oceania

76. Indicate the main country from where the company imports
77. Indicate the percentage imports represents in the company's purchases

SOURCES OF FINANCE

Indicate the importance that each of the following sources of finance has for the firm in Spain.

78. Finance from the parent company
79. Chinese Government
80. Spanish financial system
(Banks and cajas de ahorro)
81. Capital from a company situated in a different country than China
82. Relatives (family)
83. Friends/acquaintances

Data from the parent company

84. Name of the parent company
85. Capital origin from the parent company
Country of origin

86. Province of origin of the parent company
87. Contact details of the parent company
Name of contact, E-Mail and/or telephone number
88. Has the parent company received authorization from the Chinese government to invest in Spain?
In case that the investment comes from a firm originally from China.
Yes
No
Does not know/ Does not answer
89. Main economic activity of the parent company
Example: Exports of agricultural products
90. Origin of the parent company's capital
Public
Private
Mix (public and private)
Other:
91. Has the parent company invested (or is currently investing) in other countries?
Yes
No
Does not know/Does not answer

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Chapter 4: Mergers and acquisitions & trade: A Global Value Chains analysis

Abstract

The present article deals with how the insertion in international trade and Global Value Chains (GVCs) of countries affect their capacity of attracting foreign Mergers and Acquisitions (M&As). To this end, we combine data for bilateral M&As and trade in value added for the period 2001-2015 and estimate an augmented gravity equation. Results indicate that trade openness *per se* does not favour M&As. Nevertheless, bilateral free trade agreements, heterogeneity of destinations (sources) for exports (imports) of intermediate and final goods, and position and participation in global value chains are relevant for explaining bilateral M&As. Moreover, their role is significantly different depending on the level of development of the home and host countries.

Keywords: Global value chains; gravity model; trade in value added; trade openness; M&As

JEL code: F13, F21, F23

1. Introduction

During the past 30 years, Multinational Enterprises (MNEs) accelerated the relocation of their productive activities. Between 1988 and 2016, Foreign Direct Investment (FDI) grew rapidly, evolving from 8.2% of the world's GDP to 35.1%¹. This phenomenon made central the concept of Global Value Chains (GVCs), which refers to the fragmentation across border of different production processes often set by MNEs through FDI (Amador & Cabral, 2016). Trade in intermediate goods between MNEs affiliates or between MNEs and their partners hence represents an increasing share of international trade (Antràs & Yeaple, 2014). As a matter of fact, currently, intermediate goods and services account for nearly 60% of trade, and MNEs control approximately 80% of the world's trade (UNCTAD, 2013).

At the same time increasingly ambitious trade agreements have been negotiated, while we have also witnessed a surge in protectionist ideas. Recent examples of the former is the signature of the African Continental Free Trade Area or the Free Trade Agreement (FTA) between the European Union (EU) and Japan, while the Brexit vote or Trump's increase in tariffs on steel and aluminium imports stand as good examples of the latter.

The policy debate tends to focus on the direct consequence of trade policies on trade. However, trade policies may also influence MNEs' investment decisions. Initially, FDI and trade can be considered as substitutes: horizontal FDI is expected to be driven by increasing trade costs and lower foreign competition. However, a strand of literature argues that FDI and trade are complementary. In this case, decreasing trade costs and trade openness are expected to foster vertical capital inflows, export support and export platform FDI. Despite the growing role of GVCs in the world's production since the beginning of the 90s (Timmer et al., 2012), the existing evidence on the nexus between FDI and host countries' trade openness is still ambiguous. Some studies find a positive relationship (e.g. Ramasamy and Yeung, 2010), while others report a non-significant (e.g. Kolstad & Villanger, 2008) or negative connection (Wheeler & Mody, 1992).

The ambiguity in the results may be explained by the fact that the indicators commonly used to reflect trade openness, such as gross trade over GDP, give a poor insight into

¹UNCTAD's statistics on FDI stock over GDP.

countries' trade characteristics and policy. FDI strategies which are positively linked with trade might not be necessarily attracted by trade openness *per se*, but by some specific involvements in trade and GVCs. For instance, the capacity of producing intermediates goods which are later used in the production process in other countries can favour vertical FDI. Alternatively, economies which can export final goods to a wider number of countries are more likely to attract export platform FDI. Trade openness indicators might be positively related with these dimensions but do not allow us to disentangle the relevance of each of these factors. Additionally, trade openness may also represent a higher level of foreign competition that would deter FDI (Wheeler & Mody, 1992).

Another empirical issue is related with the data. Most of the studies dealing with the effect of trade openness on inward FDI are based on unilateral FDI statistics². This is a limitation, since investment decisions by MNEs are shaped, among other factors, by bilateral transaction costs and economic size. Furthermore, the literature highlights that the determinants of FDI are likely to differ according to the home-host levels of development: if the countries involved are whether developed countries (North-North), developing countries (South-South) or if FDI flows from developed to developing countries (North-South) or from developing to developed countries (South-North). In this regard, the role of developing countries as a destination and source of FDI has been rapidly increasing during the last two decades. Nowadays, developing countries represent approximately 50% as receptors of FDI flows and 30% as a source (UNCTAD, 2018).

Additionally, FDI flows uncover heterogeneous modes of entry. MNEs can own a foreign affiliate through greenfield investment or Merger and Acquisition (M&A), being the choice between one mode of investment conditioned on the motivations of the MNE and the host market characteristics (Gilroy & Lukas, 2006; Nocke & Yeaple, 2007). M&As make up for a growing share of total FDI flows, reaching 58% in 2016 against 26% in 2003. Besides, the relevance of each mode of entry is not homogeneous across the world. For non-EU developed economies and for EU15 countries, M&As' share of total inward FDI volume (projects) is around 69% (40%). In the countries that joined the EU since

²See for example Asiedu (2002), Aizenman and Noy (2006), Botrić and Škuflić (2006), Chakrabarti (2001), Ramasamy and Yeung (2010) and Teixeira et al. (2017).

2004 and in developing countries, its relevance is significantly lower (21% for both groups)³.

The present article goes beyond considering gross trade openness and the signature of Free Trade Agreements (FTAs) as determinants of overall FDI. We focus on bilateral cross-border M&As and rely on trade indicators which provide new insight into how trade policies and involvement in GVCs affect the countries' capacity of attracting foreign acquisitions.

We extend the previous literature by accounting for the value added embedded in trade, the degree of heterogeneity of exports destinations and imports sources of final and intermediate goods and services, and GVC position and degree of participation. Value-added statistics, which exclude the double counted trade flows of intermediates, allow us to approximate more accurately countries' trade openness and links with the rest of the world. Then, by separately considering the role of exports and imports of intermediates and final goods countries', we are able to disentangle their role in vertical and export platform FDI, and at the same time to test if M&As are deterred by a surge of foreign competition. Besides, linked with vertical FDI, the position in GVCS reveals whether MNEs seek to internalize through acquisition firms which are in the upstream or downstream the GVC. Moreover, we test if countries' participation in GVCs is a localization advantage or not. Finally, we also shed light on how the above-mentioned trade characteristics of host countries influence M&As in a different way according to the home-host levels of development.

Results highlight that trade openness *per se* is not a driver of inward M&As, while FTAs, geographic concentration of exports and imports partners, and GVCs position and participation are relevant dimensions. Furthermore, reached evidence highlight that the nexus between trade characteristics and inward M&As is heavily dependent on the home-host level of development.

Our paper has four additional sections. Section II reviews the relationship between trade and FDI. In this section we highlight how countries' involvement in GVCs and trade may

³Shares are calculated based on M&As data retrieved from Thomson Reuters and greenfield investment from UNCTAD (2017) annex tables 19 and 22.

affect M&As. Section III describes the databases, indicators and methodology. Section IV reports the results and Section V offers some concluding remarks.

2. Literature review

The FDI literature presents arguments supporting both a substitution between FDI and exports for serving a foreign market, as well as complementarity. Horizontal FDI takes place when a MNE reproduces its economic activity in a foreign markets and seeks to serve this market by locating the production close to these consumers. One reason for following this strategy is the existence of competitive advantages (know-how or technological capabilities) that the MNE cannot transfer to third parties (i.e. arm length) or can be appropriated by competitors. This type of investments are more likely in oligopolistic markets with differentiated products (Caves, 1971; Hymer, 1976; Markusen, 1995). Also, horizontal FDI seeks to overcome trade costs like transportation, tariffs or anti-dumping measures (Buckley & Casson, 1981; Horstmann & Markusen, 1987). The proximity-concentration trade-off theory indicates that the higher the trade costs and the larger the host economy, the more profitable will be this strategy (Brainard, 1997; Helpman et al., 2004; Kleinert & Toubal, 2010). Consequently, a countries' trade openness can deter this type of investment (Asiedu, 2002). In this regard, Wheeler & Mody (1992) argue that a low exposure to foreign competition through trade will also favour this type of investment as expected profits are higher.

Head & Ries (2008) develop a theoretical model in which M&As are an instrument to gain control of foreign assets. The model is founded in the principle that foreign investors bid for a fixed number of sites and the value they can add to the firm after acquisition varies across investors. Due to the predominance of conglomerate and horizontal M&As, Head & Ries (2008) argue that M&As are better explained by firms seeking to gain corporate control, rather than by vertical FDI which seeks to re-locate production for minimizing costs.

Nevertheless, there are channels through which trade openness and FDI may have a positive relationship. The theoretical models put forward by Bjorvatn (2004), Horn & Persson (2001) or Norbäck & Persson (2004) suggest that increasing trade costs would discourage cross-border M&As. The intuition behind is that although increasing trade costs can favour foreign takeovers seeking to avoid them, it will favour in a greater degree domestic M&As. Trade barriers make indigenous production advantageous and leads to increase the demand for local assets. This trend favours the willingness and capacity of

acquisition by domestic firms in a larger extent than foreign ones. In contrast, economic integration may favour cross-border M&As as targets price decreases due to a surge in competition and aspirant MNEs entering the market are willing to pay a higher price and face a post-merger lower competition. Indeed, for FDI in general, and more rarely for the case of M&As, the literature highlights several channels through which trade liberalization attracts MNEs economic activity.

Through vertical FDI, MNEs set production networks; headquarters and subsidiaries perform specific activities rather than broad ones, and productive sites are linked via exports and imports (Hanson et al., 2005). MNEs are expected to be more likely to invest in countries which are well connected back through trade to their home country and the rest of the world's market (Aizenman & Noy, 2006; Ramasamy & Yeung, 2010). Moreover, due to the efficiency seeking nature of this type of investment, it is prone to be directed from wealthier to less affluent countries (Antràs & Yeaple, 2014; Botrić & Škufljić, 2006; Braconier et al., 2005; Hanson et al., 2005).

Baconier et al. (2005) highlight that through vertical FDI, MNEs *slice up* the value chain by exploiting the skilled and unskilled labour endowment differences across countries. The *slice up* of the value chain implies that, to produce a final good, several value adding productive stages are realised in different countries (Krugman et al., 1995). Following these arguments, Beugelsdijk et al. (2009) indicate that vertical FDI is associated with GVCs specialization, which leads MNEs' affiliates to participate in trade to be able to exploit each country competitive advantage.

Other works also put forward that through FDI MNEs set foreign affiliates which are connected through trade to develop specific economic activities. Clausing (2000) indicates that complementarity between FDI and trade in intermediates is plausible as MNEs invest in sales facilities and concentrate production activities in only one site. Antràs & Yeaple (2014) point that while MNEs' headquarters are specialized in R&D related activities, foreign subsidiaries mainly seek to supply goods abroad rather than back home. In a similar vein, Krautheim (2013) puts forward a model of export supporting FDI that refers to FDI into the wholesale and retail sector. Under this strategy, the MNE sets a subsidiary in the foreign country to import and distribute goods. Ekholm et al. (2007) present a model that insights into export platform FDI. This type of investment

seeks to serve third countries through exports from the host country in which the MNE invests and is more likely to take place in countries and sectors which are highly integrated in GVCs (Amendolagine et al., 2017; Bezuidenhout et al., 2018).

Similarly, M&As can be motivated to reduce production costs, as more efficient firm acquires a less efficient one and lead countries to specialize in their competitive advantage (Chakrabarti et al., 2017; Erel et al., 2012; Neary, 2007). In addition, M&As serve MNEs as an instrument to diminish its dependence in external agents by internalizing upward or downward firms in the value chain, reducing in this way risk and transaction costs, and seek convergence in corporate governance (Erel et al., 2012; Hillman et al., 2009; Martínez-Galán & Fontoura, 2018; Rossi & Volpin, 2004). Moreover, through M&As MNEs are able to quickly acquire market knowledge, existing distribution networks and complementary assets from the target (Antràs & Yeaple, 2014; Blonigen et al., 2014; Nocke & Yeaple, 2007). Hijzen et al. (2008) argues and present evidence indicating that tariff jumping is to certain extent relevant for horizontal M&As, and accordingly shows that trade barriers have a larger negative impact for non-horizontal M&As.

As it can be gathered, there are several occasions in which FDI is an instrument used by firms to combine in a more profitable way the competitive resources available across borders (Gilroy & Lukas, 2006), which leads to setting different tasks from a firms' value chains across borders. This strategy is often followed by MNEs. For instance, Alfaro & Charlton (2009) illustrate, by using USA MNEs firm-level data, that vertical FDI represents a larger share of employment and number of subsidiaries than horizontal FDI. For the case of M&As, statistics reported by Hijzen et al. (2008) and Chakrabarti et al. (2017) indicate that pure horizontal investments only account for one third from cross-border M&As.

In terms of the relationship between bilateral trade liberalization and bilateral trade and FDI, several works report evidence of a substitution between both (e.g. Antràs & Yeaple, 2014; Blonigen, 2001; Brainard, 1997; Daniels & Ruhr, 2014; Jang, 2011), while others find a complementarity (e.g. Berger et al., 2013; Chiappini, 2016; Clausing, 2000; Habib & Zurawicki, 2002; Osnago et al., 2016; Paniagua & Sapena, 2014). In the case of M&As, existing evidence tends to support a complementarity with bilateral trade liberalization

(e.g. Coeurdacier et al., 2009; Erel et al., 2012; Hyun & Kim, 2010; Rossi & Volpin, 2004) or find a non-significant relationship (e.g. di Giovanni, 2005).

Similarly, results are not conclusive when countries' overall trade openness is considered. Indeed, there is a relevant strand of the literature which provides evidence indicating that trade openness fosters inward FDI (Asiedu, 2002; Aizenman & Noy, 2006; Botrić & Škuflić, 2006; Habib & Zurawicki, 2002; Martínez-Galán & Fontoura, 2018; Martínez-San Román et al., 2016; Medvedev, 2012; Ramasamy & Yeung, 2010; Texeira et al., 2017). On the other hand, there are studies which report a non-significant (Kolstad & Villanger, 2008; Vijayakumar et al., 2010) or negative relationship (Wheeler & Mody, 1992). By performing an Extreme Bound Analysis, Chakrabarti (2001) finds that trade openness is not a robust estimator of FDI. Beugelsdik et al. (2009) show that trade openness has no significant impact on US foreign affiliates cross-border sales⁴. By analysing foreign subsidiary sales from 56 countries in 85 host countries, Braconier et al. (2005) find trade protectionism in the host country may have a positive and significant impact. However, in a similar analysis, Kleinert and Toubal (2010) reach a non-significant impact. Liargovas & Skandalis (2012) analyse how FDI inflows are affected by trade openness in 36 developing countries. Authors use eight different indicators of trade openness, and find that five have a significant positive impact, while the remaining three are not significant. By using a Bayesian Model and considering a broad set of determinants of FDI, Blonigen & Piger (2014) show that host countries' trade openness related variables might not play a relevant role in explaining bilateral FDI stocks, M&As or foreign affiliates sales.

In terms of export platform FDI, Ekholm et al. (2007) report that US European affiliates' exports to third countries increased as a share of their total sales with the EU accession. Similar conclusions are reached by other works which indicate that FDI flows are positively determined by the extended market which the signed Free Trade Agreement (FTA) gives firms access to (e.g. Martínez-San Román et al., 2012; Medvedev, 2012). For M&As, Coeurdacier et al. (2009) show that the EU integration fostered M&As from non-EU countries.

⁴Cross-border sales are the sales made by the US foreign affiliate to subsidiaries in a country different from the host country.

Finally, the empirical literature that directly addresses the relationship between FDI and GVCs is scarce. The existing evidence indicates that FDI has a positive impact on countries' GVCs participation (Buelens & Tirpák, 2017; Del Prete et al., 2018) and Martínez-Galán & Fontoura (2018) report that GVCs participation increases inward FDI stock⁵. Moreover, Beugelsdijk et al. (2009) show, for US foreign affiliates, that GVC specialization is driven by exports within MNEs' foreign affiliates in terms of trade in intermediates, which are then further used for production. For the case of Sub-Saharan African countries and Vietnam, Amendolagine et al. (2017) demonstrate that GVC participation and upstream position (i.e. production of intermediates which are later incorporated in the production process in other countries) encourage foreign firms to use inputs from local suppliers. In line with this growing strand of the literature, several works suggest that countries' involvement in GVCs may serve as a localization advantage for attracting FDI (Amador & Cabral, 2016; Amendolagine et al., 2017; Martínez-Galán & Fontoura, 2018; UNCTAD, 2013).

⁵ Martínez-Galán and Fontoura (2018) include in their analysis 40 home and host countries for the period 2002-2011.

3. Methodology and data overview

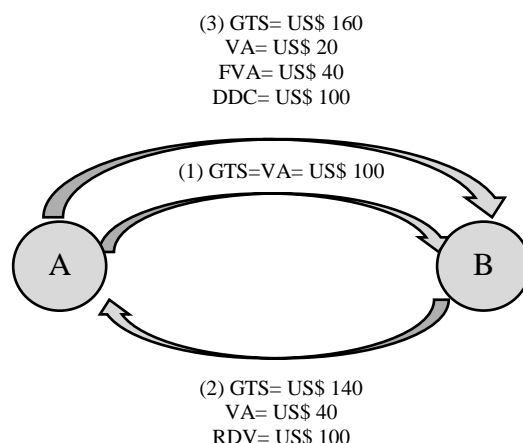
3.1. Trade and Global Value Chains

To measure the value added embedded in trade, we use the 2016 version of the World Input-Output Database (WIOD) which is available for the period 2000-2014 (See Timmer et al. (2012) for a full description of WIOD). The dataset is available for 28 EU countries and 14 other major economies⁶, representing in this way 85% of the world's GDP (Stehrer et al., 2014) and 82% of the world's total exports. We follow the disaggregated accounting framework put forward by Wang et al. (2013) that decomposes gross exports into 16 measures grouped in four main components: (i) domestic value added absorbed abroad; (ii) foreign value added in exports; (iii) returned domestic value added; and (iv) pure double counted terms due to two-way intermediate goods flows.

In contrast to gross trade statistics, the WIOD allows to identify where the value of the different components of a good is produced and avoids the double counting of trade flows. Diagram 4.1 puts forward an example, in which first country A exports an intermediate good for US\$ 100. Second, country B processes it and exports back an intermediate good valued in US\$ 140, and thirdly country A exports a final good valued in US\$ 160. Gross trade statistics (GTS) account for trade flows by taking these figures. Alternatively, trade in value added statistics allows us to unveil where the value added (VA) is created. In this case, from the exporter's perspective, it would be: (1) US\$ 100 VA is exported from A to B, (2) US\$ 40 VA from B to A being the remaining US\$ 100 the foreign value added (FVA) embedded in exports, and (3) US\$ 20 value added exported from A to B, US\$ 40 FVA embedded in exports and US\$ and US\$ 100 pure double counting due to final goods exports (DDC).

⁶ Our analysis considers 41 of the 42 available economies, since our M&As dataset does not include Malta as host country.

Diagram 4.1: Trade in value added example



Note: Authors' own elaboration.

Trade openness

Trade openness has been traditionally proxied by gross exports and imports over GDP (*gtradeo*). As an alternative, we use value added embedded in trade over GDP (*vatradeo*)⁷. The difference between both, is that the second excludes the double counted flows present in GTS which can lead to relatively overstate the trade openness of countries. Table 4.1 compares both indicators countries' ranking and the difference between both indicators in 2014. As it can be gathered, the ranking of countries according to their trade openness differs whether *gtradeo* or *vatradeo* is used; hence, the share trade represents in the economy is also modified.

⁷*gtradeo* is retrieved from World's Bank Development Indicator database. *vatradeo* is calculated by dividing the value added embedded in trade by GDP based on the WIOD. To calculate the value added embedded in total trade we follow the decomposition put forward by Wang et al. (2013) and exclude in the pure double counted terms due to two-way intermediate goods flows.

Table 4.1: Countries' gross and value-added trade openness ranking

	<i>gtradeo</i> ranking	<i>vatradeo</i> ranking	<i>gtradeo- vatradeo</i>
Luxembourg	1	1	103.6%
Ireland	2	2	48.4%
Slovak Rep.	3	4	52.9%
Hungary	4	3	40.9%
Belgium	5	7	49.1%
Estonia	6	6	44.3%
Lithuania	7	8	45.2%
Czech Rep.	8	5	40.0%
Netherlands	9	11	55.3%
Slovenia	10	9	41.1%
Bulgaria	11	10	29.1%
Latvia	12	12	36.4%
Cyprus	13	14	43.1%
Switzerland	14	13	36.5%
Austria	15	15	24.7%
Denmark	16	17	24.5%
Korea, Rep.	17	18	17.9%
Poland	18	16	15.3%
Croatia	19	19	15.5%
Sweden	20	21	17.1%
Germany	21	22	17.2%
Romania	22	20	12.8%
Portugal	23	24	17.8%
Finland	24	23	11.1%
Norway	25	25	10.4%
Greece	26	28	17.0%
Mexico	27	29	15.4%
Canada	28	26	8.1%
Spain	29	27	12.8%
France	30	30	11.8%
United Kingdom	31	31	11.2%
Italy	32	32	9.2%
Turkey	33	33	5.3%
India	34	38	15.4%
Indonesia	35	34	4.6%
Russian Federation	36	35	7.1%
China	37	36	7.5%
Australia	38	37	5.3%
Japan	39	39	5.3%
United States of America	40	40	7.0%
Brazil	41	41	1.8%

Note: Authors' own elaboration based on World Bank Development Indicators (*gtradeo*) and WIOD (*vatradeo*) databases.

Heterogeneity in export and imports partners

In order to approximate the heterogeneity of export (or import) partners of a host country, we propose using the Herfindahl-Hirschman Index (HHI):

$$HHI_{jt} = ShE_{j1t}^2 + ShE_{j2t}^2 + \dots + ShE_{j41t}^2$$

where ShE_{j1t}^2 represents the exports in value added from country j to country 1 over total exports in value added made by country j to the world in year t . The HHI maximum value is 10,000 which would indicate that country j only exports to one country. The index is

calculated separately for value added exports and imports in final goods ($HHI_{jt}^{xf}, HHI_{jt}^{mf}$) and intermediate goods ($HHI_{jt}^{xi}, HHI_{jt}^{mf}$).

Global value chains position and participation

To account for countries' position in GVCs (upstream or downstream), we use the following index proposed by Koopman et al. (2010):

$$GVCpos_{jt} = \ln\left(1 + \frac{IV_{jt}}{E_{jt}}\right) - \ln\left(1 + \frac{FVA_{jt}}{E_{jt}}\right)$$

where E_{jt} stands for gross exports, IV_{jt} denotes the indirect value added of exports and FVA_{jt} is the foreign value added embedded in exports. This indicator increases in value with the country's upstream position, i.e. the more the country produces inputs for others. By contrast, if it lies downstream the GVC, the share of FVA will be higher at the expense of IV, implying a higher reliance on foreign intermediate goods for producing final goods. Finally, we also use the index of Koopman et al. (2010) to measure the countries' participation in GVCs:

$$GVCpart_{jt} = \frac{IV_{jt} + FVA_{jt}}{E_{jt}}$$

3.2. Gravity equation

We test how the different trade indicators affect M&As by estimating an augmented gravity equation. The model allows to take into consideration the role of bilateral economic, cultural, institutional and geographic factors together with the trade indicators described in the previous section. The empirical success of gravity equations in explaining FDI led to the development of theoretical models with tractable implications (e.g. Head & Ries, 2008; Kleinert & Toubal, 2010; Krautheim, 2013). Based on this literature, we estimate the following specification to test which countries' trade characteristics affect foreign M&As:

$$MA_{ijt} = e^{\left(\alpha + \beta_1 GDPsum_{ijt} + \beta_2 diffGDPpc_{ijt} + \beta_3 natres_{jt} + \beta_4 rulelaw_{it} + \beta_5 rulelaw_{jt} + \beta_6 BIT_{ijt} + \beta_7 FTA_{ijt} + \beta_8 trade_{jt-1} + \lambda_{ij} + \lambda_t \right)} + \varepsilon_{ijt} \quad (1)$$

where MA_{ijt} is the extensive (number of projects) margin of M&As from country i to country j in year t which at least entail the acquisition of 10% from the target firm. The extensive margin represents the capacity of creating new bilateral relationships, and is not affected by the “*lumpiness*” due to occasional mega-deals present in M&As statistics. For example, the \$110 billion merger between Anheuser-Busch InBev and SABMiller represented 37% of the total M&As into UK in 2016 and more than 200 times the average M&A value into the country during the period 2012-2016. Bilateral M&As transactions are retrieved from Thomson Reuters, and the database covers the period 2001-2016. M&As projects are recorded at the firm level, a characteristic which significantly reduces the potential biases due to the use of tax haven countries as transit for investing in the final destination. The sample covers 41 host countries and 96 source countries (See table 4.6 from the appendix 4.1). The host economies represent more than 80% of the world's M&As projects during the period of study.

$GDPsum_{ijt}$ is the logarithm of the product of the Gross Domestic Product (GDP) from the source and host country, it is used as a proxy for supply and demand size (Paniagua & Sapena, 2014). It is expected to have a positive impact as M&As will become more numerous and larger as the size of both economies increases (Head & Ries, 2008). Then, the difference between the source and host country's GDP per capita ($diffGDPpc_{ijt} = \ln(GDPpc_{it}) - \ln(GDPpc_{jt})$) is a proxy for differences in population's wealth or capital-

labour intensity between both (Beugelsdijk et al., 2009; Gómez-Herrera, 2013). $diffGDPpc_{ijt}$ can take negative values, as $GDPpc_{jt} > GDPpc_{it}$, or positive, $GDPpc_{it} > GDPpc_{jt}$. A positive coefficient indicates capital flows from more capital-intensive, or wealthier, countries towards more labour-intensive, or less affluent, economies. Moreover, to account for the existence of M&As driven by the acquisition of natural resources, we include the share of natural resources rents over GDP ($natres_{jt}$)⁸. These variables are retrieved from the World Bank's Development Indicators.

Furthermore, as in Head & Ries (2008) the institutional quality is proxied by rule of law in the source and host country ($rulelaw_{it}, rulelaw_{jt}$) from the World's Bank Governance Indicators. Institutional quality is likely to favour inward FDI as it reduces the costs of doing business (e.g. Wei, 2000). However, in this regard Erel et al. (2012) and Rossi & Volpin (2004) find that M&As' targets are more likely to be located in countries with weaker investor protection than the one prevailing in the country of the acquirers. The intuition is that M&As serve as a channel for worldwide convergence in corporate governance. In addition, certain degree of lower institutional quality might be preferred, or accepted, by MNEs driven by efficiency or natural resources seeking considerations (Adam & Filippaios, 2007; Egger & Winner, 2005). Thus, while a positive relationship is expected for outward M&As, its role is ambiguous for inward M&As.

We also account for whether a country pair has signed a Bilateral Investment Treaty (BIT_{ijt}) and a Free Trade Agreement (FTA_{ijt}). BIT is from Neumayer (2017) which is updated using UNCTAD's International Investment Agreements Navigator, and FTA is from the database named DESTA (Dür et al., 2014).

In equation (1), $trade_{jt-1}$ represent the trade and GVCs indicators described in the previous section. This variable is lagged one period as the overall trade and GVCs characteristics are not fully exogenous. Nevertheless, it is worth highlighting that the endogeneity issue between FDI and trade is a major concern when unilateral FDI statistics are used (e.g. Aizenman & Noy, 2006) than when bilateral FDI statistics (e.g. Blonigen

⁸ It is the sum of oil rents, natural gas rents, coal rents, mineral rents and forest rents as a percentage of GDP.

& Piger, 2014; Martínez-Galán & Fontoura, 2018). Descriptive statistics of all variables included in our model are available in table 4.2.

Country pair fixed effects (λ_{ij}) are included to overcome the endogeneity issue between bilateral FDI and the signature of BIT and FTA (Baier et al., 2008; Bergstrand & Egger, 2013). Moreover, third-country effects, namely the multilateral resistance, central in the estimate of bilateral trade and FDI (Anderson & van Wincoop, 2003; Head & Reis, 2008) is also accounted for by the country pair fixed effects⁹. Furthermore, country pair fixed effects account for time-invariant determinants of bilateral M&As. Thereby, the model accounts for transaction costs and information asymmetries usually proxied by indicators such as cultural affinity, geographic distance or common legal origins. Then, year fixed effects (λ_t) control for global macroeconomic trends.

Following Silva & Tenreyro (2006), we estimate equation (1) using the Poisson Pseudo Maximum Likelihood (PPML) estimator. This strategy allows to include in the analysis the zeros usually present in bilateral statistics¹⁰ and overcome the heteroskedasticity issues that otherwise we would have by estimating a log model with Ordinary Least Squares. Clustered standard errors are calculated by pair of countries.

⁹ Due to collinearity, time-invariant host and source country fixed effects and country pair fixed effects cannot be included together.

¹⁰In our database 57% of the observations are zeros.

Table 4.2: Summary statistics

Variable	Mean	Std. Dev.	Min	Max
MA_{ijt}	2.73	11.99	0	307
$GDPsum_{ijt}$	53.63	2.23	44.45	60.26
$diffGDPpc_{ijt}$	-0.12	1.47	-4.80	4.80
$natres_{jt}$	2.04	3.44	0.00	19.54
$rulelaw_{it}$	1.48	0.22	0.52	1.74
$rulelaw_{jt}$	1.51	0.20	0.97	1.74
BIT_{ijt}	0.48	0.50	0	1
FTA_{ijt}	0.54	0.50	0	1
$gtradeo_{jt-1}$	4.28	0.53	2.99	5.95
$vtradeo_{jt-1}$	4.07	0.48	2.88	5.63
HHI_{jt-1}^{xf}	7.02	0.52	6.26	9.01
HHI_{jt-1}^{mf}	7.01	0.40	6.27	8.41
HHI_{jt-1}^{xi}	6.94	0.52	6.19	8.88
HHI_{jt-1}^{mi}	6.94	0.42	6.22	8.26
$GVCpos_{jt-1}$	-0.02	0.10	-0.32	0.29
$GVCpart_{jt-1}$	-0.99	0.15	-1.34	-0.55

Note: Authors' own elaboration. All variables with exception of $natres$, BIT , FTA and $GVCpos$ are expressed in logarithms. Before taking the logarithm, the original index from rule of law is converted to be non-negative.

4. Results

4.1. Trade openness and GVCs

Results are reported in table 4.3. The coefficient of the independent variables other than the ones related with trade are in line with the literature. The demand and supply sizes boost M&As from more capital-intensive to less capital-intensive countries. As posited by Rosin & Volpin (2004), outward M&As are positively affected by source countries' institutional quality in terms of rule of law, while for the host country it plays an insignificant role. Natural resource endowment is non-significant, which is not surprising. Although it may foster natural resource seeking M&As, it may also deter it due to the natural resource curse on FDI (see Poelhekke & der Ploeg, 2013). BIT also turn to have a non-significant effect. This is a somewhat counterintuitive result since BITs is expected to favour FDI by reducing risks for investors (Desbordes & Vicard, 2009). Nonetheless, other authors have reported ambiguous results regarding the relationship between FDI and BIT (see Paniagua et al., 2015 for an overview).

In accordance with the predictions of the literature, bilateral trade liberalization in form of FTA has an overall positive impact on bilateral M&As, pointing out a complementarity rather than a substitution effect. Signing a FTA is expected to increase the number of M&As by at least 17%¹¹.

The overall gross trade openness (*gtradeo*) does not foster M&As as in Blonigen & Piger (2014). Alternatively, when the measure of trade in value added over GDP is used (*vatradeo*), a significant negative impact is reached as in Wheeler & Mody (1992) suggesting that cross-border M&As may be deterred by foreign competition. In addition, the difference in significance of both indicators highlights the relevance of measuring the value added as gross trade statistics may not reflect the real difference in trade openness between economies. The remaining trade host country trade indicators give further insight, and show how different trade channels affect M&As.

First, the concentration in exports final goods destinations (HHI^{xf}) reduces a countries' capacity of attracting M&As. This result supports the hypothesis of export platform FDI

¹¹ Based on the coefficient reported in column 4: $(e^{0.158} - 1) \times 100$

for the case of foreign takeovers, MNEs seek to integrate firms with market knowledge and located in countries with more heterogeneous final goods exports links. A 1% increase in the concentration can reduce M&As by 0.25%. If USA were to export to as fewer destinations as China, this could potentially imply a drop of 4.44% in the number of inward M&As¹². In contrast, the concentration in the sources from where a country imports final goods is not significant. For HHI^{mf} a negative effect suggests the existence of M&As seeking to distribute foreign final goods in the host country. Alternately, this indicator can also have a positive impact, indicating that M&As are pulled towards countries where foreign competition is lower. Both mechanisms appear to cancel out each other.

