

Relocation of Second Degree: Moving Towards a New Place or Returning Home?

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Abstract

We study the “relocations of second degree” (RSDs), i.e. the new location decisions that modify the country of destination of a previous offshoring investment. Specifically, we distinguish between two types of RSDs, i.e. “Relocation to the Home Country (RHC)”, also known as back-reshoring, and “Relocation to a Third Country (RTC)”, i.e. the choice of a new host country. We explore how these two types of RSDs are affected by the location advantage of the previous offshoring venture, by distinguishing among market-seeking, asset-seeking and efficiency-seeking (in terms of cost-saving and productivity-enhancing) investments. Using data from the European Restructuring Monitor, we focus on the RSDs of European manufacturing companies in the time span between 2002 and 2015. Results show that, when a previous offshoring investment is driven by market-seeking and asset-seeking reasons, firms undertaking an RSD are more likely to opt for an RHC. Conversely, when the location driver of the previous offshoring investment is of a cost-saving and productivity-enhancing type, firms undertaking an RSD prefer to pursue their internationalization strategy by selecting an RTC.

Keywords: reshoring, relocation, drivers, manufacturing, offshoring.

Please cite the paper as follows:

Barbieri, P., Elia, S., Fratocchi, L., & Golini, R. (2019). Relocation of second degree: Moving towards a new place or returning home?. *Journal of Purchasing and Supply Management*, 25(3), 100525.

<https://doi.org/10.1016/j.pursup.2018.12.003>

Introduction

Supply chains have become increasingly more international over the past two decades, as firms have been expanding their manufacturing operations – and other functions – beyond their national borders in search of market opportunities, knowledge or cheaper production inputs (e.g. Gereffi and Lee, 2012). This trend is not over (UNCTAD, 2016). However, the recent debate on ‘where to locate manufacturing’ has started to recognize that location choices, over time, are subject to change and the configuration of a firm’s global manufacturing footprint is not static (Brennan et al., 2015; Tate et al., 2014). Explanations for these changes stem from reasons such as changes in the global economy, or at the region or country level, which can affect their relative attractiveness (Martinez-Mora and Merino, 2014). Another reason is the emergence of novel manufacturing technologies that alter the relevance of the input factors, thus triggering new location decisions (Arlbjørn and Mikkelsen, 2014; Bals et al., 2016; Foerstl et al., 2016; Laplume et al., 2016). Innovations in business models (Grandinetti and Tabacco, 2015) or modified perceptions about the relevance of certain issues (e.g. sustainability, see Ashby, 2016) can also play a role in firms’ rethinking of their global manufacturing footprint. Existing studies have noted that a surprising number of companies are not necessarily gaining real benefits from their offshoring ventures (Christopher and Holweg, 2011; Manning, 2014). Hence, the decision to modify their manufacturing locations can also be attributed to these lower-than-expected outcomes (Kinkel, 2014). A dynamic view of the location of manufacturing activities is consistent with popular internationalisation frameworks – such as the Uppsala Internationalization model (Johanson and Vahlne, 1977) and its recent evolutions (Figueira-de-Lomos et al., 2011; Johanson and Vahlne, 2009). Such frameworks explain the different progressive patterns that firms can adopt