The intermediate goods indexes are related with vertical M&As, and their expected impact is contradictory depending on whether MNEs slice up their value chain across borders. A lower concentration in the destination of exports in intermediate goods (HHI^{xi}) can favour M&As which seek to control the production of intermediates for a broad set of productive sites across borders. However, higher concentration might also attract vertical M&As if MNEs invest in producing intermediates which are then exported to be incorporated in production only in a few sets of countries. This last hypothesis would be in line with the slice up of GVCs in *spiders* or *snakes*¹³. Similar ambiguity is present in the case of intermediate goods imports (HHI^{mi}), in which additionally a higher concentration can favour M&As from MNEs that would be deterred by foreign competition in the supply of intermediates in the host country. Results in columns 5 and 6 show that a higher concentration in exports and imports in intermediates would favour cross-border M&As.

The coefficient associated with $GVCpos$ indicates a positive relationship between the upstreamness of exports and M&As¹⁴. Hence, favouring domestic value added in export of intermediates which are then used in the production process of the importer and which

¹²In 2014 in USA $HHI^{xf} = 1091$ and in China $HHI^{xf} = 1285$.

¹³Baldwin & Venables (2013) describe two different configurations that take place with the slice up of the value chain. The snake refers to the production process divided in different stages, transiting the good sequentially through upstream to downstream stages. Alternatively, in the spider is the configuration production in which different parts are produced in different countries and then are exported to one country in which the final good is assembled. Authors highlight that often the unbundling of manufacturing processes entails a combination of both configurations.

¹⁴ This result contrasts the lack of significance reached by Martínez-Galán and Fontoura (2018) for FDI stocks.

are then re-exported would increase a country's capacity of creating new bilateral relationships through M&As. This would point M&As as a strategy used by MNEs to internalize production of intermediates which are central in GVCs. Then, as in Martínez-Galán & Fontoura (2018) for FDI stocks, *GVCpart* has a significant positive impact, suggesting that countries' involvement in GVCs makes them more attractive to M&As.

Table 4.3: M&As, trade and GVCs

MA_{ijt}	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	$gtradeo$	$vatradeo$	HHI^{xf}	HHI^{mf}	HHI^{xi}	HHI^{mi}	$GVCpos$	$GVCpart$
$GDPsum_{ijt}$	0.821*** (0.10)	0.802*** (0.10)	0.815*** (0.10)	0.827*** (0.10)	0.867*** (0.09)	0.843*** (0.09)	0.811*** (0.10)	0.903*** (0.09)
$diffGDPpc_{ijt}$	0.664*** (0.15)	0.677*** (0.14)	0.714*** (0.14)	0.662*** (0.15)	0.599*** (0.16)	0.652*** (0.15)	0.675*** (0.14)	0.639*** (0.15)
$natres_{jt}$	0.005 (0.02)	0.005 (0.02)	-0.000 (0.02)	-0.001 (0.02)	-0.005 (0.02)	-0.001 (0.02)	0.002 (0.02)	-0.012 (0.02)
$rulelaw_{it}$	1.651*** (0.60)	1.652*** (0.60)	1.689*** (0.61)	1.671*** (0.61)	1.648*** (0.59)	1.660*** (0.60)	1.642*** (0.59)	1.645*** (0.59)
$rulelaw_{jt}$	0.605 (0.72)	0.696 (0.74)	0.622 (0.70)	0.729 (0.73)	0.583 (0.68)	0.753 (0.75)	0.579 (0.72)	0.833 (0.76)
BIT_{ijt}	-0.101 (0.13)	-0.094 (0.13)	-0.138 (0.13)	-0.115 (0.13)	-0.077 (0.13)	-0.107 (0.13)	-0.099 (0.13)	-0.174 (0.13)
FTA_{ijt}	0.192** (0.08)	0.194** (0.08)	0.200** (0.08)	0.186** (0.08)	0.158* (0.09)	0.185** (0.08)	0.191** (0.08)	0.179** (0.08)
$trade_{jt-1}$	-0.221 (0.14)	-0.246* (0.15)	-0.259** (0.13)	0.094 (0.12)	0.378** (0.17)	0.268** (0.14)	1.204** (0.58)	1.358*** (0.52)
Fixed effects	λ_{ij}, λ_t							
Obs.	26616	26616	26616	26616	26616	26616	26616	26616
R^2	0.948	0.948	0.949	0.948	0.949	0.948	0.948	0.949

Standard error in parentheses
* p < 0. 10, ** p < 0. 05, *** p < 0. 01

4.2. North and Southern M&As

Previous analysis highlighted and reported evidence indicating that the determinants of FDI differ depending on the home-host countries' level of development (e.g. Aleksynska & Havrylchuk, 2013; Demir & Hu, 2016; di Giovanni, 2005; Garret, 2016; Hyun & Kim,

2010; Jang, 2011). However, little attention has been paid on how host countries trade characteristics may differently affect M&As from and into developing countries¹⁵.

In order to address whether countries' trade and GVCs characteristics have a different impact depending on the home-host country level of development, we interact FTA_{ijt} and $trade_{jt-1}$ with a set of dummies which represent takeovers between North-South (NS_{ij}), South-North (SN_{ij}) and South-South (SS_{ij}) countries, being in this way North-North M&As our benchmark¹⁶. The joint impact and significance impact are calculated and tested. The following sum of coefficient test is used: $t = \frac{(\beta_i + \beta_j)}{\sqrt{\sigma_i^2 + \sigma_j^2 - 2xCov(\beta_i, \beta_j)}}$. Table 4.4

reports the results from the regressions¹⁷ and table 4.5 from the sum of coefficient test.

North-North M&As

Signing a FTA only appears to foster takeovers between developed countries (North-North). Then, in the remaining cases (South-North, North-South and South-South), the sum of coefficients it is non-significant (see table 4.5). In fact, in columns 4, 6, 7 and 8 in table 4.4 the coefficient associated with $FTA_{ijt} \times SS_{ij}$ is significant and negative. It may be the case that deeper agreements which include, for instance, provisions on competition, private property protection and trade in services are the ones which foster bilateral M&As¹⁸. Contrary to this, FTAs between developing countries tend to be shallower than the ones signed between developed countries (Dür et al., 2014), and thus more likely to favour trade over M&As. However, how the different provisions included in FTAs affect M&As is beyond the scope of the present article.

Trade openness ($gtradeo, vatradeo$) have a significant negative impact only for North-North M&As. According to Wheeler & Mody (1992), this result would be expected if MNEs are deterred by foreign competition. Results from HHI^{mi} in column 6 indicate that

¹⁵ According to our M&As database, M&As from developing countries increased from 9% of the world's M&As projects in 2001 to 20% 2015. The share of the world's Inward M&As into developing countries evolved from 21% to 26%.

¹⁶ Countries classification is made following the UNCTAD. Developing, transition and less developed countries are classified as developing countries.

¹⁷ The coefficients associated to the control variables remain unchanged and thus not reported for brevity, but available under request.

¹⁸ See for example Berger et al. (2013), di Giovanni (2005) and Osnago et al. (2016) on how the characteristics of bilateral trade agreements may affect FDI.

the competition brought by intermediate imports from numerous countries is the one likely to deter M&As from one developed country into another. Alternatively, for the North-North case HHI^{mf} does not have a significant impact. The positive and significant coefficient associated with HHI^{xi} in column 5 from table 4.4 indicates that MNEs seek to acquire firms which produce intermediate goods which are later exported to a few set of countries. In this way, for the North-North M&As case, trade in intermediates goods appears to drive M&As. Then, GVC participation ($GVCpart$) and position ($GVCpos$) are not significant.

North-South M&As

M&As from the North to the South do not seem to be significantly affected by the host countries' level of trade openness. On the one hand, the capacity of serving a wider number of countries through exports in final goods (HHI^{xf}) seems to attract export platform M&As and involvement in GVCs ($GVCpart$) would significantly foster M&As. On the other hand, the negative and significant coefficient from HHI^{mf} suggests that Northern takeover are prone to be deterred by heterogeneous foreign competition in final goods. As in the North-North case, but with a significantly higher coefficient, the concentration of exports in intermediates goods boost North-South M&As.

South-North M&As

As regards South-North M&As, they seem to be driven by export platform M&As seeking to distribute final and intermediate goods. Both concentration indexes (HHI^{xf} , HHI^{xi}) are negative and significant, suggesting that the capacity of exporting final and intermediate goods to high number of countries is a dimension which propels Southern M&As into developed countries. In addition, host countries' participation in GVCs is also a significant driver, but the GVC position is not.

South-South M&As

South-South M&As appear to be favoured by the heterogeneity in the sources of final goods imports and fostered by the concentration in intermediate goods exports destinations. The first result may indicate the predominance of export supporting M&As,

that is to say, takeovers in the wholesale and retail sector (Krautheim, 2013), while the second the objective of MNEs to internalize in their value chain the production of intermediate goods which are later exported to be processed in a few countries. Trade openness, involvement in GVCs and GVCs position are all not significant.

Table 4.4: M&As, trade and GVCs by home-host country level of development

MA_{ijt}	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	$gtradeo$	$vatradeo$	HHI^{xf}	HHI^{mf}	HHI^{xt}	HHI^{mi}	$GVCpos$	$GVCpart$
FTA_{ijt}	0.280*** (0.07)	0.287*** (0.07)	0.328*** (0.07)	0.288*** (0.07)	0.246*** (0.08)	0.301*** (0.06)	0.281*** (0.07)	0.352*** (0.07)
xNS_{ij}	-0.004 (0.25)	-0.036 (0.26)	-0.077 (0.29)	-0.085 (0.24)	-0.063 (0.32)	-0.067 (0.28)	0.043 (0.25)	-0.269 (0.32)
xSN_{ij}	-0.175 (0.16)	-0.191 (0.15)	-0.243 (0.16)	-0.181 (0.16)	-0.091 (0.15)	-0.203 (0.15)	-0.172 (0.16)	-0.266* (0.16)
xSS_{ij}	-0.357 (0.23)	-0.374 (0.23)	-0.269 (0.18)	-0.421** (0.17)	-0.254 (0.17)	-0.430*** (0.16)	-0.352* (0.21)	-0.354* (0.20)
$trade_{jt-1}$	-0.204* (0.12)	-0.333** (0.15)	0.158 (0.14)	-0.039 (0.14)	0.279** (0.13)	0.475*** (0.16)	0.598 (0.47)	0.419 (0.35)
xNS_{ij}	-0.078 (0.38)	0.109 (0.43)	-0.860** (0.36)	0.640** (0.28)	0.826** (0.39)	-0.454 (0.39)	2.924 (2.81)	3.176*** (0.78)
xSN_{ij}	0.152 (0.30)	0.481 (0.33)	-1.072*** (0.32)	-0.145 (0.36)	-0.925*** (0.27)	-0.946** (0.38)	0.488 (1.36)	1.558** (0.70)
xSS_{ij}	0.035 (0.38)	0.292 (0.48)	-0.142 (0.29)	-0.347 (0.28)	0.589 (0.36)	-0.694 (0.43)	0.168 (2.31)	0.123 (1.00)
Fixed effects	λ_{ij}, λ_t							
Obs.	26616	26616	26616	26616	26616	26616	26616	26616
R^2	0.948	0.948	0.950	0.949	0.950	0.948	0.949	0.951

Standard error in parentheses
* p < 0. 10, ** p < 0. 05, *** p < 0. 10

Table 4.5: Sum of coefficients test

	<i>xNS</i>	<i>xSN</i>	<i>xSS</i>
<i>FTA</i>	0.276 (0.24)	0.105 (0.15)	-0.077 (0.22)
<i>gtradeo</i>	-0.282 (0.40)	-0.052 (0.28)	-0.169 (0.33)
<i>vatradeo</i>	-0.224 (0.45)	0.148 (0.30)	-0.041 (0.43)
<i>HHI^{xf}</i>	-0.701** (0.29)	-0.914*** (0.29)	0.016 (0.29)
<i>HHI^{mf}</i>	0.600** (0.25)	-0.184 (0.33)	-0.386* (0.23)
<i>HHI^{xi}</i>	1.105** (0.44)	-0.646** (0.26)	0.868** (0.39)
<i>HHI^{mi}</i>	0.022 (0.35)	-0.470 (0.35)	-0.219 (0.43)
<i>GVCpos</i>	3.522 (2.73)	1.085 (1.26)	0.766 (2.28)
<i>GVCpart</i>	3.595*** (0.87)	1.977*** (0.77)	0.542 (1.02)

Note: The test of the sum of coefficient from FTA are from estimates in column 1.

Standard error in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.10$

4.3 Robustness analysis

To test the robustness of our results, we have estimated equation (1) and its extension with the home-host countries' level of development interaction for different specifications in the independent variables and samples. First, we exclude from the sample the top 10 most open economies in 2014 according to the *gtradeo* indicator (see table 4.1). Second, we regress all the trade indicators in period t instead of $t - 1$, which implies analysing M&As that took place during the period 2000-2014. For the sake of brevity, estimates are reported in the appendix 4.1, while in this section we only comment the robustness of the trade and GVCs indicators.

Most of the results reported in table 4.3 are robust, only *vatradeo* loses significance in the two alternative regressions and *HHI^{mi}* and *GVCpos* only in one. The coefficients associated to the remaining independent variables remain similar in size and level of significance.

Regarding the analysis which accounts for home-host countries level of development, the robustness analysis tend to confirm the results reached in the previous section. However, some differences do arise. For North-North M&As, when the top 10 most open economies

are excluded from the sample, HHI^{xf} becomes significant and negative and HHI^{mf} turns significant and positive, providing evidence of the export platform M&As and the negative impact of competition brought by imports in final goods in the case of takeovers between developed economies. Then, for the case of South-North M&As, HHI^{mi} becomes significant and negative when the top 10 most open economies are excluded and when included in in period t . This indicates that MNEs from developing countries seem to be also interested in localizing in countries in which they can access, or distribute, a wide variety of intermediate goods inputs.

5. Concluding remarks

The present study contributes to the previous literature by addressing how countries' trade and GVCs characteristics affect inward cross-border M&As. The focus goes beyond considering trade openness, and accounts for the first time the heterogeneity in the destinations of exports and of the sources of imports, for intermediate and final goods, countries' GVCs position, and the degree of involvement in GVCs. This exercise is based on a bilateral M&As and trade in value added databases, covering the period 2001-2015 and more than 80% of the world's M&As deals and trade.

To summarise, our results indicate that countries' overall trade openness does not drive inward M&As. On the whole, it appears that trade openness hampers M&As between developed countries. Nevertheless, reached results highlight several channels through which countries' trade policy and involvement in GVCs affect their capacity of attracting foreign capital. FTA appear to boost M&As only between developed countries, suggesting that comprehensive FTA might be necessary in order to enjoy a complementarity between M&As and trade. Moreover, diversifying the destinations of export in final goods particularly fosters M&As between countries with different level of development (North-South and South-North). Alternatively, in the case of intermediate goods, reached results suggest that MNEs mostly seek to internalize in their GVCs those countries which produce intermediates just for a few set of countries. In fact, evidence indicates that countries in the upstream of the GVC are prone to receive a higher number of M&As projects. Moreover, findings show that GVC participation is a localization advantage; a higher participation appears to particularly increase takeovers between countries with different level of development.

In addition, results indicate that M&As from developed countries are prone to be impeded by increasing heterogeneous foreign competition through imports. Developing countries which source final goods from a wider number of countries appear to receive less Northern M&As. Then, in the North-North case, MNEs seem to be deterred by competition through imports in intermediate goods.

Our findings emphasise that trade openness is an indicator that is too broad to address the link between M&As and trade, and that the impact of countries' trade characteristics and

policies on M&As are likely to be dependent on the home-host country level of development. A wider span of destination countries, data at the sectoral level or considering greenfield investments would be an interesting complement to the present analysis.

Appendix 4.1

Table 4.6: Country sample

Developed countries (North)		Developing countries (South)		
Australia	Italy	Argentina	Kazakhstan	Saudi Arabia
Austria	Japan	Bahamas	Kenya	Serbia
Belgium	Jordan	Bahrain	Korea, Rep.	Seychelles
Bulgaria	Latvia	Belarus	Kuwait	Singapore
Canada	Lithuania	Bolivia	Lebanon	South Africa
Croatia	Luxembourg	Bosnia and Herzegovina	Malaysia	Sri Lanka
Cyprus	<i>Malta</i>	Botswana	Mauritius	Thailand
Czech Republic	Netherlands	Brazil	Mexico	Trinidad and Tobago
Denmark	New Zealand	Chile	Morocco	Tunisia
Estonia	Norway	China	Namibia	Turkey
Finland	Poland	Colombia	Nigeria	Ukraine
France	Portugal	Costa Rica	Oman	United Arab Emirates
Germany	Slovakia	Dominican Republic	Pakistan	Uruguay
Greece	Slovenia	Ecuador	Panama	Venezuela
Hungary	Spain	Egypt	Papua New Guinea	VietNam
Iceland	Sweden	Georgia	Peru	Zambia
India	Switzerland	Ghana	Philippines	Zimbabwe
Indonesia	United Kingdom	Guatemala	Qatar	
Ireland	United States of America	Hong Kong	Romania	
Israel		Jamaica	Russian Federation	

Note: Countries in bold are those which are available in the WIOD, being source and destination of M&As. Malta is only available in our database as a source of M&As.

Table 4.7: Excluding super trading economies

MA_{ijt}	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	$gtradeo$	$vtradeo$	HHI^{xf}	$HHIFM^{mf}$	HHI^{ix}	HHI^{im}	$GVCpos$	$GVCpart$
$GDPsum_{ijt}$	0.795*** (0.10)	0.782*** (0.10)	0.780*** (0.10)	0.805*** (0.11)	0.833*** (0.10)	0.813*** (0.10)	0.788*** (0.10)	0.877*** (0.09)
$diffGDPpc_{ijt}$	0.613*** (0.15)	0.624*** (0.15)	0.681*** (0.14)	0.611*** (0.15)	0.556*** (0.17)	0.605*** (0.15)	0.622*** (0.15)	0.585*** (0.15)
$natres_{jt}$	0.001 (0.02)	-0.000 (0.02)	-0.003 (0.02)	-0.005 (0.02)	-0.007 (0.02)	-0.004 (0.02)	-0.002 (0.02)	-0.015 (0.02)
$rulelaw_{it}$	1.490** (0.66)	1.494** (0.66)	1.545** (0.67)	1.505** (0.67)	1.483** (0.65)	1.503** (0.66)	1.485** (0.65)	1.496** (0.65)
$rulelaw_{jt}$	0.622 (0.80)	0.714 (0.82)	0.591 (0.76)	0.767 (0.79)	0.648 (0.75)	0.776 (0.82)	0.577 (0.79)	1.026 (0.87)
BIT_{ijt}	-0.102 (0.14)	-0.099 (0.14)	-0.143 (0.14)	-0.118 (0.14)	-0.079 (0.13)	-0.111 (0.13)	-0.101 (0.14)	-0.180 (0.14)
FTA_{ijt}	0.190** (0.08)	0.191** (0.08)	0.202** (0.08)	0.185** (0.08)	0.161* (0.09)	0.184** (0.08)	0.189** (0.08)	0.171** (0.09)
$trade_{jt-1}$	-0.195 (0.14)	-0.183 (0.16)	-0.343*** (0.13)	0.035 (0.13)	0.324* (0.19)	0.166 (0.16)	1.008* (0.61)	1.553** (0.62)
Fixed effects	λ_{ij}, λ_t							
Obs.	21213	21213	21213	21213	21213	21213	21213	21213
R^2	0.949	0.949	0.950	0.949	0.949	0.949	0.949	0.949

Standard error in parentheses
* p < 0. 10, ** p < 0. 05, *** p < 0. 10

Table 4.8: Excluding super trading economies, by home-host country level of development

MA_{ijt}	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	$gtradeo$	$vatradeo$	HHI^{xf}	HHI^{mf}	HHI^{xi}	HHI^{mi}	$GVCpos$	$GVCpart$
$GDPsum_{ijt}$	0.794*** (0.10)	0.772*** (0.10)	0.760*** (0.12)	0.838*** (0.10)	1.006*** (0.11)	0.778*** (0.11)	0.824*** (0.10)	0.758*** (0.10)
$diffGDPpc_{ijt}$	0.578*** (0.18)	0.583*** (0.16)	0.711*** (0.15)	0.697*** (0.14)	0.468** (0.18)	0.600*** (0.15)	0.632*** (0.15)	0.610*** (0.16)
$natres_{jt}$	0.002 (0.02)	-0.000 (0.02)	-0.004 (0.02)	0.003 (0.02)	0.003 (0.02)	-0.005 (0.02)	0.001 (0.02)	-0.015 (0.02)
$rulelaw_{it}$	1.614** (0.68)	1.666** (0.69)	1.626** (0.67)	1.606** (0.68)	1.537** (0.63)	1.626** (0.67)	1.529** (0.64)	1.619** (0.63)
$rulelaw_{jt}$	0.566 (0.78)	0.728 (0.83)	0.406 (0.67)	0.941 (0.80)	0.278 (0.68)	0.744 (0.81)	0.423 (0.74)	1.008 (0.84)
BIT_{ijt}	0.011 (0.20)	0.004 (0.19)	-0.027 (0.20)	0.045 (0.19)	0.000 (0.19)	0.011 (0.19)	0.003 (0.21)	0.008 (0.17)
FTA_{ijt}	0.300*** (0.07)	0.309*** (0.07)	0.344*** (0.06)	0.305*** (0.06)	0.277*** (0.07)	0.318*** (0.06)	0.304*** (0.06)	0.371*** (0.06)
xNS_{ij}	-0.053 (0.26)	-0.085 (0.26)	-0.108 (0.29)	-0.128 (0.24)	-0.119 (0.32)	-0.107 (0.28)	-0.011 (0.25)	-0.312 (0.32)
xSN_{ij}	-0.223 (0.16)	-0.231 (0.15)	-0.268 (0.17)	-0.208 (0.16)	-0.126 (0.16)	-0.234 (0.15)	-0.210 (0.16)	-0.315* (0.17)
xSS_{ij}	-0.373 (0.23)	-0.392* (0.23)	-0.292* (0.17)	-0.435*** (0.17)	-0.286* (0.17)	-0.439*** (0.16)	-0.374* (0.20)	-0.374* (0.19)
$trade_{jt-1}$	-0.190 (0.13)	-0.272* (0.16)	0.019 (0.15)	-0.188 (0.16)	0.129 (0.15)	0.362* (0.19)	0.313 (0.54)	0.455 (0.43)
xNS_{ij}	-0.072 (0.38)	0.086 (0.44)	-0.699** (0.35)	0.763** (0.30)	0.999*** (0.39)	-0.293 (0.39)	2.947 (2.85)	3.074*** (0.74)
xSN_{ij}	0.381 (0.33)	0.642* (0.36)	-1.028*** (0.35)	-0.118 (0.37)	-0.851*** (0.32)	-1.110** (0.44)	0.421 (1.59)	2.218*** (0.73)
xSS_{ij}	0.040 (0.37)	0.254 (0.47)	-0.037 (0.30)	-0.168 (0.29)	0.782** (0.37)	-0.534 (0.44)	0.404 (2.24)	0.214 (0.96)
Fixed effects				λ_{ij}, λ_t				
Obs.	21213	21213	21213	21213	21213	21213	21213	21213
R^2	0.949	0.949	0.951	0.949	0.950	0.949	0.949	0.951

Standard error in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.10$

Table 4.9: Sum of coefficients test

	<i>xNS</i>	<i>xSN</i>	<i>xSS</i>
<i>FTA</i>	0.247 (0.25)	0.077 (0.15)	-0.072 (0.22)
<i>gtradeo</i>	-0.263 (0.40)	0.191 (0.31)	-0.150 (0.33)
<i>vatradeo</i>	-0.186 (0.45)	0.369 (0.33)	-0.019 (0.42)
<i>HHI^{xf}</i>	-0.680** (0.28)	-1.009*** (0.32)	-0.017 (0.29)
<i>HHI^{mf}</i>	0.575** (0.25)	-0.306 (0.34)	-0.356 (0.24)
<i>HHI^{xi}</i>	1.128*** (0.43)	-0.721** (0.30)	0.911** (0.39)
<i>HHI^{mi}</i>	0.069 (0.36)	-0.749* (0.41)	-0.172 (0.43)
<i>GVCpos</i>	3.260 (2.69)	0.733 (1.48)	0.717 (2.26)
<i>GVCpart</i>	3.529*** (0.90)	2.673*** (0.85)	0.669 (1.01)

Note: The test of the sum of coefficient from FTA are from estimates in column 1.
Standard error in parentheses

* p < 0. 10, ** p < 0. 05, *** p < 0. 10

Table 4.10: With trade and GVCs indicators in period t

<i>MA_{ijt}</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>gtradeo</i>	<i>vatradeo</i>	<i>HHI^{xf}</i>	<i>HHI^{mf}</i>	<i>HHI^{xi}</i>	<i>HHI^{mi}</i>	<i>GVCpos</i>	<i>GVCpart</i>
<i>GDPsum_{ijt}</i>	1.122*** (0.10)	1.116*** (0.10)	1.102*** (0.10)	1.117*** (0.10)	1.163*** (0.10)	1.137*** (0.10)	1.103*** (0.10)	1.232*** (0.09)
<i>diffGDPpc_{ijt}</i>	0.638*** (0.14)	0.642*** (0.14)	0.699*** (0.13)	0.636*** (0.14)	0.564*** (0.16)	0.624*** (0.14)	0.648*** (0.14)	0.605*** (0.14)
<i>natres_{jt}</i>	-0.026 (0.02)	-0.026 (0.02)	-0.027 (0.02)	-0.026 (0.02)	-0.037 (0.03)	-0.026 (0.02)	-0.027 (0.02)	-0.040 (0.03)
<i>rulelaw_{it}</i>	0.835 (0.56)	0.836 (0.56)	0.863 (0.56)	0.829 (0.56)	0.828 (0.55)	0.821 (0.55)	0.824 (0.54)	0.768 (0.54)
<i>rulelaw_{jt}</i>	0.805 (0.67)	0.845 (0.69)	0.767 (0.64)	0.846 (0.68)	0.554 (0.58)	0.863 (0.69)	0.687 (0.65)	0.942 (0.70)
<i>BIT_{ijt}</i>	-0.078 (0.15)	-0.077 (0.15)	-0.112 (0.15)	-0.077 (0.15)	-0.026 (0.13)	-0.066 (0.15)	-0.060 (0.14)	-0.161 (0.16)
<i>FTA_{ijt}</i>	0.205** (0.08)	0.206** (0.08)	0.220*** (0.08)	0.200** (0.08)	0.183** (0.08)	0.201** (0.08)	0.208*** (0.08)	0.193** (0.09)
<i>trade_{jt}</i>	-0.078 (0.14)	-0.084 (0.15)	-0.306** (0.14)	0.138 (0.13)	0.432** (0.19)	0.343** (0.14)	1.094 (0.69)	1.905*** (0.51)
Fixed effects	λ_{ij}, λ_t							
Obs.	27630	27630	27630	27630	27630	27630	27630	27630
R ²	0.945	0.945	0.946	0.945	0.946	0.945	0.945	0.946

Standard error in parentheses

* p < 0. 10, ** p < 0. 05, *** p < 0. 10

Table 4.11: With trade and GVCs indicators in period t, by home-host country level of development

MA_{ijt}	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	$gtradeo$	$vatradeo$	HHI^{xf}	HHI^{mf}	HHI^{xi}	HHI^{mi}	$GVCpos$	$GVCpart$
$GDPsum_{ijt}$	1.098*** (0.10)	1.125*** (0.10)	1.054*** (0.10)	1.162*** (0.10)	1.291*** (0.11)	1.116*** (0.10)	1.158*** (0.10)	1.060*** (0.10)
$diffGDPpc_{ijt}$	0.613*** (0.16)	0.573*** (0.15)	0.708*** (0.13)	0.715*** (0.13)	0.524*** (0.18)	0.595*** (0.15)	0.637*** (0.14)	0.614*** (0.15)
$natres_{jt}$	-0.031 (0.02)	-0.037 (0.02)	-0.029 (0.02)	-0.019 (0.02)	-0.028 (0.03)	-0.027 (0.03)	-0.027 (0.02)	-0.045* (0.03)
$rulelaw_{it}$	1.010* (0.57)	1.051* (0.58)	0.972* (0.56)	0.919* (0.56)	0.902 (0.55)	0.968* (0.57)	0.945* (0.55)	1.006* (0.53)
$rulelaw_{jt}$	1.133* (0.69)	1.205* (0.72)	0.595 (0.55)	0.939 (0.70)	0.443 (0.53)	0.853 (0.69)	0.657 (0.61)	0.906 (0.65)
BIT_{ijt}	0.070 (0.16)	0.055 (0.16)	0.028 (0.17)	0.126 (0.17)	0.088 (0.17)	0.080 (0.16)	0.074 (0.17)	0.042 (0.14)
FTA_{ijt}	0.316*** (0.06)	0.327*** (0.06)	0.350*** (0.06)	0.293*** (0.06)	0.248*** (0.07)	0.310*** (0.06)	0.293*** (0.06)	0.395*** (0.06)
xNS_{ij}	-0.183 (0.31)	-0.234 (0.33)	-0.123 (0.32)	-0.133 (0.27)	-0.103 (0.35)	-0.127 (0.31)	-0.044 (0.28)	-0.463 (0.38)
xSN_{ij}	-0.129 (0.19)	-0.154 (0.19)	-0.203 (0.20)	-0.089 (0.20)	-0.029 (0.19)	-0.149 (0.19)	-0.098 (0.20)	-0.235 (0.20)
xSS_{ij}	-0.502*** (0.19)	-0.575*** (0.18)	-0.265* (0.15)	-0.472*** (0.15)	-0.105 (0.16)	-0.384** (0.15)	-0.457*** (0.16)	-0.470*** (0.14)
$trade_{jt}$	-0.286* (0.16)	-0.432** (0.17)	0.098 (0.13)	0.001 (0.15)	0.391** (0.16)	0.512*** (0.17)	0.991 (0.65)	0.425 (0.35)
xNS_{ij}	0.503 (0.37)	0.850* (0.45)	-0.831** (0.38)	0.674** (0.32)	0.346 (0.30)	-0.409 (0.30)	1.014 (2.70)	4.376*** (0.84)
xSN_{ij}	0.352 (0.28)	0.639** (0.28)	-1.390*** (0.31)	-0.345 (0.37)	-1.114*** (0.30)	-1.341*** (0.41)	0.303 (1.82)	2.408*** (0.85)
xSS_{ij}	0.622 (0.38)	1.057** (0.49)	0.008 (0.28)	-0.348 (0.31)	0.939*** (0.29)	-0.146 (0.39)	-2.665 (1.78)	1.647* (0.93)
Fixed effects				λ_{ij}, λ_t				
Obs.	27630	27630	27630	27630	27630	27630	27630	27630
R^2	0.945	0.945	0.947	0.946	0.946	0.945	0.945	0.948

Standard error in parentheses
* p < 0. 10, ** p < 0. 05, *** p < 0. 10

Table 4.12: Sum of coefficients test

	<i>xNS</i>	<i>xSN</i>	<i>xSS</i>
<i>FTA</i>	0.134 (0.30)	0.187 (0.19)	-0.185 (0.17)
<i>gtradeo</i>	0.217 (0.37)	0.065 (0.25)	0.335 (0.29)
<i>vtradeo</i>	0.418 (0.45)	0.207 (0.25)	0.625 (0.39)
<i>HHI^{xf}</i>	-0.733** (0.34)	-1.293*** (0.29)	0.106 (0.26)
<i>HHI^{mf}</i>	0.674** (0.31)	-0.345 (0.34)	-0.347 (0.27)
<i>HHI^{xi}</i>	0.737** (0.37)	-0.723** (0.32)	1.330*** (0.33)
<i>HHI^{mi}</i>	0.103 (0.27)	-0.829** (0.40)	0.366 (0.38)
<i>GVCpos</i>	2.004 (2.68)	1.293 (1.73)	-1.674 (1.58)
<i>GVCpart</i>	4.801*** (0.89)	2.833*** (0.87)	2.071** (0.91)

Note: The test of the sum of coefficient from FTA are from estimates in column 1.
Standard error in parentheses

* p < 0. 10, ** p < 0. 05, *** p < 0. 10

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Chapter 5: The FDI-Institutions nexus in oil-abundant countries

Abstract

The present work reassesses the link between natural resources, institutional quality and Foreign Direct Investment (FDI). In particular, we focus on the impact of good governance and democracy on foreign direct investment in oil-abundant countries. To this end, we estimate the effect of host countries' institutions on the extensive margin (number of bilateral greenfield investment projects), using a gravity equation for a dataset that covers 182 countries during 2003-2012. Our findings confirm that compliance to rule of law, lack of corruption, political stability and democracy could boost new FDI links through the extensive margin. Our results could not rule out the "oil curse", meaning that oil producers attract fewer new greenfield projects than similar countries without oil. Unlike other studies, we show that the impact of institutions is not necessarily undermined by the presence of natural resources.

Keywords: Democracy, FDI, gravity equation, institutions, oil.

JEL Code: C23, F21, F23, O13, Q39

1. Introduction

Recent decades have witnessed ups and downs in the prices of commodities, provoking economic and social instability in oil-abundant countries, serving as a reminder of how important it might be to diversify their economies. Foreign direct investment (FDI) would improve these countries' development as it can bring new technologies, broaden access to new markets through exports, and diversify economic activity. According to Ferranti et al. (2002), FDI is one of the main pillars for fostering growth in natural-resource-abundant countries as it can also help natural-resource-based activities to foster growth through new skills and technologies.

The effect of natural resources is contentious in the literature since empirical evidence offers mixed results. Research has identified both a positive (e.g. Mohamed & Sidiropoulos, 2010; Texeira et al., 2017) and a negative (e.g. Asiedu & Lien, 2011; Poelhekke & Van der Ploeg, 2013) relationship between FDI & natural-resource endowments. Most of this research focuses on a direct link between natural resources and FDI, for example through a natural resource seeking FDI. The aim of this paper is to shed some light on these puzzling results by tackling this relationship from a different angle: institutional quality.

Several authors suggest that institutional quality might be the missing link for resolving the puzzling effect of natural resources on FDI. However, the evidence suggesting that higher institutional quality and democracy would foster FDI is not bulletproof. Policy advisors advocate political stability and a legal and regulatory environment as the main factors influencing foreign investors' decisions (World Bank, 2018). Nevertheless, there is growing academic evidence that challenges this claim and suggests that better institutional quality and democracy is highly contextual and would not always foster FDI (e.g. Bellos & Subasat, 2012; Li & Resnick, 2003; Paniagua & Sapena, 2014).

Our research contributes to understanding how institutional quality and natural resources, namely oil, interact in their relationship with FDI. This issue has received little attention, with several notable exceptions that make the issue even more puzzling. Indeed, Asiedu and Lien (2011) show that natural resources weaken the positive impact of democracy on FDI. Similarly, other recent studies suggest that the presence of natural resources

negatively alters the nexus between institutional quality and FDI (e.g. Yang et al., 2017). In contrast, others present evidence of the opposite (e.g. Asiedu, 2013).

A specific contribution to the subject of the impact of natural resources on the institution-FDI nexus is to provide solid empirical evidence in a broader panel setting. Previous studies have two shortcomings: they usually focus on single countries or a reduced subset and analyse aggregate FDI inflows, regardless of the bilateral nature of FDI. To hedge these limitations, we estimate bilateral greenfield FDI flows for 182 countries during 2003-2012 by means of the gravity equation. Greenfield investment, which represents more than half of the world's FDI projects and 72% of the total FDI projects received by developing countries¹, signifies a net increase of foreign capital, labour and knowledge for the recipient country.

Moreover, we focus on both the extensive (number of projects) and the intensive margin (volume of these projects). The extensive margin is particularly important to our context since its study reveals the factors that determine the creation of new investment links at the country level. This allows us to offer a better understanding of the question of whether there is a natural resource curse on FDI, which aspects of good governance matter most for attracting FDI in developing countries and, more specifically, in oil-producing countries.

Our results suggest that rule of law, lack of corruption, political stability and democracy are relevant dimensions in determining new greenfield investment projects. In addition, increasing the level of democracy is also found to foster capital inflows. Results also validate the hypothesis of an "oil curse" on new investment linkages. Based on this analysis, for different levels of oil production we illustrate how institutional reforms would affect a country's capacity for attracting greenfield FDI and show the level of institutional quality and democratization necessary to overcome the natural-resource curse on FDI. Remarkably, the evidence obtained indicates that the positive impact from improving the rule of law, reducing corruption, increasing political stability and

¹ The world's total number of FDI projects is calculated as the sum of greenfield investment and merger and acquisitions projects. Shares are calculated by the authors based on the annex Tables 11 and 22 from UNCTAD (2017).

democratization is positively moderated by oil production. In fact, institutional reforms could even cancel the oil curse on FDI.

The remainder of the paper proceeds as follows. The next section reviews the theoretical and empirical literature about the expected and contrasted impact of political systems and quality of institutions on FDI. Second, we detail how the abundance of natural resources may interfere in the institution-FDI nexus. Section III describes the methodology used and provides an overview of the quality of institutions in the different oil-producing regions and of the distribution of oil production across the world. Section IV presents the results, which are followed by a robustness analysis in Section V. Finally, Section VI concludes.

2. Theoretical and empirical review

2.1. Does the quality of institutions attract FDI ?

According to North (1990), institutions represent "the rules of the game" that shape social interactions and, in particular, agents' economic behaviour. These rules may be embodied in formal or informal laws. There are several reasons why the quality of institutions matters for FDI. The economic growth literature suggests that better institutions may generate more economic growth through better incentives to invest and more efficient allocation of resources (Acemoglu & Johnson, 2005). In more detail, such good policies are likely to influence indirectly the rate of investment through improvements in human capital and infrastructure quality. In addition, high-quality institutions are also expected to reduce information asymmetries, providing information about market conditions, goods and participants, which in turn can encourage (domestic and foreign) investment in the country (WTO, 2004). In contrast, a "bad" institutional environment may increase the cost of doing business either by uncertainty brought about by political instability or corruption and poor compliance to the rule of law (Busse & Hefeker, 2007; Daude & Stein, 2007; Javorcik & Wei, 2009).

Even if the widespread conviction is that good governance tends to attract FDI, theoretical and empirical studies that examine more precise aspects of institutions draw a more ambiguous relationship. Globerman and Shapiro (2002) and Buchanan et al. (2012) obtain clear-cut results concerning the positive effect of overall good governance on FDI. In contrast, Blonigen and Piger (2014), using a Bayesian model, question the relevance of institutional variables for explaining bilateral FDI. Bellos and Subasat (2012, p. 306) conclude their extensive review of the theoretical framework by underlining that "poor governance may be a source of rent not only for corrupt politicians and policy makers in the target countries but also for large MNCs".

The effect of political stability

Political risk is related to the risk that a sovereign host government will unexpectedly change "the rules of the game" under which businesses operate (Busse & Hefeker, 2007), and is expected to deter investment from multinational enterprises (MNEs). Most studies

confirm this hypothesis for different sets of countries² while others find no evidence linking political risks to FDI.³ However, Li and Resnick (2003) and Shan et al. (2018) report a discrepant negative relationship between stability and FDI.

The effect of corruption and rule of law

The expected effects of corruption on FDI are particularly controversial. At first glance, corruption clearly increases the transactional costs of foreign firms and thus should deter FDI (Javorcik & Wei, 2009; Wei, 2000). This is the “sand the wheels” view, also referred to as the “grabbing hand” (Egger & Winner, 2005). Yet, corruption is also seen to “grease the wheels” (or as the “helping hand”), at least at the firm level and despite the negative aggregate outcome on growth (see Bellos & Subasat, 2012). Indeed, in an institutional framework characterised by inefficient bureaucracy, these illegal practices may also be a way to circumvent an inefficient administration or influence government policies to the benefit of the MNE.

Mirroring these contradicting predictions, empirical analysis has reached mixed results. Wei (2000) is seminal in studying the issue and found that corruption clearly discourages FDI. This conclusion is validated by several studies.⁴ Studies that include indicators of corruption usually also study the impact of the compliance to the rule of law. The quality of contract enforcement to attract FDI seems more robust.⁵ Conversely, other analyses offer support to the “helping hand” theory⁶ while some authors fail to evidence any significant relationship between corruption and FDI.⁷ Recently, firm-level analyses have complemented this evidence. For 22 transition countries, Javorcik and Wei (2009) show

² See for example Aziz & Mishra (2016), Asiedu (2013), Berden et al. (2014), Busse & Hefeker (2007), Méon & Sekkat (2004), Mina (2012, 2017), Moon (2015), Sekkat & Veganzones (2007) and Wei (2000).

³ See for example Asiedu (2002), Harms & Ursprung (2002), Noorbakhsh et al. (2001), Rogmans & Ebbens (2013) and Teixeira et al. (2017)

⁴ For instance, Asiedu (2006), Asiedu (2013), Aziz & Mishra (2016), Bénassy-Quéré et al. (2007), Helmy (2013), Mina (2012), Mohamed & Sidiropoulos (2010), Teixeira et al. (2017), Williams et al. (2016) and Wu (2006).

⁵ For example, Anyanwu (2012), Asiedu (2006), Asiedu (2013), Bénassy-Quéré et al. (2007), Busse & Hefeker (2007), Mathur & Singh (2013), Mina (2007 and 2017) and Teixeira et al. (2017) report a positive link between compliance to rule of law and FDI. Akhtaruzzaman et al. (2017), Bayar & Alakbarov (2016), Méon & Sekkat (2004) and Shan et al. (2018) find a non-significant relationship. Paniagua & Sapena (2014) find that legal rights foster greenfield investment into less developed countries but not in more developed countries.

⁶ See Adam & Filippaios (2007), Bellos & Subasat (2012) and Egger & Winner (2005)

⁷ As in Ali et al. (2010), Anyanwu (2012), Bayar & Alakbarov (2016), Berden et al. (2014), Busse & Hefeker (2007), Li & Resnick (2003), Méon & Sekkat (2004) and Shan et al. (2018).

that corruption reduces the probability of receiving FDI, but provided that FDI takes place, it increases the likelihood of joint ventures with local firms. Javorcik and Wei (2009) indicate that joint venture partners help MNEs to reduce increased transaction costs. Williams et al. (2016), using a firm-level dataset for 132 developing countries, show that bribery enhances firm performance. Along the same lines, Couttenier and Toubal (2017), for the case of German foreign affiliates' sales, find that corruption has a negative effect on new entrants, but it can even have a positive impact on incumbent ones.

The effect of the political system

Institutions are in turn shaped by the political system, namely, the degree of democracy or autocracy (Jensen, 2008). Democracies tend to be more predictable and make their preferences clear (Desbordes & Verardi, 2017), thus reducing investment uncertainty. Additionally, democracies may be accompanied by countries' openness to the world economy (Guérin, 2009). The lack of democracy boosts social tensions that increase the likelihood of bringing severe political and social crisis to a country (Alesina & Perotti, 1996). Moreover, autocratic rulers have incentives to exploit their position for extracting as much as possible from society's surplus for their own benefit. Consequently, in the long run, autocracies are less likely to respect law and private property rights and to be credible and transparent when it comes to politics and policy (Jensen, 2003 and 2008; Olson, 1993; Sung, 2004). Furthermore, due to the lack of control by citizens, authoritarian regimes are more prone to creating inefficient policies and outcomes (Adam & Filippaios, 2007).

However, some characteristics of democracies may be seen as drawbacks for MNEs. For instance, changes of governments and policies in democratic regimes may increase uncertainty. Another potential issue concerns domestic lobbies that may support policies that discriminate against foreign firms. Moreover, economic, political and civil liberties enjoyed by the citizens under democratic regimes may give rise to more powerful labour unions that can translate into an increase in labour costs (Adam & Filippaios, 2007). Similarly, open media can also prevent foreign firms from colluding with officials in order to obtain generous entry deals or to decrease market competition (Desbordes & Verardi, 2017). Conversely, an autocratic government may hold a better position to offer favourable treatment to foreign investors (Jensen, 2008; Li & Resnick, 2003; Oneal,

1994). Furthermore, strong and autonomous governments might be more successful at applying economic reforms (Rodrik, 1996), while a higher degree of democracy may not always guarantee a higher quality of institutions (Sung, 2004, and Charron & Lapuente, 2010).

The scant existing empirical evidence supports both opposing hypotheses. Asiedu and Lien (2011) and many others⁸ point out a positive relationship between democracy and FDI. In contrast, Adam and Filippaios (2007), Li and Resnick (2003), Mathur and Singh (2013) and Paniagua and Sapena (2014) evidence a negative relationship, while others fail to find a significant effect (Akhtaruzzaman et al., 2017; Bellos & Subasat, 2012; Noorbakhsh et al., 2001; Oneal, 1994).

2.2. The Role of Natural Resources

As highlighted in the previous section, the nexus between institutions and FDI is not straightforward. In particular, in countries abundant in natural resources, autocracies may offer more advantages than disadvantages to those foreign firms interested in investing in the resource sector for rent-seeking motives. This is mainly due to the fact that natural resources are controlled by local authorities. Asiedu and Lien (2011) suggest that MNEs in the extractive industry wish to avoid frequent changes of governments, since governments that have long-term stability favour closer ties. Moreover, Adam and Filippaios (2007) argue that when investment seeks to access natural resources, MNEs may prefer slight civil repression.

Similarly, MNEs may be encouraged by lower institutional quality when natural resources are at stake since in this way they are able to appropriate a larger share of its rents and enjoy greater bargaining power (Burger et al., 2015; Poelhekke & Van der Ploeg, 2013). In this regard, Hajzler (2014) states that countries rich in natural resources could attract a larger share of FDI by offering cheap access to natural resources, even if there is a high expropriation risk. The author suggests that the penalty for host countries' governments lessens as the value of foreign assets in the sector increases and the royalties for exploiting natural resources paid by MNEs decrease. Yang et al. (2017) conclude that

⁸ See for example, Busse & Hefeker (2007), Desbordes & Verardi (2017), Gossel (2017), Guérin 2009, Harms & Ursprung (2002), Jensen (2003), and Kucera & Principi (2017)

MNEs always exhibit institutional risk aversion, although investment returns in countries with low capital intensities but with abundance in natural resources may outweigh the costs associated with institutional risk. Nevertheless, MNEs operating in this sector are constrained by the limited availability of the natural resources, converting this specificity into a pre-condition of their location choice, regardless of the institutional framework (Amighini et al., 2013; Burger et al., 2015).

The empirical validations of the above hypotheses are scarce. Asiedu and Lien (2011) find that democracy has a positive impact for FDI but that natural resources undermine the positive effect of democracy on FDI. Similarly, Desbordes and Verardi (2017) find that media freedom has a negative influence on FDI that outweighs the positive impact of other democratic attributes when both natural resources and income inequality are high. Kucera and Principi (2017) report a strong link between democracy and FDI among all industries except mining and oil and gas extraction.

Nuancing the above studies, Aleksynska and Havrylchyk (2013) show that for FDI originating from developing countries the negative impact of “bad” institutions on FDI inflows is lower when the host country is abundant in natural resources. Amighini et al. (2013), Buckley et al. (2007) and Yang et al. (2017) find similar results for Chinese outward FDI, explaining that Chinese FDI is not attracted by bad institutions *per se* but rather by natural resources that correlate with bad institutions. In a similar vein, Ali et al. (2010) report that property rights do not have a significant impact on FDI directed towards the primary sector.

The above reviewed research is linked to the extensive strand of the literature studying the negative effects of substantial natural-resource endowment on countries' performance. This paradoxical phenomenon that may turn the “blessing” of natural resources into a “curse” is also often referred to as the Dutch disease. Resource discoveries may have a negative effect on growth since it generates a large increase in exports which in turn leads to an appreciation of the local currency. This makes the country's exports less competitive at world prices, and thereby crowds out investments in non-natural-resource tradable sectors. Productive activities that boost growth decline in favour of the natural-resource sector for rent-seeking purposes (Sachs & Warner, 2001).

Natural-resource abundance is also likely to favour bad institutions in detriment of pro-growth behaviour. The rents provided by the exploitation of natural resources are easily appropriated generating a “rentier effect” (Aleksynska & Havrylchuk, 2013). Furthermore, revenues from the export of fuels and minerals allow governments to quieten critics and avoid accountability pressures. Natural-resource abundance breeds corruption (Aleksynska & Havrylchuk, 2013) and raises expropriation risks (Hajzler, 2014). However, Ferranti et al. (2002), Mehlum et al. (2006) and Van der Ploeg (2011) argue that good governance could potentially turn the natural-resources curse into a blessing by investing the capital brought by natural resources into productive activities or promoting knowledge-intensive economic activities, hence promoting economic growth.

The mechanisms described above may have a direct effect on FDI. Indeed, FDI inflows are attracted by high expected returns in the resource sector, and decrease in the non-resource sector. The likelihood of an overall negative effect is high and referred to as a “FDI-resource curse” (Asiedu, 2013).⁹ Surprisingly, very few studies back this hypothesis. Poelhekke and Van der Ploeg (2013) show, for Dutch FDI into 183 host countries, that FDI flows to the natural-resource sector do not compensate for the disinvestments in the non-resource sector. Similar results are reached by Rogmans and Ebbers (2013) for 16 Middle East and North Africa (MENA) countries and by Mina (2007) and Mina (2012) for Gulf Cooperation Council countries. Nonetheless, the majority of studies focusing on small datasets acknowledge that the availability of natural resources has a positive and significant effect on FDI in developing countries.¹⁰ However, for larger datasets the evidence is scant and mixed. Aleksynska and Havrylchuk (2013) find a non-significant effect of resources on bilateral FDI flows.¹¹ Asiedu and Lien (2011)

⁹ Other indirect effects are also liable to deter FDI. For instance, macroeconomic instability could increase since the volatility of the exchange rate is expected to rise due to the booms and busts that characterise natural-resource prices (Sachs & Warner, 2001) and due to the lower trade diversification makes a country more vulnerable to external shocks. This adverse context may deter FDI. Asiedu and Lien (2011) also argue that FDI in natural resources is expected to stagger after the initial phase since less capital is needed to continue the exploration that is needed to start it.

¹⁰ See for instance Anyanwu (2012) for 53 African countries, Asiedu (2006) for 22 countries in Sub-Saharan Africa (SSA), Aziz & Mishra (2016) for 16 Arab economies, Mohamed & Sidiropoulos (2010) using a panel of 36 countries (12 MENA countries and other 24 developing countries), Moon (2015) for 108 autocratic countries, Rodríguez-Pose & Cols (2017) for 22 Sub-Saharan African countries and Sichei & Kinyondo (2012) for 45 African countries.

¹¹ Their dataset includes 60 developing and 22 developed economies between 1996 and 2007.

and Asiedu (2013) conclude that natural resources have an adverse effect on FDI.¹² In contrast, Teixeira et al. (2017) find that natural resources foster inward FDI.¹³

Poelhekke and Van der Ploeg (2013) address the question of the role of quality institutions as a mediator in the natural resources-FDI nexus but reject the hypothesis of a significant influence. Asiedu (2013) also confirms that institutional quality may be able to reduce, but not fully cancel, the effect of natural resources on FDI. Gossel (2017) demonstrates that FDI is positively moderated by the accumulation of democratic capital, and shows that the association between FDI and democracy is not affected by resource dependence.

¹² Asiedu & Lien (2011) study a sample of 112 developing countries over the period 1982–2007 and Asiedu (2013) focuses on 99 developing countries over the period 1984-2011.

¹³ The authors study 125 developing countries during the 1995-2012 period.

3. Methodology and data overview

3.1. Empirical model

Unlike most of the studies reviewed, our empirical model explores the bilateral dimension of FDI. As demonstrated by Blonigen and Piger (2014), traditional gravity variables are better candidates for explaining FDI activity than merely host-country characteristics. Another decision regards the choice of the dependent variable. Most studies focus on the amount of FDI flows or FDI stocks, measuring therefore the intensive margin of FDI. Very few are able to measure the extensive margin of FDI since they work with macro data. Indeed, there are several advantages to working on the number of projects rather than flows. First, due to the existence of fixed FDI costs, selection of firms into FDI is limited (Helpman et al., 2004), in analogy with the export behaviour underlined by Melitz (2003). Hence, as long as the institutional framework reduces or increases these sunk investing costs, the quality of institutions is more likely to influence the preliminary decision to develop new projects of investments (Javorcik & Wei, 2009) than the invested amount. Second, flows are sometimes dependent on one or two large investment projects, especially in relatively small countries, so relying on the amount of FDI may be misleading (Bénassy-Quéré et al., 2007; Garrett, 2016). Following these arguments, we estimate the effect of several indicators of host-country institutions on the number of bilateral greenfield investment projects, using a standard gravity equation.

The gravity model was first developed to study the determinants of bilateral trade flows (for an overview see Anderson, 2011 and Head & Mayer, 2014). Following trade developments, studies such as Head and Ries (2008), Kleinert and Toubal (2010) and De Sousa and Lochard (2011) have developed theoretical models that result in empirical equations for the case of FDI. To address the FDI-institutions nexus, our baseline specification extends that used by Paniagua and Sapena (2014):

$$FDI_{ijt} = e^{\left(\begin{array}{l} \beta_1 \ln(GDP_{it} \times GDP_{jt}) + \beta_2 \ln(Distance_{ij}) + \beta_3 BORDER_{ij} + \beta_4 LANGUAGE_{ij} \\ + \beta_5 COLONY_{ij} + \beta_6 SMCNTRY_{ij} + \beta_7 Religion_{ij} + \beta_8 FTA_{ijt} \\ + \beta_9 BIT_{ijt} + \beta_{10} Inst_{jt} + \beta_{11} Inst_{jt} \times COUNTRY_j + FE \end{array} \right)} + \varepsilon_{ijt} \quad (1)$$

where i, j and t stand respectively for the source, the host country and the year. FDI_{ijt} is the number of greenfield projects undertaken by firms from country i in the host country j , in year t ; GDP_{it} and GDP_{jt} are the GDPs of home and host countries, respectively;

$Distance_{ij}$ is the distance in kilometres between country capitals; $BORDER_{ij}$ is a dummy that indicates whether a pair of countries share a common border; $LANGUAGE_{ij}$ takes positive value if both countries share the same official language; $COLONY_{ij}$ is set to one if the two countries have ever had a colonial link; $Religion_{ij}$ is a composite index that measures the religious affinity between country pairs with values from zero to one; $SMCTRY_{ij}$ indicates if both countries were part of the same country in the past; FTA_{ijt} is a dummy that indicates whether both countries have a free trade agreement in force; BIT_{ijt} is a dummy that takes a value of one if the country pair has a bilateral investment treaty in force. Next, $Inst_{jt}$ stands for institutions, $COUNTRY$ for dummies that represent developing countries (LDC_j) or developing countries that are significant oil producers ($OLDLC_j$). Lastly, FE stands for the host and home country, and year fixed effects (respectively, $\lambda_i, \lambda_j, \lambda_t$) and ε_{ijt} represents the stochastic error term. Following Silva and Tenreyro (2006), we account for null flows in bilateral FDI data by using a Poisson Pseudo-Maximum Likelihood estimator.

Additionally, equation (1) is modified to address the impact of oil production on FDI (β_{10}) and how different levels of oil production alter the FDI-institutions nexus (β_{12}):

$$FDI_{ijt} = e^{\left(\begin{array}{l} \beta_1 \ln(GDP_{it} \times GDP_{jt}) + \beta_2 \ln(Distance_{ij}) + \beta_3 BORDER_{ij} + \beta_4 LANGUAGE_{ij} \\ + \beta_5 COLONY_{ij} + \beta_6 SMCNTY_{ij} + \beta_7 Religion_{ij} + \beta_8 FTA_{ijt} \\ + \beta_9 BIT_{ijt} + \beta_{10} Oil_{jt} + \beta_{11} Inst_{jt} + \beta_{12} Oil_{jt} \times Inst_{jt} + FE \end{array} \right)} + \varepsilon_{ijt} \quad (2)$$

where Oil stands for either the share of oil rents over GDP ($Oilrents_{jt}$) or the share of oil production from World output ($Oilshare_{jt}$). Due to the high correlation between institutional variables (see Table 4), namely rule of law, lack of corruption, political stability and democracy, they are estimated separately.

3.2. Data overview

Our analysis covers 182 countries during 2003-2012. Statistics for the variables used are available in Table 5.1. The countries included in the sample are reported in Table 5.11 in the appendix 5.1. We classify them as developing countries following UNCTAD's classification¹⁴, and in regions in accordance with the World Bank. Data for bilateral

¹⁴ We also classify transition countries as developing countries.

greenfield investments are gathered from FDI Markets. GDP (in constant year 2000 USD) is retrieved from the World Bank. Distance, common language, colony, and border are from the CEPII dataset and religious affinity is obtained from the CIA World Factbook. BIT variable is constructed based on UNCTAD's International Investment Agreements database and FTA comes from Head et al. (2010).

To measure institutional quality, we consider three different indices: *rule of law*, *lack of corruption* and *political stability* from the World Bank's Worldwide Governance Indicators. The choice of the source of these indicators is based on their wide country coverage and use in previous works (e.g. Aleksynska & Havrylchyk, 2013; Amighini et al., 2013; Buchanan et al., 2012; Javorcik & Wei, 2009). These variables range approximately from -2.5 to +2.5 (Kaufmann et al., 2011). To facilitate interpretation in the econometric analysis, we convert them into non-negative values equal or larger than 1. Higher values suggest respectively better rule of law, less corruption and a more stable political environment.

Regarding countries' political systems, we use the *Polity2* index from the Polity IV dataset retrieved from Systemic Peace (see Marshall et al., 2017). The *Polity2* index, which we name *Democracy*, ranges from -10 (full autocracy) to 10 (full democracy).¹⁵ Democracy and autocracy are measured independently without sharing categories in common. The degree of both are based on how a country scores in: competitiveness of executive recruitment, openness of executive recruitment, constraint on chief executives and competitiveness of political participation. Nevertheless, the items that define these variables are different. For instance, when measuring the openness of executive recruitment, a democratic country will score one point if elections are held, or one point as autocracy if chief executives are determined by hereditary succession. The *Polity2* score is computed by subtracting the score obtained by the index autocracy score from the democracy score.¹⁶ We consider this measure as appropriate since it is based on objective information and because the political system of a country is not a one-dimensional characteristic, but probably includes several dimensions (Adam &

¹⁵ Again, for the econometric analysis this variable is re-scaled so that it takes values between 0 and 20, 0 representing a full autocracy, and 20 a full democracy.

¹⁶ Polity2 index enables us to take into account intermediate situations between full autocracy and democracy. For instance, according to the classification used by Systemic Peace, Saudi Arabia is an autocracy, Egypt is a closed anocracy, Algeria is an open anocracy, Lebanon a democracy and Israel a full democracy. For further insight see Marshall et al. (2017).

Filippaios, 2007). Moreover, the *Polity2* index has been extensively used in the literature (e.g. Asiedu & Lien, 2011; Gossel, 2017; Li & Resnick, 2003).

To identify the developing countries in which oil production represents a significant share of domestic economy, we use the indicator named *Oil Rents* from the World Bank. It represents the difference between the value of crude oil production at world prices and total costs of production over GDP. We consider oil production as relevant for a country when *Oil Rents* represent at least 7.65% of the country's GDP in at least one year; this threshold stands for the top quintile of countries in our sample. In this way, our sample is divided into countries in which oil production does have a relevant role throughout our period, and those in which its relevance is anecdotic and limited. Finally, countries' share of World oil production is measured by the figures for oil-barrel production from Thomson Reuters Eikon.

Table 5.1: Descriptive statistics

	Mean	Std. Dev.	Min	Max
FDI	1.77	8.26	0	319
$\ln(GDP_{it} \times GDP_{jt})$	27.09	1.51	20.12	30.40
$\ln(\text{Distance})$	8.31	1.00	4.09	9.88
BORDER	0.06	0.24	0	1
LANGUAGE	0.16	0.37	0	1
COLONY	0.05	0.21	0	1
SMCNTY	0.02	0.14	0	1
religion	0.33	0.32	0	1
FTA	0.26	0.44	0	1
BIT	0.42	0.49	0	1
OilRents	5.67	13.61	0	343.74
OilShare	1.15	2.54	0	14.49
Rule of law	3.85	1.01	1.71	5.67
Lack of corruption	3.12	1.06	1.11	5.48
Political stability	4.28	0.94	1.14	5.99
Democracy	14.64	6.50	0	20

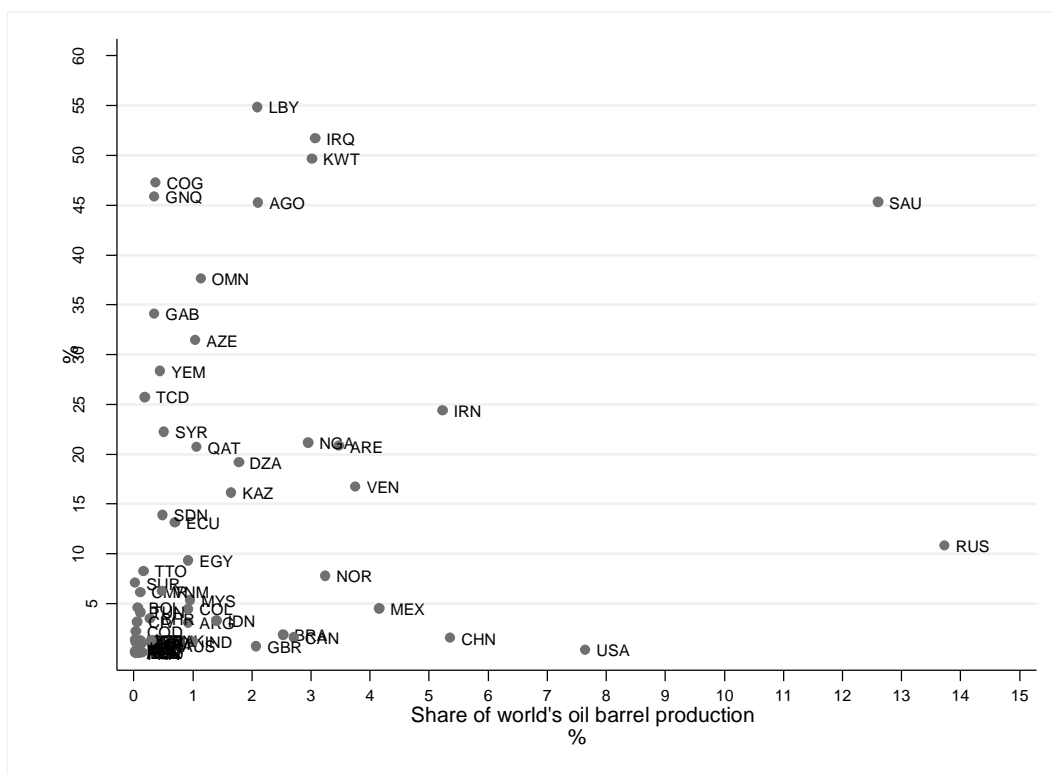
Note: authors' own calculations.

Oil production

As a prelude to the econometric analysis, we dive into the distribution of oil production at world level, FDI performance and countries' institutional characteristics. Figure 5.1 presents the correlation between countries' oil rents over GDP and their share of world oil-barrel production. As can be gathered, a significant weight of oil rents over GDP does not imply that a given country is a major oil supplier at the world level, as this occurs for countries such as the Republic of the Congo (COG), Chad (TCD), Gabon (GAB), Ecuador (ECU) or Yemen (YEM). Conversely, some countries have a relevant contribution to

World output while oil production represents a low share of their GDP, as is the case of the United States (USA), China (CHN), Canada (CAN), Brazil (BRA), Mexico (MEX) and India (IND). Additionally, there are countries in which oil production represents a significant share both of their domestic economy and of World output, such as Saudi Arabia (SAU), Russia (RUS), Iraq (IRQ), Iran (IRN), Algeria (DZA) and Libya (LBY). Moreover, it is worth highlighting that the top quintile of countries in terms of oil rents over GDP, except for Norway, are developing countries, while several advanced economies are present among the main world oil producers.

Figure 5.1: Oil relevance at the domestic and world level



Note: Oil barrel production is retrieved from Thomson Reuters Eikon and oil rents over GDP from World Bank Development Indicators. Average for the period 2003-2012. Countries that produce more than 0.023% of the world's oil barrels, country codes are available in Table 5.11 from the appendix. 5.1. Authors' own calculations.

Turning to the link between inward FDI and oil production, the correlation is not clear. The weight of FDI and oil production by region is reported in Table 5.2, while Table 5.4 shows the correlation between greenfield investment projects and oil production. Within regions, there is no clear pattern showing that an oil producer would attract more or less inward FDI than their neighbours, except for MENA oil producers, which represent a clear case of oil curse on FDI: on average, oil rents represent 32% of their domestic economic activity and are responsible for 35.31% of the world's oil-barrel production. In

parallel, they clearly score low in terms of inward FDI, which represents less than 3% of their GDP, one of the lowest shares among developing countries. These countries also have one of the lowest ratios of foreign firms among large firms, while having a high presence of SOEs (see Table 5.2). In line with the natural-resource curse on FDI, for the whole sample the number of greenfield investment projects a country receives is negatively correlated with the relevance of *Oil rents*. In addition, within regions oil producers seem to have lower institutional quality and be less democratic (Table 5.3). Accordingly, for the whole sample, Table 5.4 shows a negative and significant correlation between institutional quality (or democracy) with *Oil rents* (or *Oil share*). In contrast, not in line with the natural-resource curse on FDI, the number of greenfield projects is positively correlated with *Oil share*.

Table 5.2: FDI and Oil production in developing countries

	NET INWARD FDI (% GDP)	FOREIGN OWNED FIRMS	PERCENTAGE OF SOES	OIL RENTS (% GDP)	OIL BARRELS OVER WORLD'S OUTPUT
MENA (OIL)	2.44%	7.77%	16.35%	32.07%	35.31%
MENA (NON OIL)	7.37%	14.76%	9.07%	1.53%	0.38%
SUB SAHARA AFRICA (OIL)	6.18%	23.24%	10.65%	28.04%	6.90%
SUB SAHARA AFRICA (NON OIL)	5.34%	29.64%	7.78%	0.43%	0.14%
LATIN AMERICA (OIL)	1.30%	21.21%	9.03%	11.30%	4.64%
LATIN AMERICA (NON OIL)	7.69%	17.24%	7.02%	1.21%	8.74%
CENTRAL ASIA (OIL)	10.70%	21.14%	22.78%	18.64%	16.43%
CENTRAL ASIA (NON OIL)	5.40%	10.09%	5.86%	0.34%	0.06%
EAST ASIA AND PACIFIC (OIL)	2.99%	7.98%	7.80%	12.47%	0.70%
EAST ASIA AND PACIFIC (NON OIL)	7.76%	12.54%	10.02%	1.40%	8.06%
SOUTH ASIA	2.15%	7.38%	5.02%	0.34%	1.11%
EUROPE	7.09%	15.88%	25.26%	0.66%	0.17%

Note: In this table the sample is restricted to developing countries only. Foreign-owned firms and SOEs are retrieved from ORBIS 29/06/2017 update for large firms only. Oil-barrel production is retrieved from Thomson Reuters Eikon and the remaining indicators from World Bank Development Indicators. South Asia and Europe are not divided into oil and non-oil producers, since there are no significant oil producers in our sample located in these regions. Authors' own calculations.

Table 5.3: Institutions in developing countries

	RULE OF LAW	LACK OF CORRUPTION	POLITICAL STABILITY	DEMOCRACY
MENA OIL PRODUCERS	-0.29	-0.28	-0.47	-5.65
MENA NON-OIL PRODUCERS	-0.09	-0.17	-0.44	-1.88
SUB SAHARA AFRICA (OIL)	-1.15	-1.11	-0.85	-2.33
SUB SAHARA AFRICA (NO OIL)	-0.64	-0.52	-0.46	3.28
LATIN AMERICA (OIL)	-0.72	-0.56	-0.48	5.65
LATIN AMERICA (NO OIL)	-0.08	0.12	0.07	7.17
CENTRAL ASIA (OIL)	-0.99	-1.08	-0.33	-4.3
CENTRAL ASIA (NON OIL)	-0.68	-0.69	-0.75	2.57
EAST ASIA AND PACIFIC (OIL)	-0.29	-0.43	0.22	-1.45
EAST ASIA AND PACIFIC (NON OIL)	0.02	-0.08	-0.08	2.43
SOUTH ASIA	-0.51	-0.59	-1.14	3.05
EUROPE	-0.58	-0.49	-0.22	5.35

Note: In this table the sample is restricted to developing countries only. Developing countries from South Asia and Europe are not divided into oil and non-oil producers, since there are no significant oil producers in our sample located in these regions. Authors' own calculations.

Table 5.4: Correlation matrix

	Greenfield Investment projects	Oil rents	Oil share	Rule of law	Lack of corruption	Political stability
Greenfield Investment projects	1					
Oil rents	-0.119***	1				
Oil share	0.397***	0.374***	1			
Rule of law	0.278***	-0.271***	-0.043*	1		
Lack of corruption	0.242***	-0.277***	-0.048*	0.953***	1	
Political stability	0.095***	-0.149***	-0.113***	0.785***	0.757***	1
Democracy	0.118***	-0.549***	-0.208***	0.464***	0.434***	0.288***

Note: Authors' own calculation.

*p<0.10, **p<0.05, ***p<0.01

4. Results

4.1. The FDI-Institutions nexus

Results from our baseline model are reported in Table 5.5. As is usual in the literature, the gravity equation performs well, explaining more than 80% of the variation of the dependent variables. The results for distance and FTA support the hypothesis of complementarity between trade and FDI. In addition, the lack of significance of the combined home and host countries' economic sizes indicates that greenfield investment projects are driven by fragmentation of production¹⁷ (Kleinert & Toubal, 2010). Likewise, sharing a common border deters FDI, implying that MNEs may prefer to serve neighbour countries through exports. As expected, sharing a language, religious affinities and historical ties have a positive impact on the number of greenfield projects consistent with a reduction of sunk costs. Finally, BIT lacks significance. This finding is not surprising, as previous studies indicate that the significance of BIT depends on the quality of interstate relations and host countries' institutional quality (Desbordes & Vicard, 2009), the level of development of signing countries (Berger et al., 2011), intensity of bilateral FDI flows (Paniagua et al., 2015) or the sector of investment (Colen et al., 2016).

Results concerning the impact of institutions on the number of greenfield investment projects are reported in Table 5.5, in which columns 1, 3, 5 and 7 distinguish the impact of institutions by developed ($Inst_{jt}$) and developing countries ($Inst_{jt} \times LDC_j$). The results show a positive impact of the compliance to rule of law and of the reduction of corruption on the capacity to attract new projects in developing countries, thus providing support for the “grabbing hand” hypothesis. On the other hand, for developed countries, rule of law does not play a relevant role and reducing corruption is expected to decrease their capacity for attracting new greenfield projects. This last finding supports the “helping hand” hypothesis only for advanced economies, in contrast to Adam and Filippaios (2007) and Egger and Winner (2005), who find this holds true independently of the level of development.

¹⁷ The factor-proportion theory predicts the host country's demand to increase the likelihood of production fragmentation, while for the home countries the opposite is expected.

Table 5.5: The FDI-institution nexus

FDI_{ijt}	Rule of law		Lack of corruption		Political stability		Democracy	
Extensive margin	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\ln(GDP_{it} \times GDP_{jt})$	-0.089 (0.18)	-0.078 (0.18)	-0.017 (0.18)	-0.078 (0.18)	-0.049 (0.17)	-0.034 (0.17)	-0.089 (0.18)	-0.082 (0.18)
$\ln(Distance_{ij})$	-0.389*** (0.03)	-0.389*** (0.03)	-0.388*** (0.03)	-0.389*** (0.03)	-0.388*** (0.03)	-0.388*** (0.03)	-0.390*** (0.03)	-0.390*** (0.03)
$BORDER_{ij}$	-0.135* (0.08)	-0.135* (0.08)	-0.135* (0.08)	-0.135* (0.08)	-0.135* (0.08)	-0.135* (0.08)	-0.128 (0.08)	-0.128 (0.08)
$LANGUAGE_{ij}$	0.508*** (0.06)	0.508*** (0.06)	0.508*** (0.06)	0.508*** (0.06)	0.508*** (0.06)	0.508*** (0.06)	0.502*** (0.06)	0.502*** (0.06)
$COLONY_{ij}$	0.596*** (0.08)	0.596*** (0.08)	0.596*** (0.08)	0.595*** (0.08)	0.596*** (0.08)	0.595*** (0.08)	0.586*** (0.08)	0.586*** (0.08)
$SMCNTY_{ij}$	0.566*** (0.15)	0.566*** (0.15)	0.566*** (0.15)	0.566*** (0.15)	0.566*** (0.15)	0.566*** (0.15)	0.568*** (0.16)	0.567*** (0.16)
$Religion_{ij}$	0.389*** (0.13)	0.389*** (0.13)	0.389*** (0.13)	0.388*** (0.13)	0.389*** (0.13)	0.389*** (0.13)	0.410*** (0.13)	0.410*** (0.13)
FTA_{ijt}	0.195*** (0.06)	0.195*** (0.06)	0.195*** (0.06)	0.192*** (0.06)	0.196*** (0.06)	0.196*** (0.06)	0.189*** (0.06)	0.188*** (0.06)
BIT_{ijt}	-0.029 (0.04)	-0.028 (0.04)	-0.029 (0.04)	-0.029 (0.04)	-0.027 (0.04)	-0.027 (0.04)	-0.03 (0.04)	-0.031 (0.04)
$Inst_{jt}$	-0.261 (0.19)	0.117 (0.14)	-0.290*** (0.11)	-0.073 (0.09)	0.207** (0.10)	0.295*** (0.06)	0.112** (0.05)	0.012 (0.01)
$Inst_{jt} \times LDC_j$	0.576** (0.26)		0.659*** (0.15)		0.086 (0.11)		-0.090* (0.05)	
$Inst_{jt} \times OLDC_j$		0.296 (0.25)		0.645*** (0.16)		-0.242** (0.12)		0.078*** (0.03)
Fixed Effects	$\lambda_i, \lambda_j, \lambda_t$							
Observations	39151	39151	39151	39151	39118	39118	37163	37163
R^2	0.844	0.845	0.846	0.845	0.847	0.846	0.845	0.845

Standard errors in parentheses.
*p<0.10, **p<0.05, ***p<0.01

Therefore, political stability appears to be crucial to increase the number of foreign projects for both group of countries. Political instability, that is, politically-motivated violence and terrorism, might not be easily compensated for by countries' level of economic development. Above all, political instability appears as the major worry for foreign investors considering whether to set up new firms abroad.

In contrast, the degree of democracy enhances countries' capacity to attract new projects, but to a lower extent in developing countries. As indicated previously, most studies tend to conclude that basic democratic rights are positively associated with FDI inflows. However, some authors, like Li and Resnick (2003), reach the opposite conclusion.

Yet, unlike most studies focusing on aggregate FDI, we explain bilateral projects. This enables us to control for country pair characteristics such as cultural and geographical and economic distance. These differences might explain part of the divergence with some of

the findings reported by previous studies that use unilateral FDI flows (e.g. Adam & Filippaios, 2007; Egger & Winner, 2005; Li & Resnick, 2003) and the few studies using bilateral data for FDI to study the nexus between institutions and FDI intensive margin, which usually find a less significant effect (Berden et al., 2014; Blonigen & Piger, 2014; Paniagua & Sapena, 2014), or a positive effect of the quality of institutions when they focus on a smaller country sample.¹⁸

Do institutions have a different impact in OIL-producing countries than in other LDC?

The impacts institutions may have on significant oil producers within developing countries ($Inst_{jt} \times OLDC_j$) are reported in columns 2, 4, 6 and 8 of Table 5.5. Reducing corruption would attract new greenfield projects in all LDC regardless of whether they produce oil or not. These results echo those from Javoricik and Wei (2009), which show that the level of corruption reduces a country's probability of receiving FDI, or the results of Couttenier and Toubal (2017), who find that corruption affects new entrants in a more obvious negative way than incumbent ones. Additionally, these estimates are in line with Asiedu (2013), who reports a positive interaction between natural resources and institutional quality when explaining FDI. Our findings confirm that corruption in oil-producing developing countries is perceived as a "grabbing hand" on new foreign projects rather than a "helping hand".

Compliance to rule of law does not really matter on average for new projects in oil-producing countries, unlike for other developing countries. This finding echoes that reported by Ali et al. (2010) for property rights. Likewise, political stability affects oil countries in a different manner than other countries. Nevertheless, the overall effect of political stability is lower than for other countries. As natural resources are concentrated only in a few countries, this lower impact might be supporting the view of a higher tolerance by MNEs to instability (Amighini et al., 2013; Burger et al., 2015; Buckley et al., 2007; Yang et al., 2017)

The impact of democracy is positive and larger for oil producers than for other countries, as in Desbordes and Veradi (2017), but unlike Asiedu and Lien (2011). Again, a possible

¹⁸ See for example Bellos & Subasat (2012), Daude & Stein (2007), Disdier & Mayer (2004) and Wei (2000).

explanation for this divergence could come from the fact that Asiedu and Lien (2011) focus on net inflows FDI, while we perform an analysis of new greenfield projects, on a larger sample and taking into account bilateral relationships.

4.2. Oil production and institutions

In this section, we further inquire into the role of natural resources in the Institution-FDI relationship. As we have already mentioned, Table 5.5 reports the average expected impact of institutions for significant oil producers. We now look into how different levels of oil production affect FDI and alter the FDI-Institutions nexus. To this end, we estimate equation (2). Table 5.6 shows the impact of oil rents over GDP ($OilRents_{jt}$) on FDI, the expected impact of institutions ($Inst_{jt}$) and the impact of the combined effect of institutions and oil rents ($OilRents_{jt} \times Inst_{jt}$), which respectively have associated coefficients β_{10} , β_{11} and β_{12} . Table 5.7 repeats the same analysis but considering countries' share of World oil-barrel production ($OilShare_{jt}$).

Is there an FDI-resource curse?

Both sets of results support the hypothesis of an “oil curse” on FDI’s extensive margin: that is, the higher the oil production, the lower the number of greenfield investment projects. Again, our results are in line with those of Asiedu and Lien (2011), Asiedu (2013) and Poelhekke and Van der Ploeg (2013), who claim the existence of an oil curse on the capacity of attracting FDI. According to the estimates, one percentage point increase in the share of oil rents over GDP can reduce the number of projects by nearly 3% on average (Table 5.6), while in the case of the world’s oil-barrel production the drop would be of 34% (Table 5.7).

Table 5.6: Institutions and oil rents over GDP

FDI_{ijt} Extensive margin	Rule of law (1)	Lack of corruption (2)	Political stability (3)	Democracy (4)
$OilRents_{jt}$	-0.056*** (0.01)	-0.042*** (0.01)	-0.019* (0.01)	-0.001 (0.01)
$Inst_{jt}$	0.116 (0.13)	-0.038 (0.08)	0.243*** (0.06)	0.022*** (0.01)
$OilRents_{jt} \times Inst_{jt}$	0.017*** (0.00)	0.016*** (0.00)	0.005** (0.00)	0.000 (0.00)
Fixed effects	$\lambda_i, \lambda_j, \lambda_t$			
	Control variables			
Observations	36037	36037	36004	34920
R^2	0.846	0.846	0.848	0.847

Coefficients of control variables displayed in the appendix 5.1 (Table 5.12).
Standard errors in parentheses.
*p<0.10, **p<0.05, ***p<0.01

Table 5.7: Institutions and oil barrels production share of world's output

FDI_{ijt} Extensive margin	Rule of law (1)	Lack of corruption (2)	Political stability (3)	Democracy (4)
$OilShare_{jt}$	-0.722*** (0.13)	-0.143** (0.07)	-0.218** (0.09)	-0.274*** (0.06)
$Inst_{jt}$	-0.01 (0.13)	-0.094 (0.09)	0.180*** (0.05)	-0.002 (0.01)
$OilShare_{jt} \times Inst_{jt}$	0.147*** (0.03)	0.037*** (0.01)	0.037** (0.02)	0.018*** (0.00)
Fixed effects	$\lambda_i, \lambda_j, \lambda_t$			
	Control variables			
Observations	35632	35878	35877	34017
R^2	0.846	0.847	0.850	0.850

Coefficients of control variables displayed in the appendix 5.1 (Table 5.13).
Standard errors in parentheses.
*p<0.10, **p<0.05, ***p<0.01

Does the presence of oil undermine the effect of institutions on FDI?

Among all the institutional indicators, independently of the level of production only (i.e. $\widehat{\beta}_{11}$), political stability would improve the extensive margin while rule of law and lack of corruption have no effect and democracy has only a significant and positive impact, as shown in Table 5.6. Alternatively, we register positive and significant coefficients for $Inst_{jt} \times oil_{jt}$ ($\widehat{\beta}_{12}$), indicating that the importance of natural resources magnifies the impact of the institution index on FDI. The exception is coefficient $\widehat{\beta}_{12}$ associated with $Democracy_{jt} \times Oilrents_{jt}$ in Table 5.6, which is null and non-significant. Thus, these results confirm those given above indicating that institutions would on average have a positive impact for countries that are significant oil producers. In addition, they show that

the gains from improvements in institutional quality, and to a lesser extent democracy, are positively conditioned by countries' oil production.

These results contradict those of Asiedu and Lien (2011) who acknowledge that the relationship between FDI and democracy depends negatively on the “size” of natural resources measured by the share of fuel and minerals in total merchandise exports. However, the results are in line with Asiedu (2013) for institutional quality.

How large are the benefits to be obtained from better institutions?

As in Asiedu and Lien (2011), we assess the magnitude of the benefits, in terms of new greenfield investments, that could be expected from an improvement in institutions. Based on equation 2¹⁹, we calculate the percentage change in the number of greenfield projects as a consequence of a one-point change in the institutional indicator (*Inst*) given the average level of oil production (*Oilrents* or *Oilshare*):

$$\frac{\partial \ln(FDI)}{\partial Inst} = \hat{\beta}_{11} + \hat{\beta}_{12} \overline{oil} \quad (3)$$

where \overline{oil} is the average level of oil rents over GDP or the share of world oil-barrel production, during the period 2003-2012.

Tables 5.8 and 5.9 illustrate the expected average change in the number of greenfield projects for countries belonging to different percentiles according to their oil production (*Oil rents* and *Oil share* respectively). The insights provided by the results are twofold. First, oil producers belonging to the top percentiles in terms of *Oil rents* (Table 5.8) would greatly benefit from improving rule of law and reducing corruption. For a country like Azerbaijan, a one-point improvement in the rule of law and lack of corruption indices would augment the number of greenfield projects by 65% and 46% respectively. This would mean rallying to a level similar to that registered by Croatia. However, the gains from reducing corruption are not clear for all countries. For those countries in which oil rents are below the sample's median (1.35%), reducing corruption can deter new greenfield projects. The gains to be obtained from advancement towards political stability

¹⁹ Although equation 2 is a non-linear equation, its interpretation is equivalent to a log-linearized equation (Silva & Tenreyro, 2006).

are also substantial while lower than for the above-mentioned indicators. For a country that does not produce oil (e.g. Paraguay), a progress of one point would translate into an increment of 24% in the number of projects, and similar gains are expected for those countries close to the sample's median. Alternatively, for a country like Syria, the gains would be of 35%.

Table 5.8: Impact of institutional reform given the level of oil rents over GDP

Percentile of Oil rents	Oil rents	As in	Rule of law	Lack of corruption	Political stability
10	0.01%	Jordan	11.62%	-3.78%	24.31%
25	0.17%	Philippines	11.90%	-3.52%	24.39%
50	1.35%	Myanmar (Burma)	13.90%	-1.63%	24.98%
75	7.07%	Suriname	23.61%	7.50%	27.83%
90	22.27%	Syria	49.46%	31.83%	35.43%
95	31.43%	Azerbaijan	65.04%	46.49%	40.02%
100	45.86%	Saudi Arabia	89.56%	69.58%	47.23%
Average	8.74%	Papua New Guinea	26.46%	10.18%	28.67%

Note: Authors' own calculations, based on estimates from Table 5.6 and the average level of oil rents over GDP during the period 2003-2012 for those countries in which oil rents are higher than 0%.

Second, countries in which oil rents are not particularly relevant in their economy but represent a significant share of the world's production would also benefit to a greater extent from institutional reforms and democratization. This is the case with Brazil, whose oil rents on average represented 1.86% of its GDP (near the median, as indicated in Table 5.8), but it is among the world's top producers (see Table 5.9). In this case, a one-point improvement in rule of law, political stability and democracy would increase the number of projects by almost 36%, 27% and 4.35% respectively. It is interesting to highlight that reducing corruption only appears to favour inward greenfield investment in those countries that belong to the top 10% of world producers.

Table 5.9: Impact of institutional reform given the share of the world's oil-barrel production

Percentile of Oil share	Oil share	As in	Rule of law	Lack of corruption	Political stability	Democracy
10	0.001%	Bangladesh	-0.98%	-9.39%	18.01%	-0.20%
25	0.02%	South Africa	-0.68%	-9.32%	18.08%	-0.16%
50	0.14%	Romania	1.00%	-8.90%	18.50%	0.05%
75	1.04%	Qatar	14.35%	-5.54%	21.86%	1.68%
90	2.53%	Brazil	36.15%	-0.05%	27.35%	4.35%
95	3.24%	Iraq	46.67%	2.60%	30.00%	5.64%
100	5.22%	Iran	75.80%	9.93%	37.33%	9.20%
Average	1.12%	Oman	15.52%	-5.24%	22.16%	1.82%

Note: Authors' own calculations, based on estimates from Table 5.7 and the average share of world oil-barrel production during the period 2003-2012 for those countries in which oil-barrel share is higher than 0%.

Can institutional improvements and democratization cancel out the oil curse on FDI?

Yes, *ceteris paribus*, even if oil production overall hampers FDI, these barriers could be overcome through institutional reforms. As in Asiedu (2013), we calculate the average level of institutional quality and democratization necessary to cancel out the oil curse on FDI. Based on equation 2, this threshold is computed as follows:

$$\frac{\partial \ln(FDI)}{\partial oil} = \hat{\beta}_{10} + \hat{\beta}_{12} \overline{Inst_{threshold}} = 0; \Rightarrow \overline{Inst_{threshold}} = -\frac{\hat{\beta}_{10}}{\hat{\beta}_{12}} \quad (4)$$

Results are reported in Table 5.10 where examples are also provided. The institutional improvements required to cancel out the negative impact oil dependence has on FDI would imply attaining levels of other developing countries such as the Republic of Macedonia, Georgia or China. The progress required is attainable; for countries like Algeria, Nigeria and Russia an increase inferior to one point in the indices would be sufficient to ensure that oil dependence does not hamper FDI. In addition, based on the estimates (equation 4), these institutional reforms could boost new greenfield projects in Algeria, Nigeria and Russia by 14.32%, 23.88% and 15.56%, respectively.

Nevertheless, counterbalancing the oil curse seems more challenging for the main players in the world oil market. To subdue this curse, institutional quality should catch up with developed countries such as USA, Malta or Finland, while democratization should reach a level similar to that of Thailand. This last reform is particularly relevant for the MENA region which contributes to more than one third of the world's oil-barrel production, as anocracies and autocracies are the political systems predominant among the oil producers in the region. It is also worth highlighting that developing countries with a large contribution to world oil production, but a low relevance of oil rents in their economy (e.g. Brazil, China), should also seek to improve institutional quality and the level of democracy to overcome the oil curse on FDI.

Table 5.10: Institutional quality and democracy levels required to counterbalance the oil curse on FDI

Oil GDP				
	Level required to cancel out the oil curse	As in	Country with lower institutional quality	Improvement in institution required to cancel out the oil curse
Rule of law	3.29	Republic of Macedonia	Algeria	0.32
Lack of corruption	2.63	Georgia	Nigeria	0.80
Political stability	3.80	China	Russia	0.49
Oil barrels share of world's production				
	Level required to cancel out the oil curse	As in	Country with lower institutional quality	Improvement in institution required to cancel out the oil curse
Rule of law	5.24	USA	Algeria	2.27
Lack of corruption	3.86	Malta	Nigeria	2.03
Political stability	5.89	Finland	Russia	2.58
Democracy	14.22	Thailand	Venezuela	2.12

Note: Authors' own calculations, based on estimates from Tables 6 and 7 and the average level of institutions of countries during the period 2003-2012. As in the econometric analysis, institutional variables are converted in a way that they equal or are larger than 1.

4.3. Robustness analysis

Results from the robustness analysis are available in the appendix 5.1. To conserve space, we only comment on the key estimates from equation 2, namely the coefficients of *Oilrent* or *Oilshare*, *Institutions* and their interaction (β_{10} , β_{11} and β_{12} respectively).

Greenfield investment volume

We now turn to the intensive margin (Tables 5.14 and 5.15). As regards the intensive margin, we do not find evidence supporting the hypothesis that oil production affects the amount of greenfield investments: the coefficient is only significant and negative in one of the 8 estimated models. In terms of institutions, only democracy appears to have a positive significant impact, while the remaining indicators and all the interactions are not significant.

Alternative measures of natural resources

Following Asiedu and Lien (2011) and Asiedu (2013), we consider the share of fuel in merchandise exports as an alternative measure of oil abundance. A natural resource curse on the extensive margin of greenfield investments is confirmed in two out of four models (Table 5.16). Results buttress our previous results obtained with *Oilrent* or *Oilshare* showing that natural resources magnify the impact of institutions on FDI. Regarding the intensive margin (Table 5.17), the positive effect of political stability would be

undermined by fuel exports while the positive effects of democracy would be amplified. Finally, we also estimate equation 3 using the absolute number of oil-barrel production (Tables 5.18 and 5.19). Our conclusions remain basically unchanged.

5. Conclusions

The present article, by estimating a gravity equation, addresses how oil abundance, institutions and the interaction between both affects countries' capacity to attract greenfield investment. To this end, we exploit a greenfield investment bilateral database which covers 182 countries during the period 2003-2012. We use alternative measures of oil production to take into account the dependence of the host on oil production and the dependence of the world on the host's production. Moreover, we tackle institutions in a broad manner by considering rule of law, corruption, political stability and democracy.

According to our results, particularly for developing countries and after controlling for a comprehensive set of bilateral economic determinants and transaction costs, institutional quality and democracy appear to be a crucial dimension in defining a country's capacity for attracting new greenfield projects. In addition, democracy attracts larger amounts of investments.

Regarding a possible "oil curse" on FDI, our results confirm that overall, oil-abundant countries attract fewer greenfield projects than others. In addition, the evidence obtained suggests that countries with better governance and more democracy would attract more greenfield investments, with this effect being larger for countries highly dependent on oil and for main players in the world oil market. Thus, for oil producers, institutional reforms can significantly improve their capacity for attracting new investment projects and may raise the opportunity to diversify their economy, reducing the likelihood of escaping from the oil curse on FDI.

Our conjecture for this apparently puzzling result is that when national production is heavily dependent on oil, the government might well be heavily dependent on these resources but may lack the capital to exploit these resources, which makes governments more willing to attract foreign projects. For these countries with high economic dependence on oil but with the lack of capital to exploit it, institutional reforms are likely to increase their capacity to attract foreign capital. When the host-country production represents a significant share of the world's output, the host government is empowered, allowing it to sustain closed-economy policies combined with rent-seeking behaviour by the domestic oligarchy and does not need foreign investors. Rogmans et al. (2013) argue

that countries with large reserves of oil and gas have enough financial resources and foreign currency available to finance their own economic development. They may prefer to contract expertise services rather than incentivise FDI. Oil-rich countries have typically not actively encouraged FDI and have stipulated local ownership requirements in many, if not all, industry sectors (Lopez-Carlos & Schwab, 2005). In this way, similar to the conclusions reached by Méon and Sekkat (2004) for the MENA region or Guérin (2009) in the analysis of democracy, the overall improvement of institutional quality and democracy favours countries' integration into the world economy. For those countries that enjoy an oligopolistic position in oil production, significant institutional reforms would imply withdrawing these barriers to FDI.

Appendix 5.1- Sample and robustness analysis

Table 5.11: Country classification

Developed countries	Monaco	MENA non-oil	Gambia	Latin America oil	Nicaragua	Indonesia
Australia	Netherlands	Bahrain	Ghana	Ecuador	Panama	Laos
Austria	New Zealand	Djibouti	Guinea	Suriname	Paraguay	Macau
Belgium	Norway	Lebanon	Guinea Bissau	Trinidad and Tobago	Peru	Malaysia
Bermuda	Poland	Morocco	Kenya	Venezuela	Saint Vincent and Grenadines	Mongolia
Bulgaria	Portugal	Tunisia	Lesotho	Latin America non-oil	St Lucia	Myanmar (Burma)
Canada	Romania	Sub-Sahara Africa oil	Liberia	Antigua and Barbuda	Uruguay	Philippines
Croatia	Slovakia	Angola	Madagascar	Argentina	Central Asia oil	Singapore
Cyprus	Slovenia	Cameroon	Malawi	Bahamas	Azerbaijan	South Korea
Czech Republic	Spain	Chad	Mali	Barbados	Russia	Taiwan
Denmark	Sweden	Equatorial Guinea	Mauritius	Belize	Turkmenistan	Thailand
Estonia	Switzerland	Gabon	Mozambique	Bolivia	Central Asia non-oil	South Asia
Finland	United Kingdom	Mauritania	Namibia	Brazil	Armenia	Afghanistan
France	United States	Nigeria	Niger	Cayman Islands	Georgia	Bangladesh
Germany	MENA oil	Republic of the Congo	Rwanda	Chile	Kyrgyzstan	Bhutan
Greece	Algeria	Sudan	Senegal	Colombia	Moldova	India
Greenland	Egypt	Sub-Sahara Africa non-oil	Seychelles	Costa Rica	Tajikistan	Maldives
Hungary	Iran	Benin	Sierra Leone	Cuba	Turkey	Nepal
Iceland	Iraq	Botswana	Somalia	Dominica	Uzbekistan	Pakistan
Ireland	Kuwait	Burkina Faso	South Africa	Dominican Republic	East Asia and Pacific oil	Sri Lanka
Israel	Libya	Burundi	Swaziland	El Salvador	Brunei	Europe
Italy	Oman	Cape Verde	São Tomé and Príncipe	Grenada	Papua New Guinea	Albania
Japan	Qatar	Central African Republic	Tanzania	Guatemala	Vietnam	Belarus
Latvia	Saudi Arabia	Comoros	Togo	Guyana	East Asia and Pacific non-oil	Bosnia-Herzegovina...
Lithuania	Syria	Democratic Republic of Congo	Uganda	Haiti	Cambodia	Macedonia FYR
Luxembourg	UAE	Côte d'Ivoire	Zambia	Honduras	China	Montenegro
Malta	Yemen	Eritrea	Zimbabwe	Jamaica	Fiji	Serbia
Martinique		Ethiopia		Mexico	Hong Kong	Ukraine

Note: Countries are classified as developing countries following UNCTAD's benchmark. We include as developing countries those which UNCTAD define as transition. Regional classification is made following World Bank's benchmark. Oil countries are those in which in at least one year oil rents represented 7.65% of GDP.

Table 5.12: Institutions and oil rents over GDP (Table 5.7)

FDI_{ijt} Extensive margin	Rule of law (1)	Lack of corruption (2)	Political stability (3)	Democracy (4)
$\ln(GDP_{it} \times GDP_{jt})$	-0.096 (0.18)	-0.088 (0.18)	-0.066 (0.17)	-0.107 (0.18)
$\ln(Distance_{ij})$	-0.387*** (0.03)	-0.387*** (0.03)	-0.386*** (0.03)	-0.383*** (0.03)
$BORDER_{ij}$	-0.128 (0.08)	-0.128 (0.08)	-0.127 (0.08)	-0.119 (0.08)
$LANGUAGE_{ij}$	0.508*** (0.06)	0.508*** (0.06)	0.508*** (0.06)	0.509*** (0.06)
$COLONY_{ij}$	0.585*** (0.08)	0.585*** (0.08)	0.585*** (0.08)	0.579*** (0.08)
$SMCNTY_{ij}$	0.592*** (0.16)	0.592*** (0.16)	0.592*** (0.16)	0.547*** (0.16)
$Religion_{ij}$	0.419*** (0.13)	0.419*** (0.13)	0.419*** (0.13)	0.421*** (0.13)
FTA_{ijt}	0.189*** (0.06)	0.187*** (0.06)	0.191*** (0.06)	0.191*** (0.06)
BIT_{ijt}	-0.026 (0.04)	-0.026 (0.04)	-0.024 (0.04)	-0.026 (0.04)
$OilRents_{jt}$	-0.056*** (0.01)	-0.042*** (0.01)	-0.019* (0.01)	-0.001 (0.01)
$Inst_{jt}$	0.116 (0.13)	-0.038 (0.08)	0.243*** (0.06)	0.022*** (0.01)
$OilRents_{jt} \times Inst_{jt}$	0.017*** (0.00)	0.016*** (0.00)	0.005** (0.00)	0.000 (0.00)
Fixed Effects			$\lambda_i, \lambda_j, \lambda_t$	
Observations	36037	36037	36004	34920
R^2	0.846	0.846	0.848	0.847

Standard errors in parentheses.

*p<0.10, **p<0.05, ***p<0.01

Table 5.13: Institutions and share of world oil-barrel production output (Table 5.8)

FDI_{ijt} Extensive margin	Rule of law (1)	Lack of corruption (2)	Political stability (3)	Democracy (4)
$\ln(GDP_{it} \times GDP_{jt})$	0.029 (0.17)	-0.069 (0.18)	0.016 (0.15)	-0.015 (0.16)
$\ln(Distance_{ij})$	-0.384*** (0.03)	-0.387*** (0.03)	-0.386*** (0.03)	-0.387*** (0.03)
$BORDER_{ij}$	-0.119 (0.08)	-0.123 (0.08)	-0.123 (0.08)	-0.114 (0.08)
$LANGUAGE_{ij}$	0.505*** (0.06)	0.510*** (0.06)	0.510*** (0.06)	0.505*** (0.06)
$COLONY_{ij}$	0.578*** (0.08)	0.566*** (0.08)	0.567*** (0.08)	0.556*** (0.08)
$SMCNTY_{ij}$	0.553*** (0.15)	0.567*** (0.15)	0.569*** (0.15)	0.560*** (0.16)
$Religion_{ij}$	0.400*** (0.13)	0.395*** (0.13)	0.397*** (0.13)	0.433*** (0.13)
FTA_{ijt}	0.179*** (0.06)	0.176*** (0.06)	0.181*** (0.06)	0.169*** (0.06)
BIT_{ijt}	-0.032 (0.04)	-0.014 (0.04)	-0.011 (0.04)	-0.018 (0.04)
$OilShare_{jt}$	-0.722*** (0.13)	-0.143** (0.07)	-0.218** (0.09)	-0.274*** (0.06)
$Inst_{jt}$	-0.01 (0.13)	-0.094 (0.09)	0.180*** (0.05)	-0.002 (0.01)
$OilShare_{jt} \times Inst_{jt}$	0.147*** (0.03)	0.037*** (0.01)	0.037** (0.02)	0.018*** (0.00)
Fixed Effects			$\lambda_i, \lambda_j, \lambda_t$	
Observations	35632	35878	35877	34017
R^2	0.846	0.847	0.85	0.85

Standard errors in parentheses.

*p<0.10, **p<0.05, ***p<0.01

Table 5.14: Institutions and oil rents over GDP, intensive margin

FDI_{ijt} Intensive margin	Rule of law (1)	Lack of corruption (2)	Political stability (3)	Democracy (4)
$\ln(GDP_{it} \times GDP_{jt})$	-0.023 (0.23)	0.015 (0.23)	-0.047 (0.23)	-0.048 (0.23)
$\ln(Distance_{ij})$	-0.390*** (0.06)	-0.389*** (0.06)	-0.388*** (0.06)	-0.387*** (0.07)
$BORDER_{ij}$	-0.009 (0.14)	-0.010 (0.14)	-0.010 (0.14)	-0.010 (0.14)
$LANGUAGE_{ij}$	0.481*** (0.11)	0.481*** (0.11)	0.481*** (0.11)	0.479*** (0.12)
$COLONY_{ij}$	0.461*** (0.11)	0.462*** (0.11)	0.462*** (0.11)	0.459*** (0.11)
$SMCOUNTRY_{ij}$	0.398 (0.26)	0.399 (0.26)	0.399 (0.26)	0.384 (0.26)
$Religion_{ij}$	0.836*** (0.23)	0.837*** (0.23)	0.837*** (0.23)	0.834*** (0.24)
FTA_{ijt}	0.160 (0.11)	0.164 (0.11)	0.165 (0.11)	0.168 (0.11)
BIT_{ijt}	-0.102 (0.07)	-0.103 (0.07)	-0.101 (0.07)	-0.095 (0.08)
$OilRents_{jt}$	-0.012 (0.04)	-0.036 (0.04)	0.017 (0.03)	0.029 (0.02)
$Inst_{jt}$	-0.259 (0.26)	-0.214 (0.18)	0.095 (0.11)	0.050** (0.02)
$OilRents_{jt} \times Inst_{jt}$	0.010 (0.01)	0.024 (0.01)	-0.000 (0.01)	-0.000 (0.00)
Fixed Effects			$\lambda_i, \lambda_j, \lambda_t$	
Observations	36037	36037	36004	34920
R^2	0.434	0.434	0.433	0.435

Standard errors in parentheses.
*p<0.10, **p<0.05, ***p<0.01

Table 5.15: Institutions and share of world oil-barrel production output, intensive margin

FDI_{ijt} Intensive margin	Rule of law (1)	Lack of corruption (2)	Political stability (3)	Democracy (4)
$\ln(GDP_{it} \times GDP_{jt})$	-0.042 (0.22)	-0.024 (0.23)	-0.081 (0.23)	-0.070 (0.23)
$\ln(Distance_{ij})$	-0.373*** (0.06)	-0.379*** (0.07)	-0.379*** (0.07)	-0.377*** (0.07)
$BORDER_{ij}$	-0.002 (0.14)	-0.007 (0.14)	-0.007 (0.14)	0.009 (0.14)
$LANGUAGE_{ij}$	0.473*** (0.11)	0.486*** (0.11)	0.485*** (0.11)	0.482*** (0.12)
$COLONY_{ij}$	0.475*** (0.11)	0.447*** (0.11)	0.447*** (0.11)	0.445*** (0.11)
$SMCOUNTRY_{ij}$	0.391 (0.25)	0.407 (0.25)	0.407 (0.25)	0.386 (0.26)
$Religion_{ij}$	0.843*** (0.23)	0.856*** (0.24)	0.856*** (0.24)	0.901*** (0.24)
FTA_{ijt}	0.179 (0.11)	0.162 (0.12)	0.163 (0.12)	0.161 (0.12)
BIT_{ijt}	-0.114 (0.08)	-0.088 (0.07)	-0.087 (0.07)	-0.087 (0.08)
$OilShare_{jt}$	-0.091 (0.30)	-0.126 (0.11)	-0.002 (0.16)	-0.221** (0.09)
$Inst_{jt}$	-0.169 (0.29)	-0.096 (0.21)	0.154 (0.13)	0.041* (0.02)
$OilShare_{jt} \times Inst_{jt}$	-0.008 (0.07)	-0.007 (0.04)	-0.032 (0.03)	0.007 (0.01)
Fixed Effects			$\lambda_i, \lambda_j, \lambda_t$	
Observations	35632	35878	35877	34017
R^2	0.437	0.436	0.436	0.438

Standard errors in parentheses.
*p<0.10, **p<0.05, ***p<0.01

Table 5.16: Institutions and share of fuel in merchandise exports, extensive margin

FDI_{ijt} Extensive margin	Rule of law (1)	Lack of corruption (2)	Political stability (3)	Democracy (4)
$\ln(GDP_{it} \times GDP_{jt})$	0.018 (0.17)	0.008 (0.17)	-0.025 (0.17)	-0.053 (0.17)
$\ln(Distance_{ij})$	-0.381*** (0.03)	-0.382*** (0.03)	-0.380*** (0.03)	-0.382*** (0.03)
$BORDER_{ij}$	-0.119 (0.08)	-0.119 (0.08)	-0.119 (0.08)	-0.112 (0.08)
$LANGUAGE_{ij}$	0.524*** (0.06)	0.524*** (0.06)	0.524*** (0.06)	0.518*** (0.06)
$COLONY_{ij}$	0.561*** (0.08)	0.561*** (0.08)	0.561*** (0.08)	0.551*** (0.08)
$SMCNTY_{ij}$	0.540*** (0.15)	0.539*** (0.15)	0.541*** (0.15)	0.539*** (0.16)
$Religion_{ij}$	0.411*** (0.13)	0.411*** (0.13)	0.412*** (0.13)	0.440*** (0.14)
FTA_{ijt}	0.185*** (0.06)	0.185*** (0.06)	0.190*** (0.06)	0.180*** (0.06)
BIT_{ijt}	-0.022 (0.04)	-0.023 (0.04)	-0.022 (0.04)	-0.026 (0.04)
$FuelExports_{jt}$	-0.041*** (0.01)	-0.015** (0.01)	0.017* (0.01)	-0.001 (0.00)
$Inst_{jt}$	-0.079 (0.14)	-0.120 (0.08)	0.248*** (0.06)	0.005 (0.01)
$FuelExports_{jt} \times Inst_{jt}$	0.015*** (0.00)	0.010*** (0.00)	-0.001 (0.00)	0.001*** (0.00)
Fixed Effects			$\lambda_i, \lambda_j, \lambda_t$	
Observations	35851	35851	35851	34223
R^2	0.852	0.852	0.851	0.851

Standard errors in parentheses.
*p<0.10, **p<0.05, ***p<0.01

Table 5.17: Institutions and share of fuel in merchandise exports, intensive margin

FDI_{ijt} Intensive margin	Rule of law (1)	Lack of corruption (2)	Political stability (3)	Democracy (4)
$\ln(GDP_{it} \times GDP_{jt})$	0.051 (0.23)	0.068 (0.23)	0.055 (0.22)	0.052 (0.22)
$\ln(Distance_{ij})$	-0.421*** (0.06)	-0.421*** (0.06)	-0.420*** (0.06)	-0.426*** (0.06)
$BORDER_{ij}$	-0.030 (0.14)	-0.030 (0.14)	-0.030 (0.14)	-0.026 (0.14)
$LANGUAGE_{ij}$	0.476*** (0.11)	0.476*** (0.11)	0.475*** (0.11)	0.471*** (0.12)
$COLONY_{ij}$	0.469*** (0.11)	0.469*** (0.11)	0.470*** (0.11)	0.469*** (0.11)
$SMCNTY_{ij}$	0.437* (0.24)	0.437* (0.24)	0.438* (0.24)	0.454* (0.25)
$Religion_{ij}$	0.694*** (0.23)	0.694*** (0.23)	0.695*** (0.23)	0.701*** (0.24)
FTA_{ijt}	0.116 (0.11)	0.116 (0.11)	0.118 (0.11)	0.109 (0.11)
BIT_{ijt}	-0.104 (0.08)	-0.104 (0.08)	-0.103 (0.08)	-0.098 (0.08)
$FuelExports_{jt}$	0.006 (0.03)	0.002 (0.01)	0.038* (0.02)	-0.009 (0.01)
$Inst_{jt}$	-0.024 (0.28)	-0.083 (0.19)	0.303** (0.13)	0.027 (0.02)
$FuelExports_{jt} \times Inst_{jt}$	-0.001 (0.01)	0.000 (0.01)	-0.009* (0.00)	0.001* (0.00)
Fixed Effects			$\lambda_i, \lambda_j, \lambda_t$	
Observations	35851	35851	35851	34223
R^2	0.447	0.447	0.448	0.447

Standard errors in parentheses.
*p<0.10, **p<0.05, ***p<0.01

Table 5.18: Institutions and oil barrels, extensive margin

FDI_{ijt}	Rule of law	Lack of corruption	Political stability	Democracy
Extensive margin	(1)	(2)	(3)	(4)
$\ln(GDP_{it} \times GDP_{jt})$	0.034 (0.17)	-0.060 (0.17)	0.046 (0.15)	0.012 (0.15)
$\ln(Distance_{ij})$	-0.387*** (0.03)	-0.387*** (0.03)	-0.386*** (0.03)	-0.387*** (0.03)
$BORDER_{ij}$	-0.123 (0.08)	-0.123 (0.08)	-0.123 (0.08)	-0.114 (0.08)
$LANGUAGE_{ij}$	0.510*** (0.06)	0.510*** (0.06)	0.510*** (0.06)	0.505*** (0.06)
$COLONY_{ij}$	0.567*** (0.08)	0.566*** (0.08)	0.567*** (0.08)	0.556*** (0.08)
$SMCNTY_{ij}$	0.567*** (0.15)	0.567*** (0.15)	0.569*** (0.15)	0.560*** (0.16)
$Religion_{ij}$	0.396*** (0.13)	0.395*** (0.13)	0.396*** (0.13)	0.434*** (0.13)
FTA_{ijt}	0.177*** (0.06)	0.176*** (0.06)	0.180*** (0.06)	0.168*** (0.06)
BIT_{ijt}	-0.015 (0.04)	-0.014 (0.04)	-0.011 (0.04)	-0.017 (0.04)
$OilBarrels_{jt}$	-0.916*** (0.17)	-0.234*** (0.08)	-0.395*** (0.13)	-0.404*** (0.09)
$Inst_{jt}$	-0.019 (0.14)	-0.116 (0.10)	0.163*** (0.05)	-0.003 (0.01)
$OilBarrels_{jt} \times Inst_{jt}$	0.190*** (0.04)	0.062*** (0.02)	0.065*** (0.03)	0.027*** (0.01)
Fixed Effects	$\lambda_i, \lambda_j, \lambda_t$			
Observations	35877	35878	35878	34017
R^2	0.848	0.847	0.850	0.851

Standard errors in parentheses.

*p<0.10, **p<0.05, ***p<0.01

Table 5.19: Institutions and oil barrels, intensive margin

FDI_{ijt}	Rule of law	Lack of corruption	Political stability	Democracy
Intensive margin	(1)	(2)	(3)	(4)
$\ln(GDP_{it} \times GDP_{jt})$	-0.053 (0.22)	-0.030 (0.23)	-0.094 (0.23)	-0.078 (0.23)
$\ln(Distance_{ij})$	-0.380*** (0.07)	-0.379*** (0.07)	-0.379*** (0.07)	-0.377*** (0.07)
$BORDER_{ij}$	-0.007 (0.14)	-0.007 (0.14)	-0.007 (0.14)	0.009 (0.14)
$LANGUAGE_{ij}$	0.486*** (0.11)	0.486*** (0.11)	0.485*** (0.11)	0.482*** (0.12)
$COLONY_{ij}$	0.446*** (0.11)	0.447*** (0.11)	0.447*** (0.11)	0.445*** (0.11)
$SMCNTY_{ij}$	0.406 (0.25)	0.407 (0.25)	0.407 (0.25)	0.385 (0.26)
$Religion_{ij}$	0.855*** (0.24)	0.856*** (0.24)	0.856*** (0.24)	0.902*** (0.24)
FTA_{ijt}	0.158 (0.12)	0.161 (0.12)	0.163 (0.12)	0.160 (0.12)
BIT_{ijt}	-0.088 (0.07)	-0.088 (0.07)	-0.087 (0.07)	-0.087 (0.08)
$OilBarrels_{jt}$	-0.108 (0.33)	-0.143 (0.14)	0.035 (0.22)	-0.272** (0.12)
$Inst_{jt}$	-0.188 (0.29)	-0.103 (0.21)	0.153 (0.13)	0.041* (0.02)
$OilBarrels_{jt} \times Inst_{jt}$	-0.011 (0.08)	-0.010 (0.05)	-0.045 (0.04)	0.010 (0.01)
Fixed Effects	$\lambda_i, \lambda_j, \lambda_t$			
Observations	35877	35878	35878	34017
R^2	0.437	0.436	0.437	0.439

Standard errors in parentheses.

*p<0.10, **p<0.05, ***p<0.01

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Chapter 6: Does it matter where foreign direct investment comes from? The effects of cross-border M&As on France

Abstract

The present article analyses the effects of Merger and Acquisitions (M&As) on targets' Total Factor Productivity (TFP), export intensity, employment and wages. We investigate whether the impact of M&As differ depending on the level of development from the country the investment comes from. We distinguish among takeovers made by multinationals firms from European, other developed, developing and tax haven countries. To this end, we build a unique firm level dataset of foreign direct investment in the French manufacturing sector. We apply generalised propensity score matching and difference in differences to estimate the effect of M&As. Results show that the consequences of takeovers differ strongly depending on the origin. In particular, M&As from tax haven countries stand out for their negative impact on TFP and wages, while M&As from developing countries excel for their positive impact on TFP and employment. Takeovers from other developed countries particularly foster export intensity, but hamper TFP. Noticeably, takeovers from Europe appear to improve targets' performance in all considered dimensions.

Keywords: Cross-border M&As; developing countries; Europe; firm performance; tax havens.

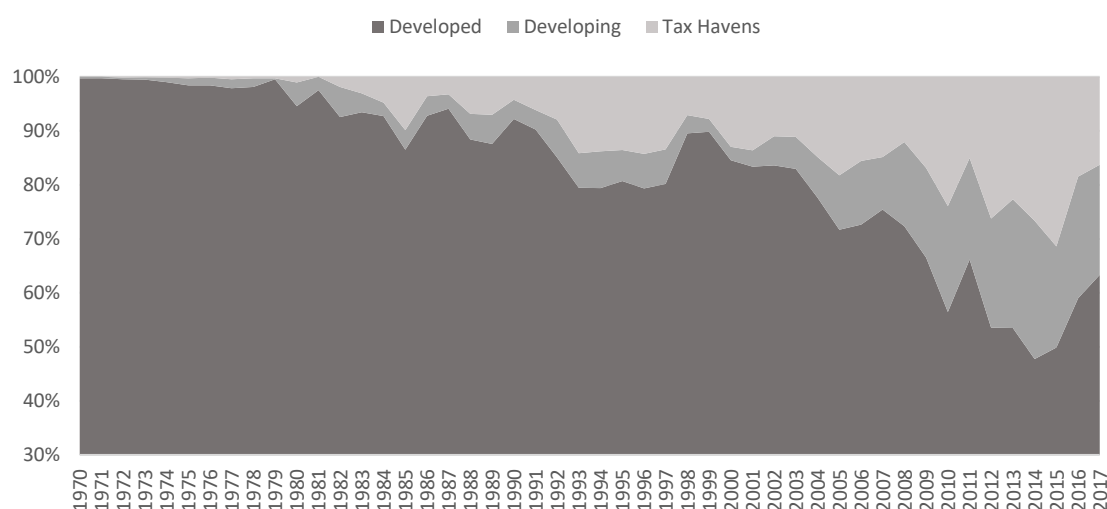
JEL Code: D24; F23, F60, G34

1. Introduction

Since the beginning of the present century, the landscape of foreign investors has drastically changed. Traditionally, developed countries have been the source of more than 80% of the world's Foreign Direct Investment (FDI), while between 2012 and 2016 their share has fallen below 60% (see Figure 6.1). Indeed, since the beginnings of the 90s, the weight of FDI outflows (OFDI) from developing countries significantly increased, reaching its maximum in 2014 (25.6%). Similar pattern is followed by tax havens, which during the last decade have been responsible on average for 20% of the world's OFDI.

This trend involves a rapid surge of cross-border M&As by multinationals (MNEs) from emerging and tax haven countries. Sounded examples of takeovers from emerging countries are cases such as the acquisition of Skyscanner by Ctrip, Kion by Weichai Power or Jaguar Land Rover by Tata Motors. OFDI from Emerging countries' MNE (EMNEs) is motivated, among other factors, by acquiring technological know-how and expanding their presence in developed countries. It is also a reaction to liberalization processes at home and the fruit of the support from their governments to invest abroad.

Figure 6.1: Outward FDI flows



Note: Author own calculations. UNCTAD's outward FDI statistics and countries classification¹.

¹ Tax haven countries are identified following Hines Jr & Rice (1994) and the OECD (2000) list as in Dharmapala & Hines Jr (2009), being the complete list: Andorra, Anguilla, Antigua and Barbuda, Aruba, Bahamas, Bahrain, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Islands, Cook Islands, Cyprus, Dominica, Gibraltar, Grenada, Guernsey, Hong Kong, Ireland, Isle of Man, Jersey, Jordan, Lebanon, Liberia, Liechtenstein, Luxembourg, Macao, Maldives, Malta, Marshall Islands, Mauritius, Monaco, Montserrat, Nauru, Netherlands Antilles, Niue, Panama, Saint Kitts and Nevis, Saint Lucia, Saint

Another singular pattern accompanying this surge of OFDI resides in the growth of capital flows involving tax havens countries. This phenomenon results in more intricate ownership structures, to the point that identifying the corporate nationality has become a complex task. The rise of tax havens can be explained by, among other factors, capital movement and financial deregulation, technological advances, which allow MNEs to locate subsidiaries across borders, and the increasing relevance of intangible assets in firms' economic activity. MNEs locate subsidiaries or their headquarter in tax havens with the objective of tax planning, to avoid their home country's government control, to benefit from better institutional quality and to access to external sources of finance².

The increasing diversification in the origin of M&As naturally raise several important questions regarding their effect. As a matter of fact, there is a mainstream position considering that FDI brings technology transfer, growth of employment, contributes to export expansion and diversification that could be challenged by these changing patterns.

The surge of FDI from developing countries motivated studies that focus mainly on its impact in other developing countries (e.g. Gold et al., 2017; Kamal, 2015; Ni et al., 2017; Takii, 2011). Exceptions are the works of Chen (2011) and Chari et al. (2012) that consider the case of the direct effect of EMNEs M&As on target firms in the United States, and Javorcik & Spatareanu (2011) who study the different spillovers effects depending on the origin of investment in the case of Romania. Then, other works investigate this topic, but only look into the consequences of investment from one emerging country FDI into a developed country (Carril-Caccia & Milgram-Baleix, 2017), compares developed and emerging countries' MNEs productivity (Sanfilippo, 2015), report case studies on innovation behaviour (Giulian et al., 2014) or compare EMNEs innovation performance across different countries (Piperopoulos et al., 2018). In contrast, research on capital flows from tax havens mostly evaluates their impact on countries' income or look into the drivers of opening a subsidiary in a tax haven (e.g. Desai et al., 2006a; Dharmapala, 2008), but does not tackle how FDI from these countries affect targets' performance.

Vicent and the Grenadines, Samoa, San Marino, Seychelles, Singapore, Switzerland, Tonga, Turks and Caicos Islands, Vanuatu and Virgin Islands (US).

²See Buckley et al. (2015), Dharmapala (2008), Dischinger & Riedel (2008) and UNCTAD (2016).

This article contributes to fill the existing gap in the literature. It delves into the implications of M&As on targets firms' performance in the French manufacturing sector depending on the home countries' level of development. The analysis distinguishes between M&As from MNEs headquartered in European, other developed, developing and tax haven countries. To this end, we exploit a novel firm level database from ORBIS (Bureau van Dijk Electronic Publishing) which allows to identify the year, origin and mode of investment. We consider the period 2005-2014 and analyse the impact of M&As on target firms' Total Factor Productivity (TFP), export intensity, wages and employment. This study focuses on France for two main reasons. First, research on the direct consequences of the surge EMNEs M&As into developed countries' firms is scant and limited to USA. European countries have also been affected by this trend but might have had different consequences to the USA. Moreover, France in part from the European Union (EU), thus in this way we are also able to test whether the EU integration significantly moderate the consequences of cross-borders takeovers within Member States. Second, ORBIS data for France has a high quality, includes export data and covers small firms.

The overall impact of foreign takeovers is analysed by applying Propensity Score Matching combined with difference in differences. In this case, cross-border M&As are considered as homogeneous. Results indicate that, on average, foreign acquisitions have a limited negative effect on TFP but fosters export intensity, while the level of employment and wages remain unchanged.

Alternatively, we apply Generalised Propensity Score Matching combined with difference in differences in order to study the effect depending on the origin of investment. We distinguish between takeovers from European, other developed, developing and tax haven countries. Reached evidence suggests that the sequel of M&As differ depending on the origin of investment. Acquisitions carried out by European MNEs increase TFP, export intensity, employment and wages. Investment from other developed countries seem to hamper TFP, but boost employment and export intensity. Takeovers from developing countries stand out for their positive impact on TFP and employment. Tax havens M&As hinder TFP, employment and wages, but foster export intensity.

The structure of this article is as follows. Section II outlines theoretical and empirical background on the effects of M&As and highlights the role of the source of investment. Section III presents the used database and the methodology is described in Section IV. Section V reports the results from applying Propensity Score Matching and Generalised Propensity Score Matching combined with difference in differences. Section VI offers some concluding remarks.

2. Literature review

2.1. The effects of FDI: Does the origin matter?

On the positive side, foreign capital inflows are expected to foster the target firms' efficiency, disseminate new technology, provide new capital and facilitate to the acquired firm the access into the investor's market (Gugler et al., 2003; Javanovic & Rousseau, 2008; Scherer, 1988). Furthermore, export platform FDI may boost exports from the target firm to other countries (Blonigen et al., 2014; Ekholm et al., 2007) and increase target's involvement in Global Value Chains. In line with these predictions, several works find that cross-border M&As increase investees' technological effort, participation in trade, wages, productivity, profitability and employment (e.g. Arnold & Javorcik, 2005; Balsvik & Haller, 2010; Bandick & Karpaty, 2011; Bertrand, 2009; Chen et al., 2017; Fukao et al., 2008; Girma et al., 2015; Huttunen, 2007; Liu et al., 2015; Wang & Wang, 2015).

Notwithstanding, there are channels through which FDI might have a negative impact on the host country. M&As may lead to the redeployment of the target's economic activity to some other location to avoid duplications between the investor and investee or to minimize costs (Capron et al., 1998). For instance, Blonigen et al. (2014) underline that even if investors may seek to exploit the existing trade networks from the target company, they may do it from a different location which minimizes trade costs. Hence, takeovers seeking to acquire knowledge and complementary assets do not necessarily imply an expansion of target firm's economic activity.

On top of that, in markets with high barriers to entry, M&As could reduce the level of competition and translate into oligopolies (Gugler et al., 2003; Hymer, 1970; Röller et al., 2000). Also, the lack of absorptive capacity, distance, cultural barriers and clashes, changes in management style or resistance or anxiety from the workforce to change may not only hamper the potential gains to be obtained from M&As but even turn them into negative outcomes (Caves, 1974; Harrison, 1994; Head & Ries, 2008; Seo & Hill, 2005). In line with these predictions, several works find that FDI can have a negative or non-significant impact on productivity, competition, R&D investment, wages and employment (e.g. Aitken & Harrison, 1999; Ashraf et al., 2015; Damijan et al., 2013;

Gugler et al., 2003; Harris & Robinson, 2002; Lehto & Böckerman, 2008; Stiebale & Reize, 2011).

Until recently, most of the existing empirical analysis considering foreign takeovers overlooked the fact that capital inflows come from very heterogeneous countries. A recent strand of the literature underlines that differences in economic development, culture, institutions, taxing regimes, managerial practices and technologies between home and host country, as well as the geographic distance, may influence on the effects of FDI (Amighini & Sanfilippo, 2014; Demir & Duan, 2018; Gold et al., 2017; Javorcik & Spatareanu, 2011; Kamal, 2015; Liu et al., 2015; MacCarthy & Aalbers, 2016; Ni et al., 2017; Takii, 2011; Todtenhaupt & Voget, 2017). Due to these differences, the assumption of homogeneity among the sources of investment is prone to lead to biased results.

Similarity on the above mentioned dimensions between the investor and the target firm may positively moderate the post-merger target's performance and thus result in an overall positive impact. Transaction costs faced by MNEs are lower, and targets are more likely to be capable of absorbing the foreign knowledge and managerial practices. On this regard, Bertrand & Betschinger (2012) and Cozza et al. (2015) suggest that EMNEs are less likely to make successful cross-border takeovers due to their lack of experience, reputation, capabilities and cultural barriers. Particularly in the context of host developed countries, these limitations may also result in EMNEs' takeovers hindering investees' performance.

Nevertheless, differences between home and host countries' and firm level characteristics may not necessarily imply foreign M&As hampering targets' performance. The technological superiority from developed countries MNEs', and particularly US MNEs, can lead to improvements in terms of productivity, R&D or wages (Benfratello & Sembenelli, 2006; Bloom et al., 2012; Demir & Duan, 2018; Kamal, 2015; Liu et al., 2015; Wei & Liu, 2006).

Unlike US MNEs, EMNEs usually lack firm specific competitive advantages (Child & Rodrigues, 2005; Luo & Tung, 2007). However, they may offer other kind of advantages such as complementary capabilities and better access to new markets, which may favour target firms' performance and contribute to increase their size (Bertrand & Betschinger,

2012; Zhang et al., 2010). Moreover, EMNEs do enjoy home country specific competitive advantages such as low labour costs, government support and the capacity of operating in contexts with low institutional quality (Buckley et al., 2007; Cuervo-Cazurra & Genc, 2008). From a different perspective, McCarthy & Aalbers (2016) show that cultural differences between home and host countries foster acquired firms' innovation performance.

Furthermore, EMNEs are more likely to face larger liability of foreignness due to the low institutional reputation of their home country government. This is particularly the case of M&As from Chinese MNEs in developed countries. Due to China's Government involvement in the expansion of Chinese private and State-Owned Enterprises abroad (see for an overview Buckley et al., 2007; Huang, 2016; Wuttke, 2017), the rise of Chinese takeovers is often seen with distrust by national governments. Concerns are related to national security and to the inadequate appropriation of technology. This liability of foreignness can be a barrier to EMNEs' economic activity in developed countries. However, this barrier can also push EMNEs to make a larger effort in contributing to the host country development (D'Amelio et al., 2016; Dimir & Hu, 2016; Gold et al., 2017).

Some works already present evidence that the source of foreign investment is relevant when analysing its impact on economic growth, wages, employment, R&D and productivity in the context of developed countries (e.g. Benfratello & Sembenelli, 2006; Bloom et al., 2012; Dachs & Peters, 2014; Fortanier, 2007; Girma & Görg, 2007; García-Vega et al., 2012; Piscitello & Rabbiosi, 2005; Schiffbauer et al., 2017). Nevertheless, the aforementioned works do not address the impact of FDI from developing countries.

The empirical studies which shed light on the effects of FDI from developing into developed countries are scarce. For instance, Chen (2011) and Chari et al. (2012) analyse the direct impact of cross-border M&As into US firms. Chen (2011) findings indicate that takeovers from industrialised countries boost labour productivity and profitability in a larger extent than M&As from developing countries. Chen (2011) also presents evidence showing that developed countries M&As are more likely to increase employment, while the opposite is found for EMNEs' acquisitions. Chari et al. (2012) only consider the consequences of M&As from developing countries. From a stock market perspective,

they find an increase in targets' valuation. In terms of performance, Chari et al. (2012) report that profitability increases, but employment, sales and plant, property and equipment decrease after the takeover.

Javorcik & Spatareanu (2011) analyze potential spillovers on productivity in Romania from European, American and Asian MNEs, and find that only the second have backward and forward significant positive effects. For the case of the BRICS's MNEs in Europe, Sanfilippo (2015) compares them with the rest of MNEs located in the old continent and concludes that EMNEs' are on average less productive than their equivalent competitors from developed countries. Based on this finding, Sanfilippo (2015) argues that EMNEs' investments in Europe decrease the host industry's productivity. Carril-Caccia & Milgram-Baleix (2017) find that Chinese M&As in Spain boost targets' labour productivity and profitability, but have a non-significant impact on wages. In addition, Carril-Caccia & Milgram-Baleix (2017) show that Chinese private MNEs boost employment, while the contrary applies when takeovers are made by State Owned Enterprises.

Through a qualitative analysis, Giulian et al. (2014) look into takeovers realized in the industrial machinery and equipment sector in Italy and Germany³. They compare the impacts on innovation of developed countries' MNEs versus EMNEs. The latter are more likely own predatory or dual subsidiaries. Predatory subsidiaries are characterized by transferring to the headquarters the preexisting knowledge available in the subsidiary and low involvement with the local innovative networks. Subsidiaries' value added activities are likely to be reduced and transferred to a different location in the future. Dual subsidiaries not only transfer knowledge back to headquarters, but also engage in local innovative activities with research centers, universities and local suppliers. Giulian et al. (2014) stress that the increasing presence of this type of subsidiaries from EMNEs can foster R&D effort in advanced economies. Piperopoulos et al. (2018) analyze Chinese OFDI and show that investment in developed countries fosters the performance in terms of innovation of EMNEs' subsidiaries in a larger extent than OFDI in other emerging countries.

³ They interview 47 firms from 25 countries.

Based on the reported studies, three main hypotheses emerge and translate into testable proposals. First, the technological superiority from developed countries MNEs and, in particular from US MNEs, is expected to boost the positive effects of FDI (e.g. Benfratello & Sembenelli, 2006; Bloom et al., 2012; Schiffbauer et al., 2017). This hypothesis justifies that M&As from developing countries should have a minor positive effect on targets' performance (Chen, 2011). Post-merger performance is positively conditioned by investor's technological endowment.

Second, investors' lower liability foreignness and higher familiarity with the host market consumers and institutions increases the chances of a better net result for the acquired firm. In the context of a European country, this would give way to attribute a larger positive impact to M&As coming from other European countries than the ones coming from the US or developing countries (e.g. Dachs & Peters, 2014; Piscitello & Rabbiosi, 2005).

Third, cultural, institutional and technological differences between investor and target might boost the positive outcomes from M&As (e.g. Giulian et al., 2014; García-Vega et al., 2012; McCarthy & Aalbers, 2016). In the context of Europe, this refers to the case of FDI from developing countries. Larger gains are possible by combining complementary assets and access to new markets. On this regard, since EMNEs are less productive than developed countries' MNEs (Sanfilippo, 2015), the technological gap between EMNEs and domestic firms is smaller. This aspect favors the combination of complementary assets as the needed absorptive capacity from the target is lower. Besides, liability of foreignness and distrust may result in EMNEs making a larger effort in not relocating economic activity abroad. Furthermore, asset and market seeking by EMNEs may result in a higher investment in R&D and expansion of targets' economic activity. As a consequence, the acquisition by EMNEs of subsidiaries in developed countries could translate into sizeable positive effects.

2.2. FDI from tax haven countries

The effects of cross-border M&As from tax haven countries have been mostly overlooked by the literature, often excluded from the sample of analysis or mixed with M&As from developed and developing countries. Tax haven countries are usually wealthy and

characterized by: small population, low or zero corporate taxes, bank secrecy laws and high institutional quality (Dharmapala, 2008). Corporations locate subsidiaries or their headquarters in tax havens for legal tax-planning, accessing capital, overcoming home country institutional barriers and benefiting from a wider variety of bilateral treaties coverage (Buckley et al., 2015; Dharmapala, 2008; Dharmapala & Hines Jr, 2009; UNCTAD, 2016; Weyzig, 2013).

Haberly & Wójcik (2015) study the determinants of FDI from tax havens and non-tax haven countries. They find that the formers are as sensible to distance as the latters and FDI flows into developing and developed countries alike. Moreover, Haberly & Wójcik (2015) evidence that FDI from tax havens are more sensible to colonial ties, but in contrast with non-tax haven FDI they are not attracted by host countries' rule of law. Then, Jones & Temouri (2016) show that technologically intensive firms are more likely to invest in tax haven countries and that home country corporate tax rate have a low impact on the likelihood of investing in tax havens. Desai et al. (2006a) evidence that USA MNEs with high technological intensity, large intra firm trade and foreign operations are more likely to invest in tax havens. Buckley et al. (2015), for Chinese MNEs, indicate that FDI into these countries is not only motivated by tax planning considerations, but also by accessing better institutional quality, avoiding home country government control and raising capital.

Research on the consequences of the rise of tax haven countries has mostly focused on how they affect tax income, and investment in tax havens and non-tax havens (e.g. Blanco & Rogers, 2012; Desai et al., 2006b; Dyreng et al., 2013; Hines Jr. & Rice, 1994; Slemrod & Wilson, 2009). Todtenhaupt & Voget (2017) do not directly address the impact of M&As from tax havens on targets' performance, but examine how tax burden differential between home and host country affects the productivity gains of M&As. The theoretical model and empirical evidence reported by Todtenhaupt & Voget (2017) show that tax differentials between investor and investee locations hamper the potential productivity gains to be obtained from M&As, but this negative impact from absolute tax burden might be mitigated by the firms' capacity to engage in profit shifting. The intuition behind this finding is that prioritizing profits maximization may result in locating the economic activity in the less productive subsidiary: tax differentials distort the allocation of MNEs' economic activity. A different strand of the literature examines how the presence of

MNEs subsidiaries in tax havens affect the firm value. For instance, Choy et al. (2017) show that the publication of the report named “Addicted to Tax Havens: The Secret Life of the FTSE 100” by ActionAid in 2011 had a negative impact on the value of UK listed firms with subsidiaries in tax havens. Alternatively, the evidence presented by Dyreng et al. (2013) indicates that US firms that engage in tax planning through Delaware increase their net income and firm valuation.

In light of the existing evidence, it is likely that takeovers from firms headquartered in tax havens might have a similar impact to the ones from developed countries. The likelihood of a MNE locating its headquarter in a tax haven increases with its endowment of intangible assets and global economic activity. In fact, for the case of France the main investors from these countries are Switzerland, Luxembourg and Ireland, which are developed European countries. Moreover, tax havens offer MNEs a wider set of trading opportunities (Choy et al., 2017). However, tax havens are also heavily used by conglomerate and investment funds whose motivations may well obey to rent seeking purposes, making likely that investments from these countries entail a negative impact on productivity and employment. In addition, as shown by Todtenhaupt & Voget (2017), tax differential between home and host country may distort the efficient allocation of economic activities. As tax havens enjoy a lower corporate tax, economic activity might be relocated, in detriment of efficiency, with the sole purpose of maximizing short run profits.

3. Dataset and measures of performance

3.1. Dataset

We gather data from ORBIS, from Bureau van Dijk Electronic Publishing, to build a firm-level panel of French firms in the manufacturing sector. ORBIS contains financial and ownership information for more than 150 million firms across the world. Primary data are retrieved from Local Chambers of Commerce (Kalemlı-Ozcan et al., 2015; Ribeiro et al., 2010). Although this source has been previously used to study FDI (e.g. Bertrand & Betschinger, 2012; Bloom et al., 2012; Cozza et al., 2015; Stiebale & Reize, 2011), the present work uses a different approach for identifying the FDI projects.

To measure FDI, the main drawback of ORBIS is that firms are classified into foreign or domestic according to the last year of ownership available. The database does not provide directly when ownership changed and the mode of entry. Kalemlı-Ozcan et al. (2015) present a methodology to overcome this limitation. Kalemlı-Ozcan et al. (2015) use several versions of the database across time to build a panel of the changes of ownership from domestic to foreign. A similar strategy is followed by Stiebale & Reize (2011). Its main limitation is that the year is not precisely identified (i.e. firms change of ownership between different ORBIS versions), and the mode of investment remains unknown.

Other works such as the ones of Bertrand & Betschinger (2012), Cozza et al. (2015) and Todtenhaupt & Voget (2017), combine ORBIS data with Zephyr, Thomson Reuters and fDi Markets databases. In this way, it is possible to identify the year and mode of investment. Nevertheless, this approach suffers from another shortcoming since it only takes into consideration highly publicly disclosed investment projects. Moreover, it only considers the direct change of ownership provoked by a takeover. That is say, each M&As is accounted as one flow from one company in one country, to another company in a different country. This is also a limitation. As pointed by Cantwell (1992), each operation of this kind can implicate different indirect changes of ownerships since the investors also acquire the companies previously owed by the new subsidiary. In addition, these indirect acquisitions may be located or not in the same recipient country.

To certain extent, the methodology used to construct the dataset for this study overcomes the above-mentioned issues. For sake of brevity, a full description of the methodology

used is available in Appendix 6.2. To identify the year and mode of foreign investment, the ownership history of each firm available in ORBIS is considered case by case. The ownership history provides the evolution of shareholders (or owners) of each firm through time. When only a unique foreign owner has been reported since the year of creation of the firm, the investment is classified as a greenfield investment. Similarly, a cross-border M&A is recorded when the shareholder of the firm changes from domestic to foreign. Whenever ORBIS does not provide consistent information for a given firm, information is completed by using Thomson Reuters, Zephyr, news, and firms' reports and websites. Since FDI may enter through transit countries (i.e. the investor is a subsidiary which is not located in the same country as the MNE's headquarter), we identify the nationality of the investors by relying on the ultimate owner. Moreover, as ORBIS provides information of all the subsidiaries hold by a firm, we are also able to identify the subsidiaries which are acquired indirectly.

The study focuses on the French manufacturing sector. After cleaning⁴, the sample accounts for 25,543 firms with unconsolidated accounts. The sample only includes fully domestic firms and those firms which at least 50% of its ownership has been acquired by a foreign MNE during the period 2006-2014. In total, 409 M&As are considered in the analysis among which: 51.6% are European MNEs (EUR), 22% from other developed countries (ODC), 8.3% from developing countries (LDC) and 18.1% from tax havens (TxHv). Table 6.1 shows the number of M&As by country of origin.

The panel data is unbalanced and comprehends the period 2005-2014 and covers 22 manufacturing subsectors according to the 2-digit NACE Rev. 2 classification. Financial variables are deflated using a 2-digit NACE level producer price index (base 2010), provided by the French National Institute for Statistics and Economics Studies (INSEE). Material costs are deflated taking into consideration the input and output tables and employees costs are deflated using the consumer price index. Total assets are deflated by using the capital goods deflator provided by INSEE.

⁴See Appendix 6.1 for a full description on how the database has been cleaned.

Table 6.1: Origin of M&As

EUR		ODC		LDC		TxHv	
Great Britain	49	USA	64	India	13	Luxembourg	39
Germany	44	Japan	18	China	7	Switzerland	21
Italy	27	Canada	4	Republic of Korea	4	Ireland	9
Netherlands	23	Australia	2	Turkey	4	Singapore	2
Belgium	20	Israel	2	Algeria	3	Bahamas	1
Spain	16			Mexico	1	Liechtenstein	1
Sweden	9			Russia	1	Monaco	1
Poland	5			Somalia	1		
Austria	4						
Norway	4						
Denmark	3						
Island	3						
Finland	1						
Greece	1						
Hungary	1						
Portugal	1						
Total	211		90		34		74

Note: Author own elaboration.

3.2. Measures of performance

We analyse the impact of M&As on target firms' TFP, export intensity, employment and wages. TFP is calculated following Akerberg et al. (2015) correction to the method proposed by Levinsohn & Petrin (2003). Accordingly, we estimate the residual of the following log linearized Cobb-Douglas production function with the Stata program provided by Manjón & Mañez (2016):

$$y_{it} = \beta_0 + \beta_1 l_{it} + \beta_2 a_{it} + \beta_3 k_{it} + \beta_4 m_{it} + \omega_{it} + \eta_{it} \quad (1)$$

where y_{it} , l_{it} , a_{it} , k_{it} and m_{it} represent respectively added value, number of employees, age total assets and material costs from firm i in year t . The error term is additively and separable, being ω_{it} a state variable which stands for the transmitted component which has an impact on firm's decision, and η_{it} is an independent and identically distributed variable which has no impact on firm's decision. From ω_{it} firms' productivity is derived. TFP estimate is available in Appendix 6.3.

The method proposed by Levinsohn & Petrin (2003) is an extension of the one proposed by Olley & Pakes (1996), both seek to control for the correlation between input levels and unobserved productivity shocks. The intuition is the following: when suffering from a productivity shock, firms are likely to modify the output and in consequence the inputs. In contrast to Olley & Pakes (1996) and Levinsohn & Petrin (2003), an ordinary least

squares (OLS) estimate of the production function does not take into consideration the above-mentioned correlation and consequently is prone to report biased TFP estimates.

For our study, Levinsohn & Petrin (2003) is preferred to Olley & Pakes (1996) for three reasons. First, for Olley & Pakes (1996) the exit of firms, due to bankruptcy, from the sample is needed. ORBIS does not record these events accurately and the used sample is based on active firms only. Second, Olley & Pakes (1996) use investment, as a proxy for firms' adjustment to productivity shocks, for estimating TFP which should be non-zero. This leads to exclude from the sample all firm-year observations in which investment is equal to zero, which as pointed by Levinsohn & Petrin (2003) significantly truncates the sample. Finally, productivity shocks may not always translate into investment adjustments, while intermediate inputs are easier to adjust and more likely to respond smoothly to productivity shocks (Levinsohn & Petrin, 2003).

Besides TFP, we consider firms' export intensity, the logarithm of the level of total employment and the logarithm of wages. Export intensity is the ratio between exports and sales, and wages is the average level of wages paid in the target firm⁵.

⁵ The average wage is approximated by dividing the total costs of employees by the number of employees.

4. Methodology

4.1. The impact of M&A regardless the origin of the investor

Our first concern is to identify firms' characteristics that make them more likely to receive FDI. This is particularly important since target firms can self-select into receiving FDI, and thus rise an endogeneity problem which may bias the estimates when comparing the performance of acquired and non-acquired firms (Caliendo & Kopeinig, 2008; Dehejia & Wahba, 2002). MNEs may "*cherry pick*" investees (Arnold & Javorcik, 2005). For instance, the most productive firms might be the ones more likely to be acquired. Post-M&As comparison with non-acquired firm is then likely to show that acquired firms improve their performance in a larger extent than the non-acquired ones. However, it wouldn't be clear whether the better performance from the target firms is due to the efficiency gains brought by the M&As or if it is due to their superiority prior to the acquisition. Alternatively, foreign investors may seek to acquire firms whose value diminished due to sudden negative shocks and/or firms facing credit constraints and loses but still possess valuable assets for the investor. In sum, "*fire-sale FDI*" (Krugman, 2000) and "*cherries for sale*" (Blonigen et al., 2014) should be also taken into account to avoid selection bias.

To overcome this endogeneity issue and to gauge accurately the impact of M&As, we apply Propensity Score Matching (PSM) combined with difference in differences (e.g. Arnold & Javorcik, 2005; Fukao et al., 2008; Girma et al., 2015). Observational studies use PSM for estimating the effects of receiving a treatment in comparison with not receiving it, and it is expected to reduce the self-selection bias (Caliendo & Kopeinig, 2008; Imbens & Wooldridge, 2009; Rosenbaum & Rubin, 1983). In our case, the objective is to eliminate the potential correlation between the outcome (e.g. the impact on TFP) with a set of observable variables (X_i) from the treated and untreated (Egger et al., 2008).

PSM selects a comparison group to be compared with the treated group (i.e. firms that are acquired). This comparison group is selected based on the probability of receiving a treatment conditional on a set of covariates X_i , the calculated probability is known as the propensity score (Caliendo & Kopeinig, 2008; Imbens, 2000). This group aims to be as similar as possible to the one that receives the treatment, and thereby minimises the case

of a selection bias. The quality of the estimate of the impact of the treatment will depend on the control population and selection model (Dehejia & Wahba, 2002; Guo & Fraser, 2014). To this end, we estimate the following logit model:

$$MA_{it} = \alpha + \beta_1 Age_{it} + \beta_2 Age_{it}^2 + \beta_3 Employ_{it-1} + \beta_4 Wages_{it-1} + \beta_5 CapLab_{it-1} + \beta_6 Liquidity_{it-1} + \beta_7 ExpInt_{it-1} + \beta_8 TFP_{it-1} + \lambda_j + \lambda_x + \lambda_t + u_{it} \quad (2)$$

Subscripts i and t stand for firm i in year t . MA is a dummy equal to one when the firm receives investment in year t . λ_j , λ_x and λ_t respectively represent sector, province and year fixed effects, and u_{it} is the error term. The covariates X_i in the selection model⁶ are the firms' age and age squared (Age_{it} , Age_{it}^2), the logarithm of the number of employees ($Employ_{it-1}$), wages ($Wages_{it-1}$) and the capital labour ratio ($CapLab_{it-1}$), liquidity ratio⁷ ($Liquidity_{it-1}$), export intensity ($ExpInt_{it-1}$) and the total factor productivity (TFP_{it-1}). Setting the firms' characteristics that determine the likelihood of receiving FDI in time $t - 1$ prevents us from including in the selection model target's attributes acquired after the change of ownership (Arnold & Javorcik, 2005; Girma et al., 2015). Descriptive statistics are available in table 6.2.

The analysis is performed by applying nearest-neighbour with replacement as in Fukao et al. (2008). This strategy ensures to reduce bias since the closest comparison unit is used for calculating the effect of the treatment (Dehejia & Wahba, 2002). Moreover, we restrict the sample to the common support, that is to say, the analysis is circumscribed to the treated firms whose propensity score are within the limits of the propensity score calculated for the control group (Guo & Fraser, 2014)⁸. Next, we test the performance of the selection model; if the selection model performs correctly there should be no significant differences of the X_i covariates between the treated and the selected untreated firms.

Once the reliability of the selection model is guaranteed, we estimate the effects by difference-in-differences. To this end, we use the Stata program named PSMATCH2

⁶ The X_i are chosen following the previous literature (e.g. Arnold & Jarvorcik, 2005; Blonigen et al., 2014)

⁷ In which the liquidity is current assets minus current liabilities divided by total assets.

⁸ In our case, due to the large sample of untreated firms and the fact that treated and untreated firms share a common support (as reported in Section V), nearest-neighbour matching is the appropriate approach.

from Leuven & Sianesi (2018). Our dependent variable is the difference between the outcome variable⁹ in the year prior to the acquisition ($t - 1$), and its value in the current year of the treatment (t), or posterior years ($t + 1$, $t + 2$, $t + 3$ and $t + 4$). For instance, to measure the impact of the foreign takeover in year t on the TFP during the year of acquisition, after matching, we estimate by OLS the following equation:

$$TFP_{it} - TFP_{it-1} = \tau_1 MA_{it} + u_{it} \quad (3)$$

Where MA_{it} is a dummy which takes one in the year of acquisition and τ_1 is the coefficient which quantifies the impact of M&As on TFP in the year of acquisition.

Table 6.2: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Age_{it}	150,549	22.72	15.02	2	115
Age_{it}^2	150,549	741.94	965.64	4	13,225
$Employ_{it-1}$	150,549	3	1	0	10.81
$Wages_{it-1}$	150,549	3.65	0.34	1.95	5.21
$CapLab_{it-1}$	150,549	4.41	0.74	1.30	8.58
$Liquidity_{it-1}$	150,549	2.04	0.27	0	2.90
$ExpInt_{it-1}$	150,549	0.08	0.18	0	1.00
TFP_{it-1}	150,549	3.91	0.38	0.69	6.18

Note: Author's own elaboration. Employ, Wages, CapLab and TFP are in logarithms. Liquidity and TFP are recalculated so they do not take negative values.

4.2. The impact of M&A according to the origin of investor

To address whether the impact of M&As varies depending on the origin of investment (i.e. where the MNE is headquartered), we assume that the treatments received by targets firms are not homogeneous. We identify four different treatments domestic firms can potentially receive (and become targets): (1) acquisition by a European MNE (EUR), (2) by another developed country MNE (ODC), (3) by a developing country MNE (LDC) and (4) by a tax haven MNE (TxHv). Thereby, treatment has multiple unordered categories.

As indicated in the previous section, a firm being acquired by a MNE is not a random event, self-selection of investees due to observable differences is likely. When distinguishing among the sources of investment, it might also be the case of a self-

selection specific to each origin of investor since the characteristics of firms may not exert the same attraction on each type of investors. That is to say, the determinants of investment may differ depending on whether the acquiring MNE is from EUR, ODC, LDC or TxHv. In line with this hypothesis, a growing strand of literature highlights how FDI from developing countries differs from the one from developed countries (e.g. Demir & Hu, 2016; Guillén & García-Canal, 2009; Hyun & Kim, 2010) or shows a different investment behaviour when FDI is from tax havens (Haberly & Wójcik, 2015).

We follow the extension of the propensity score methodology named *generalized propensity score*, proposed by Imbens (2000) and Lechner (2001) for the case of multiple treatments. Imbens (2000, p. 708) indicates “*The generalised propensity score is the conditional probability of receiving a particular level of treatment given the pre-treatment variables*”. Then, the average outcome is calculated conditioned on the generalised propensity score.

To this end, the strategy consists in the following three steps. First, a multinomial model with the same covariates as equation (2) is estimated. Second, the conditional expectation (i.e. generalised propensity score), is retrieved from the multinomial model and its inverse is calculated. Third, the average effect on the outcome is estimated by weighting the observations with the inverse generalised propensity score (Guo & Fraser, 2014; Imbens, 2000). The last step is the difference-in-differences analysis, which is a weighted OLS regressions with standard errors clustered at the firm level. To measure the impact of the foreign takeover in year t on the TFP during the year of acquisition, we estimate the following equation:

$$TFP_{it} - TFP_{it-1} = \alpha + X_i + \tau_1 MAEUR_{it} + \tau_2 MAODC_{it} + \tau_3 MALDC_{it} + \tau_4 MATxHv_{it} + u_{it} \quad (4)$$

where X_i is the set of independent variables from equation (2) and $MAEUR_{it}$, $MAODC_{it}$, $MALDC_{it}$ and $MATxHv_{it}$ are dummies which take 1 in the year in which the takeover respectively from EUR, ODC, LDC and TxHv took place. The associated coefficients (τ_1, τ_2, τ_3 and τ_4) represent the average impact of M&A on the year of acquisition.

5. Results

5.1. Selection model: The determinants of acquisitions

5.1.1. Binary model

The first empirical concern refers to whether the potential endogeneity issue is overcome by the selection model. The results from the logistic model are displayed in table 6.3. Then, tables 6.4 and 6.5 together with figure 6.2 report the differences in the X_i covariates between treated and untreated firms before and after applying PSM.

In line with the previous literature (e.g. Arnold & Javorcik, 2005; Bertrand & Zitouna, 2008; Chari et al., 2012), the logistic estimates reported in table 6.3 indicate that, on average, the firm size ($Employ_{it-1}$), capital labour intensity ($CapLab_{it-1}$) and export intensity ($ExpInt_{it-1}$) increase the likelihood of being acquired by a foreign MNE. In contrast with the previous literature (e.g. Arnold & Javorcik, 2005; Fukao et al., 2008), but in line with Kamal (2015), domestic firms' productivity does not appear to affect the likelihood of receiving FDI. Moreover, the liquidity ratio has a negative impact on the likelihood of being acquired. In addition, the number of years the firm has been operating and the average level of wages have a non-significant impact. According to these results, foreign MNEs seek to acquire large firms with a high capital-labour ratio and seriously involved in international trade. The lack of significance of TFP and the negative impact of liquidity, indicate that acquisitions are not determined by firms' productivity, and that foreign investors are more prone to acquire firms which are under financial distress.

Table 6.4 illustrates that the PSM with nearest neighbour selects a comparison group which does not show significant difference with the treated firms. The X_i variables before acquisition are not significantly different between both groups. Moreover, the resulting standardized bias after matching are in all cases below the 10% threshold¹⁰. Figure 6.2 illustrates the significant bias reduction after matching. In addition, table 6.5 shows that the set of X_i become all insignificant when considering the probability of M&As between the firms which were acquired and the selected control group. In other words, the model

¹⁰ Standardized differences, the existing bias, are calculated using the following formula $d = \frac{(\bar{x}_t - \bar{x}_{unt})}{\sqrt{\frac{s_t^2 + s_{unt}^2}{2}}}$ where t represent treated firms and unt untreated firms. A standardized bias above 10% is usually considered to imply the existence of meaningful imbalance (Austin, 2009).

that assesses the likelihood of receiving FDI before matching completely loses its explanatory power after matching. Finally, table 6.5 also reports Rubin's B and R statistics that also confirm that the sample is sufficiently balanced¹¹ (Austin, 2009). All these tests guarantee the appropriate selection of a control group to estimate the impact of M&As on firms' performance.

Table 6.3: Binomial selection model, M&As' determinants

	(1) M&As
<i>Age_{it}</i>	0.013 (0.01)
<i>Age_{it}²</i>	-0.000 (0.00)
<i>Employ_{it-1}</i>	0.610*** (0.05)
<i>Wages_{it-1}</i>	0.274 (0.26)
<i>CapLab_{it-1}</i>	0.445*** (0.10)
<i>Liquidity_{it-1}</i>	-0.416** (0.21)
<i>ExpInt_{it-1}</i>	1.713*** (0.18)
<i>TFP_{it-1}</i>	-0.091 (0.18)
Constant	-10.617*** (0.97)
Fixed effects	$\lambda_j, \lambda_x, \lambda_t$
Observations	150549
Pseudo R^2	0.185

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Then, figure 6.3 shows that target firms can be represented within domestic firms' propensity scores distribution. Accordingly, both groups share a large common support region, fact that allows to apply nearest neighbour matching limited to the common support region without losing any treated firm from the sample. If this were not the case, both groups would only share a narrow common support region; then, a different matching approach based on weighting the whole sample would be more appropriate (Guo & Fraser, 2014).

¹¹ Statistic B should be less than 25 and R should be between 0.5 and 2 for having a sufficiently balanced sample.

Table 6.4: Balance test and bias reduction

Variable	Unmatched Matched	Mean		Bias		t-test	
		Treated	Control	% of bias	% of bias reduction	t	p>t
<i>Age_{it}</i>	U	27.64	22.88	31.50		6.39	0.00
	M	27.64	29.05	-9.30	70.50	-1.34	0.18
<i>Age_{it}²</i>	U	995.66	750.08	25.30		5.12	0.00
	M	995.66	1062.80	-6.90	72.70	-0.97	0.33
<i>Employ_{it-1}</i>	U	4.59	2.62	157.80		29.55	0.00
	M	4.59	4.53	4.40	97.20	0.62	0.54
<i>Wages_{it-1}</i>	U	3.80	3.65	46.50		9.09	0.00
	M	3.80	3.79	4.60	90.00	0.73	0.47
<i>CapLab_{it-1}</i>	U	4.94	4.42	75.40		14.32	0.00
	M	4.94	4.91	4.80	93.60	0.70	0.48
<i>Liquidity_{it-1}</i>	U	2.03	2.05	-4.70		-0.93	0.35
	M	2.03	2.03	0.10	97.20	0.02	0.99
<i>ExpInt_{it-1}</i>	U	0.33	0.08	101.60		27.61	0.00
	M	0.33	0.31	7.80	92.30	0.91	0.36
<i>TFP_{it-1}</i>	U	4.22	3.92	77.60		15.84	0.00
	M	4.22	4.18	8.40	89.10	1.15	0.25

Note: Based on author's own calculations using PSMATCH2 Stata module.

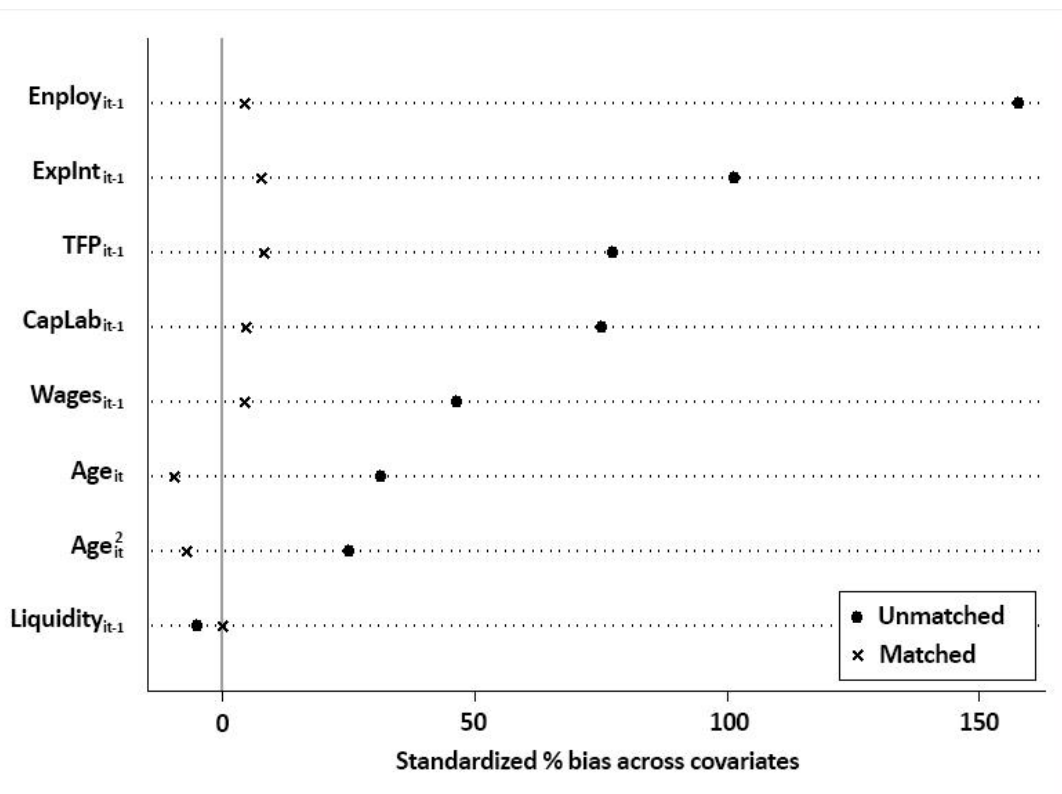
Table 6.5: Overall matching bias

Sample	Ps R2	LR chi2	p>chi2	Mean Bias	Med Bias	B	R	%Var
Unmatched	0.168	932.64	0	65	60.9	176.7*	1	38
Matched	0.005	5.63	0.689	5.8	5.9	16.6	1.14	38

* if B>25%, R outside [0.5; 2]

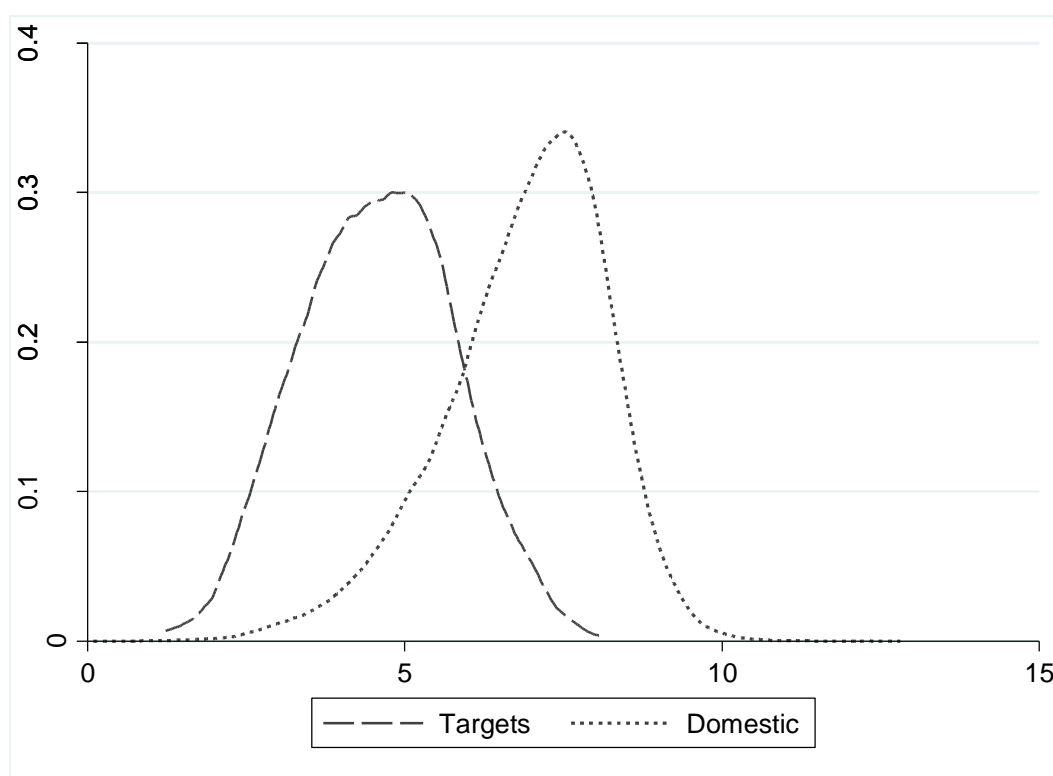
Note: Based on author's own calculations using PSMATCH2 Stata module.

Figure 6.2: Balancing of covariates before and after matching



Note: Based on author's own calculations using PSMATCH2 Stata module.

Figure 6.3: Density of estimated propensity scores



Note: Based on author's own calculations using the propensity scores calculated with equation 2.

5.1.2. Multinomial model

Results from the multinomial model are reported in table 6.6. Overall, the determinants of M&As do not seem to vary depending on the origin of investors. Regardless of the group, the size of the firm, the capital intensity and export intensity are factors that increase the likelihood of being acquired by a foreign MNE. Only the size of these coefficients seem to vary between groups, capital intensity appears to be particularly relevant for LDC MNEs and export intensity for ODC MNEs.

However, M&As from EUR and ODC exhibit a different pattern compared with the ones from LDC and TxHv. The likelihood of being acquired by a MNEs from Europe increases as the potential firm suffers from liquidity constraints. In the case of M&As from ODC, although export intensity is a relevant determinant of M&As, results indicate that the likelihood of being acquired decreases with the domestic firm's level of productivity. Both results could reflect the presence of "fire-sale FDI" or "cherries for sale" (Blonigen et al., 2014; Krugman, 2000). EUR and ODC MNEs seek the acquisition of firms which have valuable assets (i.e. large firms with a high capital and export intensity) but that they

have suffered from credit constraints or a negative productivity shock. These negative shocks decrease the firm's acquisition price and make it more attractive to foreign investors. For our period of study (2005-2014), this is particularly relevant as the 2008 economic crisis particularly hampered FDI from developed countries (UNCTAD, 2009).

Table 6.6: Multinomial selection model, M&As' determinants

	EUR (1)	ODC (2)	LDC (3)	TxHv (4)
Age_{it}	0.014 (0.02)	0.024 (0.03)	-0.049 (0.03)	0.036 (0.03)
Age_{it}^2	-0.000 (0.00)	-0.001 (0.00)	0.001 (0.00)	-0.001 (0.00)
$Employ_{it-1}$	0.570*** (0.07)	0.683*** (0.09)	0.645*** (0.16)	0.626*** (0.11)
$Wages_{it-1}$	0.261 (0.36)	0.375 (0.52)	-0.639 (0.87)	0.669 (0.62)
$CapLab_{it-1}$	0.430*** (0.13)	0.410** (0.20)	0.674** (0.31)	0.383* (0.22)
$Liquidity_{it-1}$	-0.620** (0.30)	-0.086 (0.42)	-0.696 (0.73)	-0.171 (0.51)
$ExpInt_{it-1}$	1.256*** (0.26)	2.990*** (0.36)	1.590** (0.65)	1.134** (0.45)
TFP_{it-1}	0.089 (0.26)	-0.740** (0.37)	0.334 (0.65)	0.145 (0.43)
Constant	-11.790*** (1.39)	-11.834*** (1.98)	-10.428*** (3.10)	-14.730*** (2.43)
Fixed effects	$\lambda_j, \lambda_x, \lambda_t$			
Observations	150549			
Pseudo R2	0.191			

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5.2. The effects of takeovers

5.2.1. Productivity

Table 6.7 reports the estimates regarding how M&As affect TFP. Column 1 refers to the estimates that consider M&As as homogeneous (equation (3)), estimated with PSM with nearest neighbour. Columns 2-5 are the results from the generalized propensity score matching (weighted equation (4)). Without distinguishing among sources, estimates indicate that M&As harm TFP during the year contemporary to the investment, while the impact becomes non-significant in the following years.

Columns 2-5 illustrate that TFP is differently affected depending on the origin of investment. M&As by EUR MNEs only lead to a 5.57%¹² increase in TFP in the third year after acquisition. Alternatively, ODC M&As seem to negatively hit productivity. In

¹² $(e^{0.054} - 1) \times 100$. Note that TFP, employment and wages are in logarithms.

the first year after acquisition there is a 9.75% growth in TFP, but in the second and fifth year TFP decreases by 6.57% and 11.49%. M&As from MNEs headquartered in tax havens (TxHv) would also damage productivity, indeed leading to a 10% drop in TFP. Acquisitions from developing countries (LDC) stand out for their positive impact. Even if they would produce in a first step a 9.70% drop in TFP, TFP would increase above the average respectively by 11.07%, 14.91% and 12.19% in the first, second and fourth year after acquisition.

The reached results for ODC and LDC contrasts the findings from Chen (2011). The author shows that the productivity gains from M&As are larger in the case from industrialized countries than from non-industrialized. Conversely, it is in line with the evidence reported by Carril-Caccia & Milgram-Baleix (2017) who shows that Chinese takeovers boosts labour productivity in Spain.

Table 6.7: Impact on TFP

t	All M&As (1)	EUR (2)	ODC (3)	LDC (4)	TxHv (5)	Treated
0	-0.037 (0.02)	-0.007 (0.02)	-0.067 (0.05)	-0.102 (0.04)	-0.029 (0.03)	409
1	-0.014 (0.02)	0.035 (0.02)	0.093 (0.03)	0.105 (0.03)	0.030 (0.03)	335
2	-0.012 (0.02)	0.018 (0.02)	-0.068 (0.04)	0.139 (0.03)	0.032 (0.03)	285
3	0.009 (0.03)	0.054 (0.02)	-0.025 (0.03)	0.094 (0.07)	0.035 (0.04)	228
4	0.001 (0.03)	0.037 (0.03)	-0.122 (0.04)	0.115 (0.05)	-0.105 (0.03)	194

Note: Author's own calculations by estimating equations (3) and (4). Where 0 is the year of acquisition. Numbers in bold represent the significant coefficients with a probability equal or below 0.10.

5.2.2. Export intensity

Table 6.8 reports the results for the impact of M&As on targets' export intensity (ExpInt). In this case, investments from MNEs located in distant countries (ODC and LDC) are expected to foster investees' export intensity. In this line, considering M&As as heterogeneous uncovers that takeovers from other developed countries (ODC) boost investees' export intensity. The remaining sources of investment also appear to foment exports, but in a lower extent. Interestingly, M&As from LDC have the lowest positive impact, they only stimulate the export intensity in the second year of acquisition by 2.6 percentage points.

Table 6.8: Impact on export intensity

t	All M&As (1)	EUR (2)	ODC (3)	LDC (4)	TxHv (5)	Treated
0	-0.006 (0.01)	0.010 (0.01)	0.029 (0.01)	-0.008 (0.01)	0.007 (0.01)	409
1	0.019 (0.01)	0.027 (0.01)	0.049 (0.03)	0.017 (0.01)	0.038 (0.02)	359
2	0.024 (0.02)	0.047 (0.02)	0.039 (0.02)	0.026 (0.01)	0.064 (0.03)	324
3	0.030 (0.02)	0.030 (0.02)	0.065 (0.02)	0.003 (0.02)	0.040 (0.03)	274
4	0.034 (0.02)	-0.001 (0.02)	0.055 (0.02)	-0.018 (0.02)	0.031 (0.03)	225

Note: Author's own calculations by estimating equations (3) and (4). Where 0 is the year of acquisition. Numbers in bold represent the significant coefficients with a probability equal or below 0.10.

5.2.3. Employment

Turning to employment and wages, results highlight that differencing the origin of M&As is particularly relevant. In terms of employment, as reported in table 6.9, M&As from LDC MNEs lead to continuous increments between the year of acquisition and the fourth year after acquisition. This finding is not in line with Chari et al. (2012) and Chen (2011) for the case of the US. Both works show that developing countries acquisitions hinder employment. ODC's M&As also stimulates employment, but only in the first and fourth year after acquisition, while EUR's M&As only promote recruitment in the year of acquisition. These results support the view that M&As stimulate the investees' economic activity in their home country, and invalids the hypothesis that M&As could translate into significant restructuring, hence leading to job losses. In contrast, M&As from tax havens do seem to imply a 10.86% fall in workforce in the fourth year after acquisition.

Table 6.9: Impact on employment

t	AllM&As (1)	EUR (2)	ODC (3)	LDC (4)	TxHv (5)	Treated
0	0.006 (0.01)	0.050 (0.03)	0.038 (0.03)	0.117 (0.03)	0.030 (0.03)	409
1	0.004 (0.02)	0.039 (0.04)	0.054 (0.03)	0.208 (0.04)	0.047 (0.03)	335
2	0.017 (0.02)	0.028 (0.04)	0.041 (0.04)	0.326 (0.05)	0.031 (0.05)	285
3	-0.011 (0.03)	0.046 (0.04)	0.078 (0.05)	0.421 (0.07)	0.006 (0.06)	228
4	-0.027 (0.04)	0.046 (0.03)	0.191 (0.06)	0.310 (0.05)	-0.115 (0.05)	194

Note: Author's own calculations by estimating equations (3) and (4). Where 0 is the year of acquisition. Numbers in bold represent the significant coefficients with a probability equal or below 0.10.

5.2.4. Wages

As in employment, the impact from M&As on wages seem to depend on the origin of investment. As reported in table 6.10, results for EUR and ODC are in line with the view that MNEs pay higher wages than domestic firms since wages grow after an acquisition of this kind. In the case of LDC MNEs, targets' average wage is significantly cut down in the year of acquisition; however, the tendency is reverted during the following three years. This finding combined with the growth in employment brought by LDC M&As cast doubts on the reasons behind the changes on average wages. On the one hand, LDC MNEs may in fact reduce targets' wages on the year of acquisition. On the other hand, LDC MNEs may hire new workers with a lower wage than the ones that were already working in the firm, leading this to a drop in average wages. In order to fully address this issue, more detailed data on firms' wages would be needed. Finally, in contrast to the other groups of investors, TxHv M&As appear to prejudice targets' average wages.

Table 6.10: Impact on wages

t	AllM&As (1)	EUR (2)	ODC (3)	LDC (4)	TxHv (5)	Treated
0	-0.017 (0.02)	-0.011 (0.03)	-0.079 (0.06)	-0.123 (0.04)	0.002 (0.03)	409
1	0.010 (0.02)	-0.007 (0.02)	0.080 (0.03)	0.052 (0.02)	-0.060 (0.03)	335
2	0.003 (0.02)	0.026 (0.02)	-0.025 (0.04)	0.086 (0.02)	-0.058 (0.02)	285
3	0.025 (0.02)	0.058 (0.02)	0.015 (0.02)	0.058 (0.03)	-0.024 (0.02)	228
4	0.016 (0.03)	0.062 (0.02)	-0.055 (0.04)	0.009 (0.03)	-0.039 (0.03)	194

Note: Author's own calculations by estimating equations (3) and (4). Where 0 is the year of acquisition. Numbers in bold represent the significant coefficients with a probability equal or below 0.10.

5.3. Sensitivity analysis

5.3.1. Manufacturing and non-manufacturing M&As

To complement the previous results which stands as the baseline, we analyse separately acquisitions performed by MNEs operating in the manufacturing sector from those belonging to non-manufacturing. The objective is to test whether the baseline results are driven not by the origin of investment, but by the sector in which the acquiring MNE operates. This implies analysing independently two subsamples: 39% of the M&As have been carried out by MNEs which main activity belongs to the manufacturing sector, while the bulk of the investors operate (mainly) in other industries. Unfortunately, data constraints do not allow us to develop this analysis by distinguishing between horizontal, vertical and conglomerate M&As. Results from the effects of M&As are reported in tables 6.11 to 6.14, the selection models are available in Appendix 6.3.

The distinction among the sectors from where the investment emanates does not dramatically change the results reported in the previous section, and the main conclusions regarding the impact of the origin of investment remain unchanged. Productivity and employment are mainly boosted by M&As from LDC, export intensity by ODC and wages by acquisitions from EUR. In addition, results confirm that M&As from TxHv hamper productivity, employment and wages, but increase export intensity.

Table 6.11: Impact on TFP of M&As from MNEs operating in the manufacturing and non-manufacturing sector

t	All M&As (1)	EUR (2)	Manufacturing			Treated
			ODC (3)	LDC (4)	TxHv (5)	
0	-0.062 (0.03)	-0.004 (0.03)	-0.148 (0.04)	0.106 (0.06)	0.099 (0.06)	161
1	-0.015 (0.03)	-0.023 (0.04)	0.084 (0.03)	0.079 (0.04)	0.061 (0.04)	143
2	0.018 (0.04)	-0.014 (0.03)	0.045 (0.03)	0.009 (0.06)	0.026 (0.04)	124
3	0.047 (0.04)	-0.001 (0.03)	-0.064 (0.03)	0.044 (0.07)	-0.022 (0.08)	99
4	-0.039 (0.05)	-0.031 (0.03)	-0.219 (0.06)	0.156 (0.06)	-0.099 (0.05)	90
Non-manufacturing						
0	-0.010 (0.02)	-0.004 (0.02)	-0.024 (0.07)	-0.298 (0.06)	-0.029 (0.03)	248
1	0.006 (0.03)	0.053 (0.02)	0.067 (0.05)	0.133 (0.04)	0.042 (0.02)	192
2	0.023 (0.03)	0.016 (0.02)	-0.220 (0.05)	0.179 (0.04)	0.014 (0.03)	161
3	0.029 (0.04)	0.077 (0.02)	-0.124 (0.05)	0.303 (0.14)	0.033 (0.03)	129
4	-0.017 (0.04)	0.033 (0.03)	-0.070 (0.06)	0.307 (0.17)	-0.146 (0.03)	104

Note: Author's own calculations by estimating equations (3) and (4). Where 0 is the year of acquisition. Numbers in bold represent the significant coefficients with a probability equal or below 0.10.

Notwithstanding, some differences do arise. In the baseline results LDCs' M&As appeared to promote export activity of the target firm, in table 12 this result no longer holds. Conversely, M&As from the manufacturing sector limit targets' export intensity. Moreover, acquisition from LDC MNEs were found to harm wages in the baseline results. This negative outcome would be explained by acquisitions emanating from LDC MNEs operating in the non-manufacturing sector while M&As from LDC MNEs of the manufacturing sector would, on the opposite, boost the average level of wages of the target.

Table 6.12: Impact on export intensity of M&As from MNEs operating in the manufacturing and non-manufacturing sector

t	All M&As (1)	Manufacturing				Treated
		EUR (2)	ODC (3)	LDC (4)	TxHv (5)	
0	-0.008 (0.02)	0.085 (0.03)	0.021 (0.01)	-0.012 (0.01)	-0.006 (0.01)	161
1	0.015 (0.02)	0.076 (0.03)	0.054 (0.02)	0.003 (0.02)	0.017 (0.02)	151
2	-0.012 (0.02)	0.082 (0.08)	0.066 (0.02)	-0.031 (0.03)	0.028 (0.02)	138
3	0.024 (0.03)	0.126 (0.03)	0.071 (0.02)	-0.059 (0.03)	0.007 (0.03)	116
4	0.039 (0.04)	0.096 (0.04)	0.085 (0.03)	-0.076 (0.03)	-0.014 (0.03)	99
Non-manufacturing						
0	0.015 (0.01)	0.005 (0.01)	0.034 (0.02)	-0.003 (0.01)	0.001 (0.01)	248
1	0.021 (0.02)	0.018 (0.01)	0.036 (0.04)	0.007 (0.02)	0.046 (0.02)	208
2	0.054 (0.02)	0.035 (0.01)	-0.016 (0.04)	0.023 (0.02)	0.073 (0.02)	186
3	0.059 (0.02)	0.012 (0.01)	0.104 (0.03)	0.004 (0.03)	0.038 (0.02)	158
4	0.063 (0.03)	-0.011 (0.02)	0.062 (0.03)	-0.012 (0.04)	0.026 (0.03)	126

Note: Author's own calculations by estimating equations (3) and (4). Where 0 is the year of acquisition. Numbers in bold represent the significant coefficients with a probability equal or below 0.10.

Table 6.13: Impact on employment of M&As from MNEs operating in the manufacturing and non-manufacturing sector

t	All M&As (1)	Manufacturing				Treated
		EUR (2)	ODC (3)	LDC (4)	TxHv (5)	
0	0.029 (0.02)	0.022 (0.02)	0.061 (0.03)	0.094 (0.04)	0.016 (0.04)	161
1	0.006 (0.03)	0.012 (0.02)	0.095 (0.04)	0.136 (0.05)	0.020 (0.03)	143
2	0.048 (0.04)	0.009 (0.02)	0.126 (0.05)	0.272 (0.07)	-0.022 (0.04)	124
3	0.038 (0.05)	0.044 (0.03)	0.131 (0.06)	0.221 (0.09)	-0.005 (0.05)	99
4	-0.039 (0.06)	0.048 (0.05)	0.209 (0.07)	0.230 (0.09)	0.076 (0.06)	90
Non-manufacturing						
0	-0.011 (0.01)	0.041 (0.03)	0.004 (0.02)	0.041 (0.03)	0.032 (0.03)	248
1	-0.001 (0.02)	0.036 (0.04)	0.012 (0.04)	0.085 (0.05)	0.044 (0.04)	192
2	-0.039 (0.03)	0.044 (0.04)	0.107 (0.05)	0.074 (0.06)	0.038 (0.05)	161
3	0.024 (0.04)	0.072 (0.05)	0.231 (0.07)	0.368 (0.18)	0.019 (0.05)	129
4	-0.018 (0.04)	0.053 (0.04)	0.284 (0.05)	-0.064 (0.22)	-0.202 (0.05)	104

Note: Author's own calculations by estimating equations (3) and (4). Where 0 is the year of acquisition. Numbers in bold represent the significant coefficients with a probability equal or below 0.10.

Table 6.14: Impact on wages of M&As from MNEs operating in the manufacturing and non-manufacturing sector

t	All M&As (1)	EUR (2)	Manufacturing			Treated
			ODC (3)	LDC (4)	TxHv (5)	
0	-0.047 (0.03)	0.023 (0.03)	-0.100 (0.05)	0.096 (0.05)	0.045 (0.06)	161
1	0.042 (0.03)	0.015 (0.04)	0.079 (0.03)	0.071 (0.04)	-0.031 (0.03)	143
2	0.040 (0.03)	0.072 (0.02)	0.067 (0.02)	0.116 (0.04)	0.002 (0.03)	124
3	0.069 (0.03)	0.058 (0.02)	-0.002 (0.03)	0.056 (0.05)	-0.010 (0.03)	99
4	0.025 (0.04)	0.038 (0.03)	-0.137 (0.08)	0.030 (0.05)	-0.044 (0.04)	90
Non-manufacturing						
0	-0.009 (0.02)	0.001 (0.02)	-0.056 (0.06)	-0.319 (0.08)	0.015 (0.02)	248
1	-0.004 (0.02)	0.004 (0.02)	0.083 (0.04)	0.046 (0.03)	-0.055 (0.03)	192
2	0.023 (0.02)	0.012 (0.02)	-0.167 (0.06)	0.047 (0.03)	-0.073 (0.02)	161
3	0.028 (0.02)	0.064 (0.02)	0.013 (0.03)	0.134 (0.06)	-0.021 (0.02)	129
4	0.010 (0.03)	0.059 (0.02)	-0.040 (0.03)	0.143 (0.12)	-0.026 (0.03)	104

Note: Author's own calculations by estimating equations (3) and (4). Where 0 is the year of acquisition. Numbers in bold represent the significant coefficients with a probability equal or below 0.10.

5.3.2. European Union, tax havens and US

As a robustness analysis, we consider a different countries classification, disentangling the sample as follows: (1) M&As from MNEs with headquarter in the European Union (EU) Member States, (2) ODC excluding US M&As but including investments performed by MNEs from Island and Norway, (3) M&As carried out by US MNEs, (4) LDC¹³ and (5) European tax havens¹⁴. This allows to directly address: (1) whether the EU integration has led to better post-merger performance (e.g. Piscitello & Rabbiosi, 2005), (2) if US MNEs technological superiority stimulates targets' performance (e.g. Bloom et al., 2012) and (3) if the detrimental impact of M&As run by tax havens MNEs on TFP, employment and wages is driven by investment from non-European countries. Results are reported in tables 6.15-6.18, estimates of the selection model are available in Appendix 6.3.

The impact of acquisitions from EU Member States slightly differ from the one reported for all European countries (EUR). Productivity gains are larger as the positive effect does not only take place in the third year after acquisition but also in the fourth (table 6.15). In

¹³ This group of countries remains unchanged.

¹⁴ We exclude from the analysis the acquisitions from Bahamas and Singapore.

contrast, investments from these selected EU members do not have significant impact on employment (table 6.17) and the improvement in export intensity (table 6.16) is lower and only limited to the second year after acquisition.

M&As by US MNEs seem to harm productivity overall (table 6.15) while it would not exert any influence on wages (table 6.18). In contrast, M&As from US significantly boost targets' export intensity and employment (table 6.17 and 6.18). ODC M&As significantly hamper productivity in the fourth year after acquisition, on average they can lead to a 19% drop. Moreover, takeovers from this group still increase employment and export intensity but in a lower extent than the one reached in the baseline results. In contrast, M&As from ODC appear to significantly boost wages.

In the case of M&As from MNEs headquarter in tax haven countries (TxHv), the exclusion of non-European tax havens significantly changes the conclusions reached in the previous section. Takeovers from these countries do not seem to have a significant impact on TFP, export intensity or employment. However, the downward pressure on wages is confirmed in table 6.18.

Table 6.15: Impact on TFP

t	EU (1)	US (2)	ODC (3)	LDC (4)	TxHv (5)	Treated
0	-0.004 (0.02)	-0.078 (0.04)	0.023 (0.04)	-0.109 (0.04)	-0.034 (0.03)	406
1	0.040 (0.03)	0.069 (0.03)	-0.018 (0.06)	0.117 (0.03)	0.029 (0.03)	332
2	0.021 (0.02)	-0.082 (0.04)	-0.058 (0.05)	0.172 (0.03)	0.046 (0.03)	282
3	0.057 (0.02)	-0.004 (0.03)	0.043 (0.04)	0.089 (0.07)	0.048 (0.03)	225
4	0.053 (0.03)	-0.035 (0.04)	-0.176 (0.10)	0.111 (0.05)	-0.053 (0.04)	191

Note: Author's own calculations by estimating equation (4). Where 0 is the year of acquisition. Numbers in bold represent the significant coefficients with a probability equal or below 0.10.

Table 6.16: Impact on export intensity

t	EU (1)	US (2)	ODC (3)	LDC (4)	TxHv (5)	Treated
0	0.008 (0.01)	0.038 (0.01)	0.051 (0.02)	-0.004 (0.01)	0.001 (0.01)	406
1	0.015 (0.01)	0.076 (0.02)	-0.057 (0.03)	0.017 (0.01)	0.013 (0.02)	356
2	0.034 (0.02)	0.052 (0.02)	0.031 (0.03)	0.019 (0.01)	0.027 (0.02)	321
3	0.023 (0.02)	0.070 (0.02)	0.072 (0.02)	0.000 (0.02)	0.000 (0.02)	271
4	-0.010 (0.02)	0.043 (0.03)	0.071 (0.03)	-0.018 (0.02)	-0.009 (0.03)	224

Note: Author's own calculations by estimating equation (4). Where 0 is the year of acquisition. Numbers in bold represent the significant coefficients with a probability equal or below 0.10.

Table 6.17: Impact on employment

t	EU (1)	US (2)	ODC (3)	LDC (4)	TxHv (5)	Treated
0	0.047 (0.03)	0.022 (0.03)	0.067 (0.03)	0.111 (0.03)	0.007 (0.03)	406
1	0.032 (0.04)	0.052 (0.03)	0.032 (0.05)	0.208 (0.05)	0.007 (0.03)	332
2	0.019 (0.04)	0.057 (0.04)	0.055 (0.05)	0.318 (0.05)	-0.031 (0.05)	282
3	0.038 (0.05)	0.087 (0.05)	0.123 (0.08)	0.400 (0.06)	-0.064 (0.06)	225
4	0.040 (0.04)	0.211 (0.06)	0.188 (0.08)	0.301 (0.05)	-0.091 (0.07)	191

Note: Author's own calculations by estimating equation (4). Where 0 is the year of acquisition. Numbers in bold represent the significant coefficients with a probability equal or below 0.10.

Table 6.18: Impact on wages

t	EU (1)	US (2)	ODC (3)	LDC (4)	TxHv (5)	Treated
0	-0.014 (0.03)	-0.076 (0.05)	0.096 (0.06)	-0.140 (0.05)	-0.012 (0.03)	406
1	-0.009 (0.02)	0.060 (0.03)	0.066 (0.04)	0.044 (0.02)	-0.067 (0.03)	332
2	0.025 (0.02)	-0.032 (0.04)	0.087 (0.04)	0.086 (0.02)	-0.058 (0.02)	282
3	0.052 (0.02)	0.001 (0.02)	-0.001 (0.03)	0.056 (0.03)	-0.041 (0.02)	225
4	0.064 (0.02)	-0.051 (0.02)	-0.165 (0.11)	0.006 (0.03)	-0.090 (0.04)	191

Note: Author's own calculations by estimating equation (4). Where 0 is the year of acquisition. Numbers in bold represent the significant coefficients with a probability equal or below 0.10.

6. Conclusions

The present article provides an analysis of the impact of foreign takeovers on targets' TFP, export intensity, employment and wages. To this end, we construct a unique firm level database of FDI in the French manufacturing sector. In accordance with most of the previous literature, we first consider acquisitions as homogeneous and analyse the overall impact of the takeovers on targets by applying PSM and difference in differences. Second, we assess whether the heterogeneity of FDI in terms of origin affects investees' performance. We distinguish between M&As from European, other developed, developing and tax haven countries, and apply generalised propensity score matching combined with difference in differences.

All in all, the most salient contribution of our study gives strong support to the hypothesis that the impact of M&As depends on the level of development of the home country from the investing MNE. In this regard, the present article adds to the previous literature by analysing separately takeovers emanating from developing countries and to those from tax havens countries' MNEs. In addition, to the best of our knowledge, this study is the first attempt to assess the impact of M&As from developing countries in a European country, and the first to shed light on the impact of M&As from tax havens. Furthermore, in terms of data the present article uses an innovative way of measuring FDI by mixing different sources with ORBIS. This approach attempts to identify the real nationality of investment and includes in the analysis the indirect acquisition of subsidiaries. Another originality of this study comes from the econometric strategy since generalised propensity score matching hadn't been applied yet to the analysis of the effects of M&As.

Results highlight that investors should not be considered as homogeneous. Without distinguishing by sources of investment, the conclusion that emanates is that takeovers hamper productivity and boost export intensity, while employment and wages remain unchanged. Taking into account the origin of investment allows to draw a more complex reality in which each considered group differently benefits or harms targets' performance.

Reached evidence does not support the view that the superiority of developed countries MNEs, in terms of productivity, necessarily imply a better post-merger performance. In fact, M&As from developed countries that do not belong to the EU, and particularly from

the US, appear to lessen targets' productivity. However, US acquisitions seem to boost employment and export intensity. M&As from non-EU developed countries have a similar impact on these dimensions but unlike the US investors, takeovers from ODC improve wages. On the contrary, the study lends strong support to the hypothesis that M&As from European investors, and in particular from EU members, bring significant positive outcomes for the targets, both in terms of TFP, export intensity, employment and wages. In this way, in the case of advanced economies acquisitions, results emphasize that institutional and cultural similarities and low geographic distance boost the post-merger performance.

The results also show that institutional and cultural differences can also exert a positive effect on targets. M&As from developing countries seem to increase TFP and employment. In contrast to ODC, the capacity of French acquired firms to absorb developing countries' technology, the opportunity of combining complementary assets and the effort from EMNEs to overcome their liability of foreignness, result in higher productivity gains and contribute to expand the size of the subsidiary. Surprisingly, LDC acquisitions do not seem to significantly affect targets' export intensity.

Contrary to the other groups of countries analyzed, M&As from MNEs headquartered in tax havens, seem detrimental to the performance of the investees. They result in a lower TFP, employment and wages. We could risk the conjecture that investments from these countries are driven by opportunistic rent seeking acquisitions. Target firms' performance do not seem to improve in any aspect but their export intensity, this may reflect a restructuration of their economic activity. However, this result must be taken with caution and the prediction deserves further investigation.

The question as to what are the effects of FDI flows is therefore an important one for policymakers and academics alike. The findings from this work could provide useful arguments in favor of the EU integration scheme. The positive impact of FDI from other European countries, and particularly EU Member states, is likely to be one of the overlooked benefits of the EU. Not only the EU integration increased cross-border M&As between its members (e.g. Coeurdacier et al., 2009), but, according to the results of this study, suggest that it might also boost its benefits. Exiting the EU, as the UK will do soon or as the current Italian government threatens to do, is likely to result in a partial loss of the

benefits from FDI. Moreover, European countries should be more welcoming to investment from Emerging countries, security concerns should be not used as a tool to block investment since fears appear mostly unjustified. Indeed, this study tends to show that the benefits to obtain in terms of performance are sizeable. However, further work is needed to explore in a more comprehensive panel the effects of such M&As. This study aims at contributing to the scant literature on the effect of M&As on firms' performance and also invites to conduct future research.

Appendix 6.1-Database cleaning

From ORBIS the firms that are eligible for the sample are those which are active during the whole period of study and for which data for the variables of interest are available at least for one year. We focus on the following variables: Value added, exports, sales, material costs and number of employees. This search strategy results into 49,115 firms with data availability between 2005-2014. After cleaning, the sample used in the econometric analysis is limited to 25,543 firms.

Before cleaning, several financial variables are re-calculated. Based on Ribeiro et al. (2010), total assets, fixed assets, current assets, current liabilities, non-current liabilities and net profits before taxes are recalculated. In addition, as in Chen & Moore (2010) value added is calculated as the difference between operating revenues and material costs. Also, we impute missing data in the number of employees, operating revenue, material costs and cost of employees. Missing data is imputed by taking the average between the non-missing data from the previous and next year (interpolation).

Then, the applied cleaning process is mostly based on the indications provided by Kalemli-Ozcan et al. (2015) and Dosis & Milgram-Baleix (2009). The sample is limited to those firms with unconsolidated accounts and with accounts published in euros. We exclude from the sample those firms which present at least one negative value in one of the following variables: sales, total assets, number of employees, tangible fixed assets, export revenue, material costs, financial revenues, financial expenses, current liability, value added, cost of employees, fixed assets, current assets, total assets, current liabilities, intangible assets, other fixed assets, stock, debtors, other current assets, loans, creditors, long term debt, non-current liabilities and other non-current liabilities.

In addition, we drop from the sample those firms which average cost of employees is below 7,290.66 euros and firms in the top 1% at the sectoral level¹⁵. Also, firms whose value added per employee is lower than the average wage and the top 1% at the sectoral

¹⁵The top and bottom 1% (or 0.5%) of firms are always calculated at the sectoral level following the NACE Rev. 2 two digits classification.

level. Similarly, the bottom and top 0.5% of the firms in terms of return on assets (ROA) are dropped as well as the top 0.5% in terms of current liabilities ratio.

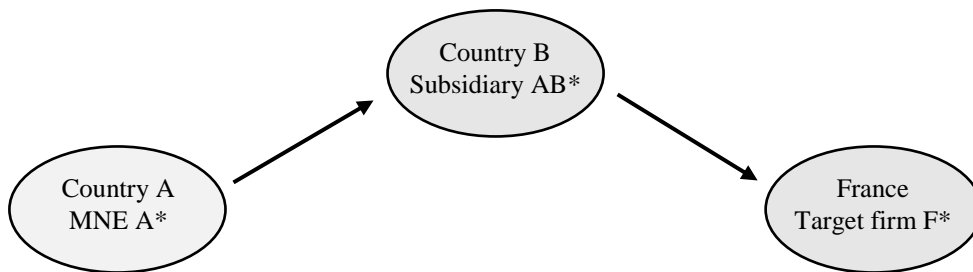
Furthermore, we exclude from the sample firms' which presented extreme growth rates in certain variables. For the case of total assets, value added, export revenue, sales, current liabilities, cost of employees and profit before taxes we drop from the sample those firms which presented a growth equals or above 19,800% and a drop higher than 99%. Likewise, in the case of employment, we exclude those firms which number of employees increased in more than 1200% or decreased in more than 80% with respect to the previous year. Regarding the remaining variables, we exclude from the sample those firms which value added, total assets and profits increased in more than 300% but presented a negative growth rate of employment. Finally, we limit the sample to those firms for which it is possible to calculate TFP for at least two years, and exclude all foreign firms which are in the sample but are not a consequence of a M&As that took place between 2006 and 2014.

Appendix 6.2-Database

The firm level FDI database used in this article is mostly based on data retrieved from ORBIS. In line with the definition of FDI (IMF, 2009), foreign firms in ORBIS are identified by the presence of foreign shareholders with at least 10% of ownership. This is done by considering both, direct shareholders and the ultimate owner. Once identified the foreign firms, we mainly rely on the ownership history available in ORBIS to identify the year and mode of investment (i.e. greenfield investment versus M&A).

In addition, by identifying the nationality of the direct shareholder and the ultimate owner, we are also able to detect whether investments transit through third countries. As illustrated in diagram 6.1, the use of transit countries implies that investments arrive to the ultimate destination through a different country than the one in which the investing MNE is headquartered. Following the example from diagram 6.1, while the direct shareholder after acquisition of target firm F* would be from country B (subsidiary AB*), the nationality of the MNE (the global ultimate owner, MNE A*) is country A.

Diagram 6.1: Use of transit countries

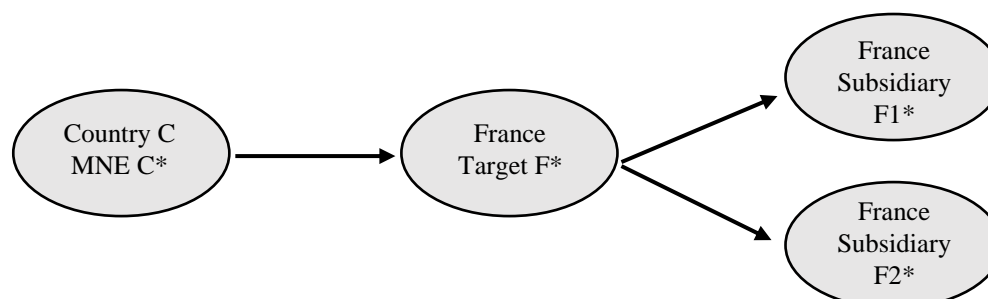


Note: Author's own elaboration.

Moreover, the information about shareholders and ultimate owners also allows us to identify those subsidiaries that are acquired indirectly through a M&As project. Diagram 6.2 illustrates an example. MNE C* acquires firm F* which at the same time owns F1* and F2*. An example of this type of M&A in France is the acquisition of EFD Induction by the Norwegian Arendals Fossekompagni in the year 2008. It implied that Arendals Fossekompagni started owning 2 subsidiaries in 2 different French regions. The indirect acquisition of firms may also take place when M&As realised in a third country modify the nationality of the owner of a firm based in the country under analysis. For instance, the acquisition of Trefinos from Spain by the Portuguese Amorimin 2012 implied also

the indirect change of ownership of the firm named Bouchons a Champagne Sagrerain from France.

Diagram 6.2: Indirect acquisitions of subsidiaries



Note: Author's own elaboration.

The correct identification of capital flows entering through transit countries and indirect acquisition of firms is a relevant feature of the database. Not accounting for these dimensions would result in a wrong classification of foreign acquirer's nationality and excluding from the analysis firm's which are acquired by foreign investors.

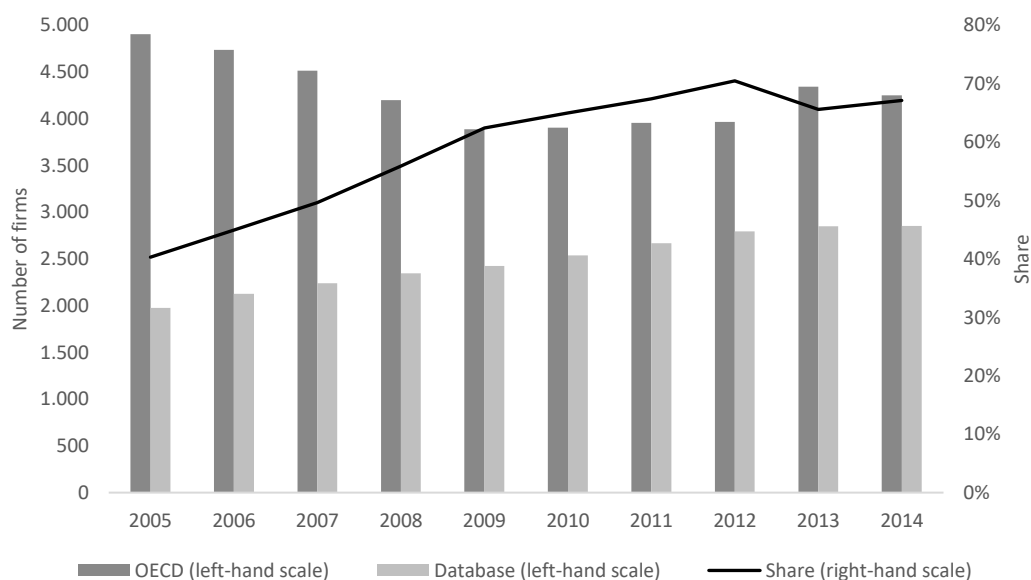
In order to identify a M&A, we look into each firm's report from ORBIS. The report provides the ownership history of the firm (i.e. for how long a shareholder owned a firm). We also check if there is any M&A registered in Zephyr database. If there is a M&A identified by Zephyr, we use this information; if not, we use the shareholders' ownership history. In the latter case, a M&A is recorded in the year in which there is a change of shareholders. If none of these sources of information, Zephyr or the shareholders ownership history, provides accurate information on the nature of acquisition, we use information from Thomson Reuters. If the acquisition project is not available in Thomson Reuters, we search for news and on the investor and target companies' websites. Then, to identify the indirect acquisition of subsidiaries, we check whether the acquired firm owned other subsidiaries in the French manufacturing sector before the year of acquisition.

The identification of greenfield investment is mainly based on the ownership history available in ORBIS for each firm. If the ownership history starts in the same year as the one in which the firm was created with a foreign shareholder, a greenfield investment is recorded. In addition, if the first two years of the ownership history are missing and the remaining years are available with a foreign owner, and no evidence of the contrary is

found in the companies' website, we also classify the operation as a fruit of a greenfield investment. In case the gap between the creation of the firm and the beginning of the ownership history in ORBIS is larger than two years, we complete the information searching in news and the companies' websites.

During the period 2005-2014, the described strategy allows to identify 889 changes of ownership due to M&As and 247 greenfield investments. Figure 6.4 compares the evolution of the foreign firms in the French manufacturing sector according to the OECD databases Activities of Foreign Affiliates (AFA) and Activity of Multinational Enterprises (AMNE)¹⁶ with the database we constructed. The database records between 40% and 70% of the firms identified by the OECD database. This level of representativeness is quite high considering that: (1) the database only relies on firms which are active during the whole period (2) the database does not collect the acquisition of foreign firms by French domestic firms (3) the sample is restricted to firms with key information (financial variables value added, exports, sales, material costs and number of employees) available for at least one year.

Figure 6.4: Database representativeness



Note: Author's own elaboration based on AFE, AMNE and the FDI database constructed based on ORBIS.

¹⁶Due to data availability, AFA is used for the period 2005-2007 and AMNE for the period 2008-2014.

Appendix 6.3- Selection models from the sensitivity analysis

Table 6.19: Total factor productivity estimate

	Coef.	Std. Err.	z	P>z	95% Confidence interval	
k_{it}	0.511	0.03	17.67	0.00	0.45	0.57
a_{it}	0.105	2.54	0.04	0.97	-4.87	5.08
l_{it}	0.341	0.07	4.67	0.00	0.20	0.48

Wald test of constant returns to scale: Chi2 = 0.00 (p = 0.9867)

Sargan-Hansen J-statistic: 0.814 (p = .)

Exactly identified model (no overidentifying restrictions)

Note: TFP calculated using the Stata program from Manjón & Mañez (2016). Value added is the dependent variable and material costs the proxy.

Table 6.20: Selection model of homogeneous M&As of MNEs from the manufacturing sector

	(1) M&A
Age_{it}	0.014 (0.02)
Age_{it}^2	-0.000 (0.00)
$Employ_{it-1}$	0.654*** (0.07)
$Wages_{it-1}$	0.388 (0.42)
$CapLab_{it-1}$	0.537*** (0.15)
$Liquidity_{it-1}$	-0.386 (0.35)
$ExpInt_{it-1}$	1.736*** (0.29)
TFP_{it-1}	0.010 (0.29)
Constant	-13.921*** (1.61)
Fixed effects	$\lambda_j, \lambda_x, \lambda_t$
Observations	136778
Pseudo R^2	0.218

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6.21: Selection model of heterogeneous M&As of MNEs from the manufacturing sector

	EU (1)	ODC (2)	LDC (3)	TxHv (4)
Age_{it}	0.039 (0.03)	0.017 (0.04)	-0.008 (0.04)	-0.011 (0.05)
Age_{it}^2	-0.000 (0.00)	-0.000 (0.00)	0.000 (0.00)	-0.000 (0.00)
$Employ_{it-1}$	0.556*** (0.12)	0.730*** (0.12)	0.651*** (0.21)	0.875*** (0.22)
$Wages_{it-1}$	0.046 (0.67)	0.921 (0.65)	-0.914 (1.11)	2.132 (1.34)
$CapLab_{it-1}$	0.896*** (0.25)	0.205 (0.26)	0.556 (0.40)	0.231 (0.46)
$Liquidity_{it-1}$	-1.127* (0.58)	0.024 (0.54)	-1.027 (0.94)	0.757 (1.16)
$Explnt_{it-1}$	0.550 (0.51)	3.218*** (0.45)	0.988 (0.85)	0.789 (0.85)
TFP_{it-1}	0.811* (0.47)	-1.117** (0.46)	0.376 (0.85)	1.007 (0.85)
Constant	-18.363*** (2.83)	-13.251*** (2.57)	-9.160** (3.91)	-44.659 (13418.50)
Fixed effects	$\lambda_j, \lambda_x, \lambda_t$			
Observations	136778			
Pseudo R^2	0.273			

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6.22: Selection model of homogeneous M&As of MNEs from the non-manufacturing sector

	(1) M&A
Age_{it}	0.011 (0.02)
Age_{it}^2	-0.000 (0.00)
$Employ_{it-1}$	0.600*** (0.06)
$Wages_{it-1}$	0.277 (0.33)
$CapLab_{it-1}$	0.401*** (0.12)
$Liquidity_{it-1}$	-0.497* (0.27)
$Explnt_{it-1}$	1.930*** (0.24)
TFP_{it-1}	-0.185 (0.24)
Constant	-9.908*** (1.24)
Fixed effects	$\lambda_j, \lambda_x, \lambda_t$
Observations	149060
Pseudo R^2	0.163

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6.23: Selection model of heterogeneous M&As of MNEs from the non-manufacturing sector

	EU (1)	ODC (2)	LDC (3)	TxHv (4)
<i>Age_{it}</i>	0.004 (0.02)	0.025 (0.05)	-0.053 (0.08)	0.059 (0.04)
<i>Age_{it}²</i>	-0.000 (0.00)	-0.001 (0.00)	-0.000 (0.00)	-0.001 (0.00)
<i>Employ_{it-1}</i>	0.593*** (0.08)	0.666*** (0.16)	0.778*** (0.25)	0.576*** (0.12)
<i>Wages_{it-1}</i>	0.435 (0.43)	-0.450 (0.85)	-0.406 (1.48)	0.433 (0.70)
<i>CapLab_{it-1}</i>	0.266* (0.16)	0.708** (0.32)	0.936* (0.52)	0.430* (0.26)
<i>Liquidity_{it-1}</i>	-0.520 (0.35)	-0.258 (0.69)	-0.644 (1.22)	-0.606 (0.58)
<i>ExpInt_{it-1}</i>	1.697*** (0.31)	3.088*** (0.59)	2.870*** (1.02)	1.510*** (0.53)
<i>TFP_{it-1}</i>	-0.199 (0.32)	-0.147 (0.60)	0.237 (1.00)	-0.232 (0.50)
Constant	-10.657*** (1.65)	-12.154*** (3.28)	-46.642 (8245.29)	-11.809*** (2.69)
Fixed effects	$\lambda_j, \lambda_x, \lambda_t$			
Observations	149060			
Pseudo R^2	0.187			

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6.24: Selection model of EU, US, ODC, LDC and TxHv M&As

	EU (1)	US (2)	ODC (3)	LDC (4)	TxHv (5)
<i>Age_{it}</i>	0.017 (0.02)	0.023 (0.03)	0.011 (0.04)	-0.049 (0.03)	0.046 (0.03)
<i>Age_{it}²</i>	-0.000 (0.00)	-0.001 (0.00)	-0.000 (0.00)	0.001 (0.00)	-0.001 (0.00)
<i>Employ_{it-1}</i>	0.563*** (0.07)	0.672*** (0.11)	0.676*** (0.15)	0.645*** (0.16)	0.616*** (0.11)
<i>Wages_{it-1}</i>	0.354 (0.37)	0.805 (0.65)	-0.548 (0.73)	-0.643 (0.87)	0.707 (0.65)
<i>CapLab_{it-1}</i>	0.414*** (0.14)	0.437* (0.25)	0.435 (0.31)	0.674** (0.31)	0.344 (0.23)
<i>Liquidity_{it-1}</i>	-0.626** (0.30)	0.189 (0.51)	-0.530 (0.67)	-0.700 (0.73)	-0.061 (0.53)
<i>ExpInt_{it-1}</i>	1.319*** (0.27)	3.106*** (0.43)	2.219*** (0.59)	1.594** (0.65)	1.275*** (0.46)
<i>TFP_{it-1}</i>	0.080 (0.27)	-0.459 (0.44)	-0.919* (0.56)	0.334 (0.65)	0.225 (0.45)
Constant	-11.999*** (1.42)	-15.510*** (2.53)	-8.070*** (2.75)	-10.412*** (3.10)	-15.209*** (2.53)
Fixed effects	$\lambda_j, \lambda_x, \lambda_t$				
Observations	150507				
Pseudo R^2	0.196				

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

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Chapter 7: Conclusions and future research

This doctoral thesis focuses on the analysis of the determinants and effects of foreign direct investment (FDI). Each of the chapters presented in this thesis addresses a particular aspect of this topic. First, it discusses the determinants and effects of FDI from developing countries. Second, it delves into the determinants of Chinese FDI in Spain. Third, it explores how countries' trade policy and participation in Global Value Chains (GVCs) drives inward M&As. Fourth, it assesses how countries' institutional characteristics and natural resources endowment condition their capacity of attracting greenfield investment. Fifth, it gauges the effects of cross-border M&As in targets' performance depending on the country in which the investing MNEs is headquartered. In the following lines, we derive some general conclusions and policy recommendations on the different issues tackled in the present PhD thesis, and conclude with some potential lines research for the future.

Drivers of foreign direct investment from developing countries

As it has been highlighted through Chapters 1, 2, 3 and 4, there has been a significant growth of outward FDI (OFDI) from developing countries. In particular, since 2012 China has been among the top three world's capital exporters. The analysis presented in this thesis mainly gives insight into the drivers of developing countries FDI in advanced economies (or South-North FDI).

The reviewed evidence in Chapter 2 and reached results in Chapters 3 and 4 suggest that investments from the South seek not only to serve the market in which they invest, but also to access third markets through trade. Export platform FDI plays an important role. Indeed, developed economies can foster IFDI from emerging countries by increasing their exports in final and intermediate goods and services to a wider number of countries. Northern countries' firms could reap significant benefits from this type of investments by

offering professional services in transport, business and consulting to developing countries' MNEs based on their own experience as exporters.

Similarly, GVCs involvement is also likely to increase developed countries capacity of attracting FDI from emerging countries. In this line, importing intermediate goods from a wider number of countries would also attract IFDI from developing countries.

In contrast, reached evidence does not indicate that signing a Free Trade Agreement (FTA) would have any effect on FDI between Northern and Southern countries. Nevertheless, this lack of significance can be due to the fact that most FTA that have been signed between both groups of countries are rather shallow. Signing a deep FTA which goes beyond tariffs reductions, and tackles for instance property rights protection or the collaboration in the development of new technologies, may result in higher bilateral FDI flows between both group of countries.

Furthermore, FDI from emerging countries seek to improve their brand recognition and product quality, and accessing new technologies and skills. Contrary to the case of developed countries MNEs, investment from emerging economies MNEs (EMNEs) seem to serve as a tool for overcoming their pre-existing competitive disadvantages. Although this dimension of FDI from EMNEs is supported by most of the existing empirical evidence and by Chapter 3 from the present thesis, evidence suggesting their possible impact on host countries' investment in technology is scant. Notwithstanding, as exposed in Chapters 2 and 6, the few works which address this subject seem to indicate that EMNEs investment in developed countries could result in a higher investment in R&D. In addition to this, the evidence reported in Chapter 6 suggest that developing countries takeovers increase targets' size and productivity. Provided that these initial findings are confirmed by future research, attracting EMNEs investment could have the potential of boosting advanced economies' investment in technology. This could balance the fear expressed by many governments and firms towards EMNEs in general, and in particular for those from China. Existing evidence does not appear to suggest that they only take advantage of the indigenous refined technology in advanced economies without bringing any benefits in return.

Trade policy

The present PhD dissertation also gives looks into the role of trade policy in shaping bilateral FDI patterns. In particular, Chapters 4 and 5 show that signing a FTA boost bilateral greenfield investment and M&As, supporting in this way the hypothesis of complementarity between FDI and trade. This finding should call the attention of policy makers, particularly from countries which are considering enacting barriers to trade. Lowering the trade integration between countries can result in a lower level of IFDI. As the reviewed literature and findings from Chapters 2 and 6 suggests, a drop in FDI can translate in a loss of productivity, exports, R&D investment, employment and wages. In sum, losing FDI could hamper economic growth and welfare.

Furthermore, findings from Chapter 4 emphasise that trade openness is an indicator that is too broad to address the link between FDI and trade. In addition, the impact of countries' trade characteristics and policies on M&As are likely to be dependent on the home-host country level of development. Chapter 4 evidences that the degree of heterogeneity in exports destinations and import sources, and the GVCs position and participation are relevant drivers of IFDI. At the policy level, albeit the comments expressed above, it is worth highlighting that trade openness is not a sufficient condition to attract FDI. Moreover, developing countries would manage to promote inward M&As from developed countries by increasing their capacity of exporting final goods to a wider number of third countries and by intensifying their GVCs participation.

The role of institutions in oil abundant countries

The fifth Chapter of this thesis underlines the relevance of countries' institutional quality and democratization for attracting greenfield investment into oil abundant countries. Reached evidence supports the hypothesis that oil abundance hampers greenfield investment, hence confirming the existence of an "*oil curse*" on FDI. However, results also uncover that relevance of oil production for the host economies and the contribution of this oil production to the world's production also shapes the gains to be obtained from improving institutional quality and democratization, in terms of FDI. Thus, for oil producers, institutional reforms can significantly improve their capacity of attracting new investment projects and consequently may raise the opportunity to diversify their

economy. In addition, through institutional reforms, evidence suggest that oil producers might even be able to cancel out the “*oil curse*” on FDI.

The move towards complete democratic institutions would have sizeable effect on FDI. More simply, other improvements would lead to similar achievements. In particular, improving rule of law and political stability excel for their positive impact. For a country like Brazil, which produces nearly 2.5% of the world’s oil barrels, one-point improvement in the indicators of rule of law and political stability can respectively boost the number of inward greenfield investments by 36% and 27%. Alternatively, if Venezuela would manage to increase its level of democratization to the one from Thailand, which does not imply being a full democracy, the likelihood of suffering the “*oil curse*” on FDI would drastically fall.

The effects of M&As

Chapter 2 summarizes the existing evidence on the impact of the growing flows of FDI emanating from developing countries on the host countries economies. Results are mixed, and the review particularly puts forward the need of addressing this research question for the case of developed host countries. Chapter 6 contributes to filling this gap in the literature by focusing on the case of the direct effect of cross-border M&As into the French manufacturing sector. In addition, it distinguishes between investments from European, other developed and tax haven countries. The latter has not been previously considered in the literature. It considers takeovers consequences on targets’ Total Factor Productivity (TFP), export intensity, employment and wages. To this end, the study exploits a unique firm level database and applies Generalized Propensity Score Matching combined with difference in differences, a methodology which apparently has not been previously used for analysing the consequences of takeovers.

All in all, the findings from this Chapter highlights that the impact of M&As depends on the level of development of the country from which MNE is from. Acquisitions by European MNEs, particularly those from members of the European Union (EU), stand out for their positive impact on all considered firms’ performance dimensions. On the contrary, takeovers from tax havens appear to hinder productivity, employment and wages. Other developed countries seem also to hit TFP, but boost export intensity,

employment and wages. Then, developing countries' acquisitions seem to improve investees' TFP and employment.

Results for European takeovers underline one of the benefits from the EU integration. Probably due to the higher cultural and institutional similarity, this group of takeovers are the ones which benefit the most to targets' performance. This should be taken into account as the benefits from the EU are increasingly being questioned.

As regards the impact of FDI, the findings bring new elements to the policy debate emanating from several countries who see the investments from developing countries, and in particular from China, with fear and distrust. Obviously, security concerns should not be overlooked, but European countries could gain from welcoming investments from emerging economies. Further economic integration is prone to favour both parties alike.

Future research

This doctoral thesis deals with the determinants and effects of FDI. The recent changes in FDI and the scant evidence suggest that this is a promising area of research. Regarding the limitations of the study on this topic, the empirical analysis is restricted by data issues that are common in the literature. Some specific topics have been overlooked and could be included in my research agenda.

As far as OFDI from developing countries is concerned, the exponential growth of Chinese OFDI gives rise to a rapidly expanding literature focusing on its determinants. However, works which address Chinese investment in Latin America are still scarce. This is surprising since Chinese FDI rapidly expanded in this region too. Likewise, more attention should be paid to OFDI coming from developing countries other than China and India. On this regard, one of the topics to include in my research agenda is to give further insight into the link between OFDI, migration and oil production in Middle East and North Africa countries. In addition, another axis of research is the analysis of the consequences of OFDI on the investing country since evidence on these backward linkages are almost inexistent.

In terms of the relationship between FDI and trade policy, the present thesis identifies two main areas of interest on which future research should focus. The first matter relates to the deepness of FTA. Do deeper FTA boost bilateral FDI in a larger extent than shallow ones? Which are the provisions that a FTA should include in order to favour FDI? Can deeper FTA help overcoming the barriers shaped by institutional differences among countries? With reference to the deepness of FTA, my research has turned to investigate the consequences of Brexit on FDI. The second topic refers to the role of GVCs as a determinant of FDI. The analysis from Chapter 4 should be extended by including in the analysis a wider span of destination countries and considering greenfield investments, and by exploiting bilateral sectoral level data of FDI and countries' involvement in GVCs.

With reference to how natural resources and the link between natural resources and institutions moderate FDI, further analysis is needed on several aspects. First, Chapter 5 only focuses on greenfield investment, future work should address the case of M&As. In addition to this, a sectoral perspective would helpfully complement this analysis. While

natural resources endowment may hamper investment in some sectors, it may boost it in others which are closely linked with natural resources production. In addition to this, it should be tested whether the significant endowment of other natural resources also hamper FDI as oil production appears to do.

Regarding the effects of IFDI, the present thesis gives a step further in several aspects, but more research is still needed. For the case of the French manufacturing sector, analysing if the spillovers effects of FDI vary depending on the country origin would complement the findings from Chapter 6.

Furthermore, on this topic, there are four main axes in which research should focus. First, analysis considering Latin America are scarce and to the best of my knowledge none of them gives insight into the impact of FDI depending on the origin. Second, how institutional and cultural differences, and trade policy condition MNEs' foreign subsidiaries performance is still an area which needs further research with relevant policy implications. Third, more research would be useful to tackle the consequences on host countries' economies of FDI from developing countries. Existing evidence is still limited and further analysis considering more host countries and sectors is necessary. Fourth, it may prove useful for international organisations and national policy makers to assess how FDI from tax havens countries affect host countries' economies. The negative impact reached in Chapter 6 is puzzling. It would be advisable to confirm this finding and to shed light on the mechanisms behind it. In addition, the analysis from Chapter 6 considers the effects of MNEs headquartered in tax havens, this evidence could be interestingly complemented by investigations of the case of MNEs which invest from a tax haven but are headquartered in a different country.

Capítulo 7: Conclusiones y futuras líneas de investigación

La presente tesis doctoral se centra en el análisis de los determinantes y efectos de la inversión extranjera directa (IED). Cada uno de los capítulos presentados hace referencia a un aspecto particular de dicha temática. Primero, se exponen los determinantes y efectos de la IED procedente de los países en vías de desarrollo. Segundo, se ahonda en los determinantes de la IED china en España. Tercero, se explora cómo la política comercial y la participación en las Cadenas Globales de Valor (CGV) condiciona la entrada de fusiones y adquisiciones (FyAs). Cuarto, evalúa cómo las características institucionales y la tenencia de recursos naturales condicionan la capacidad de atraer inversiones *greenfield*. Quinto, estudia, en función del origen de la sede de las empresas multinacionales (EMNs), los efectos en las empresas afectadas por FyAs transfronterizas. Basado en las problemáticas tratadas en la presente tesis doctoral, en las siguientes líneas se derivan algunas conclusiones generales y recomendaciones de política económica, y se concluye con propuestas de potenciales líneas de investigación para el futuro.

Determinantes de la inversión extranjera directa procedente de los países en vías de desarrollo

Cómo ha sido resaltado en los Capítulos 1, 2, 3 y 4, se ha producido un crecimiento significativo de IED procedente de los países en vías de desarrollo. En particular, desde el 2012 China ha estado entre los tres principales inversores mundiales. El análisis presentado en esta tesis contribuye al mejor conocimiento de los determinantes de la IED de países en vías de desarrollo en los países desarrollados (o IED Sur-Norte).

La evidencia revisada en el Capítulo 2 y los resultados hallados en los Capítulos 3 y 4 ponen de relieve que las inversiones procedentes del Sur buscan no solo servir el mercado en el que invierten, sino también acceder a terceros mercados mediante el comercio. La IED que busca crear plataformas de exportación juega un gran papel. Las economías desarrolladas pueden atraer IED de los países emergentes mediante el incremento de sus exportaciones de bienes y servicios intermedios y finales a un mayor número de países. Aprovechando su experiencia en los mercados internacionales, las empresas del Norte

pueden obtener beneficios significativos de este tipo de inversiones mediante la oferta de servicios profesionales en transporte y consultoría a las EMN de los países emergentes (EMNEs).

De forma similar, la participación en las CGV también puede resultar en un incremento de la IED de los países emergentes (EIED). En esta línea, importar bienes intermedios de un mayor número de países también fomentaría la EIED.

Por otro lado, la evidencia hallada no señala que la firma de un Acuerdo Preferencial de Comercio (APC) tendría algún efecto sobre la IED entre los países del Norte y el Sur. No obstante, la falta de significatividad se puede deber a que la mayoría de los APC que se han firmado entre ambos grupos de países suelen ser de carácter superficial. Firmar un APC exhaustivo que vaya más allá de la reducción de tarifas y que aborde, por ejemplo, la protección de la propiedad privada o la colaboración en el desarrollo de nuevas tecnologías, puede resultar en un incremento de los flujos bilaterales entre ambos grupos de países.

Además, la EIED busca mejorar su reconocimiento de marca y calidad de productos, así como acceder a nuevas tecnologías y mano de obra cualificada. Al contrario que en el caso de las EMNs de los países desarrollados, la inversión de las EMNEs parece servir como una herramienta para superar desventajas competitivas preexistentes. Aunque esta dimensión de la IED de las EMNEs está respaldada por la mayoría de la evidencia empírica existente y por el Capítulo 3 de la presente tesis, hay pocos estudios que aborden su posible impacto en la inversión en la tecnología de los países receptores. No obstante, como se expone los Capítulos 2 y 6, los pocos trabajos que se centran en esta temática parecen indicar que la inversión de las EMNEs en los países desarrollados puede resultar en una mayor inversión en investigación y desarrollo. Asimismo, el Capítulo 6 pone en evidencia que las adquisiciones de los países en vías de desarrollo incrementan el tamaño y productividad de las empresas. Siempre que estos hallazgos iniciales sean confirmados por futuras investigaciones, atraer EMNEs puede tener el potencial de fomentar la inversión en tecnología en los países avanzados. Esto puede servir de contrapeso a los miedos expresados por varios gobiernos y empresas hacia las EMNEs en general, y en particular a aquellas procedentes de China. La evidencia existente no parece indicar que

dichas empresas se beneficien de la tecnología creada domésticamente sin traer otros beneficios a cambio.

Política comercial

La presente tesis doctoral también se adentra en la influencia de la política comercial en los patrones bilaterales de IED. En particular, los Capítulos 4 y 5 muestran que firmar un APC incrementa las inversiones bilaterales *greenfield* y las FyAs, secundando así la hipótesis de la complementariedad entre la IED y el comercio. Este hallazgo debería llamar la atención a los responsables de la política económica, en particular en aquellos países que están considerando promulgar barreras al comercio. Disminuir la integración comercial entre países puede resultar en un menor nivel de IED. Tal como pone de relieve la evidencia revisada y los resultados de los Capítulos 2 y 6, una caída en la IED puede resultar en una pérdida de productividad, exportaciones, inversión en investigación y desarrollo, empleo y salarios. En resumen, perder IED puede limitar el crecimiento económico y el bienestar.

Además, la evidencia expuesta en el Capítulo 4 enfatiza que la apertura comercial es un indicador muy general para abordar el vínculo entre la IED y el comercio. También, señala que el impacto de las características y políticas comerciales sobre las FyAs son propensas a depender del nivel de desarrollo del país de origen y destino. El Capítulo 4 evidencia que el grado de heterogeneidad en los destinos de las exportaciones y fuentes de importaciones, así como la posición y participación en las CGV son determinantes relevantes de la IED.

En términos de política económica, además de los comentarios expresados anteriormente, vale la pena resaltar que la apertura comercial no es una condición suficiente para atraer IED. A su vez, los países en vías de desarrollo podrían promover la llegada de FyAs de los países desarrollados mediante el incremento de su capacidad de exportar bienes finales a un número más amplio de países y mediante la intensificación de su participación en las CGV.

El rol de las instituciones en los países ricos en petróleo

El quinto capítulo de la presente tesis subraya la importancia de la calidad institucional y democratización para atraer inversiones *greenfield* en los países ricos en petróleo. La evidencia hallada respalda la hipótesis de que la abundancia petrolera limita las inversiones *greenfield*, confirmando de esta manera la existencia de una “maldición del petróleo” sobre la IED. No obstante, los resultados también destacan que la importancia de la producción de petróleo puede moderar de forma positiva el impacto de la calidad de las instituciones y la democratización sobre la IED. Por tanto, para los productores de petróleo, las reformas institucionales pueden implicar una notable mejoría en su capacidad de atraer nuevos proyectos de inversión y en consecuencia diversificar su economía. A su vez, mediante las reformas institucionales, la evidencia sugiere que los productores de petróleo serían capaces de eliminar la “maldición del petróleo” sobre la IED.

El avance hacia instituciones completamente democráticas podría tener efectos importantes sobre la IED. También cambios en otras dimensiones institucionales podrían conseguir resultados similares. En particular, la mejora del imperio de la ley y la estabilidad política son medidas que sobresalen por su impacto positivo sobre la inversión. Para un país como Brasil, que produce aproximadamente el 2.5% de los barriles de petróleo mundiales, un punto de mejoría los indicadores del imperio de la ley y estabilidad política podría incrementar respectivamente el número de inversiones *greenfield* en un 36% y 27%. Alternativamente, si Venezuela consiguiera incrementar su nivel de democratización al de Tailandia, lo cual no implica necesariamente ser una democracia completa, la probabilidad de sufrir la “maldición del petróleo” sobre la IED disminuiría drásticamente.

Los efectos de las FyAs

El Capítulo 2 resume la evidencia existente sobre el impacto en las economías receptoras de los crecientes flujos de IED procedentes de los países en vías de desarrollo. Los resultados son contradictorios, y la revisión pone de relieve la necesidad de abordar esta cuestión para el caso de los países desarrollados como receptores. El Capítulo 6 contribuye a la literatura centrándose en el caso de los efectos directos de las FyAs transfronterizas en el sector manufacturero francés. Además, distingue entre las

inversiones procedentes de Europa, otros países desarrollados y paraísos fiscales. Los últimos no han sido previamente considerados en la literatura. Se analiza la consecuencia sobre la Productividad Total de los Factores (PTF), intensidad de las exportaciones, empleo y salarios. Con este fin, el estudio explota una base de datos a nivel de empresas única y aplica *Generalized Propensity Score Matching* combinado con diferencia en diferencias, una metodología que aparentemente no ha sido aplicada en la anterioridad para el estudio del impacto de las adquisiciones.

Los hallazgos del capítulo ponen de relieve que el impacto de las FyAs depende del nivel desarrollo del país del cual procede la EMN inversora. Las adquisiciones EMNs europeas, en particular aquellas que pertenecen a la Unión Europea (UE), sobresalen por su impacto positivo en todas las dimensiones rendimiento de las empresas adquiridas. Por lo contrario, las adquisiciones procedentes de los paraísos fiscales aparentemente limitan la productividad, empleo y salario. Otros países desarrollados también parecen disminuir la PTF, pero incrementarían la intensidad de las exportaciones, el empleo y los salarios. Luego, las FyAs por parte de los países en vías de desarrollo parecen mejorar la PTF y el empleo de las empresas adquiridas.

Los resultados para el caso de las adquisiciones europeas resaltan uno de los beneficios de la UE. Probablemente debido a la mayor similitud cultural e institucional, este grupo de adquisiciones son las que traen unos mayores beneficios al rendimiento de las empresas. Esto ha de ser tenido en cuenta a tenor del creciente cuestionamiento a la UE.

En relación con el impacto de la IED, la evidencia hallada aporta nuevos elementos al debate de política económica de aquellos países que ven la inversión desde los países emergentes, y en particular China, con miedo y desconfianza. Obviamente, las preocupaciones de seguridad no deben ser ignoradas, pero los países europeos podrían beneficiarse de la inversión de las economías emergentes. Una mayor integración económica es probable que favorezca a ambos grupos.

Futuras líneas de investigación

La presente tesis doctoral aborda la temática de los determinantes y efectos de la IED. Los cambios recientes en la IED y la evidencia limitada sugieren que esta es un área prometedora de investigación. En relación a las limitaciones del estudio de esta temática, las restricciones en el análisis empírico son comunes en la literatura. Algunos temas específicos no han sido incluidos y pueden ser incorporados en el futuro en mi investigación.

En relación a la IED de los países en vías de desarrollo, el crecimiento exponencial de la IED china da pie a una literatura centrada en sus determinantes que se está expandiendo rápidamente. No obstante, aún son pocos los estudios que abordan la inversión china en América del Sur. Esto es sorprendente ya que la inversión China está creciendo de forma significativa en esta región. Asimismo, más atención ha de ser prestada a la IED procedentes de otros países distintos a China e India. En este sentido, una de las temáticas que abordaré en el futuro centra su atención en la relación entre la IED en el exterior, la migración y la producción de petróleo en Medio Oriente y Norte de África. A su vez, otra área de investigación son las consecuencias de la IED en el exterior sobre el país que invierte. La evidencia en este sentido es casi inexistente.

En términos de la relación entre la IED y la política comercial, la presente tesis identifica dos principales áreas de interés. La primera temática se relaciona con la profundidad de los APC. ¿Pueden los APC más completos incrementar la IED en una mayor medida que los más básicos? ¿Cuáles son las provisiones que un APC debe incluir de cara a fomentar la IED? ¿Pueden los APC más profundos ayudar a superar las barreras producto de las diferencias institucionales entre países? En relación a la profundidad de los APC, mi trabajo se está centrando en estos momentos en investigar las consecuencias del Brexit sobre la IED. La segunda temática hace referencia al rol de las CGV como determinantes de la IED. El análisis en el Capítulo 4 puede ser extendido mediante la inclusión de un mayor número de países de destino y las inversiones *greenfield*, y mediante la explotación de datos bilaterales de IED y participación en las CGV a nivel sectorial.

En relación a cómo los recursos naturales y el nexo entre recursos naturales e instituciones moderan la IED, es necesario un mayor análisis abordando varios aspectos. Primero, el

Capítulo 5 solo se centra en las inversiones *greenfield*, por eso futuros trabajos han de abordar el caso de las FyAs. Además, una perspectiva sectorial complementaría dicho análisis. Mientras que la riqueza de recursos naturales puede limitar la inversión en algunos sectores, puede que también la fomente en otros que estén relacionados con la producción de recursos naturales. Asimismo, debería ser probado si la riqueza de otros recursos naturales, aparte del petróleo, también limita la IED.

En relación a los efectos de la IED, la presente tesis da un paso adelante en varios aspectos, pero es necesario más investigación. Para el caso de la manufactura francesa, los hallazgos del Capítulo 6 podrían ser complementados por un estudio que abordase los efectos *spillovers* de la inversión según el origen.

A su vez, en esta temática, hay cuatro pilares principales en los cuales la futura investigación debería centrarse. Primero, los análisis que se focalizan en América del Sur son escasos y, hasta donde alcanza mi conocimiento, no estudian el impacto de la inversión dependiendo del origen. Segundo, cómo las diferencias institucionales y culturales, y la política comercial condiciona el rendimiento de las filiales de las EMNs en el extranjero es un área que aún necesita más investigación con importantes implicaciones de política económica. Tercero, más investigación que aborde los efectos de la IED de los países en vías de desarrollo sería necesaria. Los análisis existentes aún son limitados; más países y sectores de destinos han de ser tenidos en cuenta. Cuarto, la evaluación de cómo la IED de los paraísos fiscales afecta a las economías receptoras puede ser un ámbito de estudio de utilidad para las organizaciones internacionales y los responsables del diseño de política económica. El impacto negativo hallado en el Capítulo 6 es sorprendente. Sería recomendable confirmar este resultado y destapar los mecanismos detrás del mismo. Además, el análisis del Capítulo 6 solo considera las EMNs con sede en paraísos fiscales; esta evidencia podría ser complementada con trabajos que aborden el caso de las EMNs que invierten desde los paraísos fiscales pero cuya sede se encuentra en un país distinto.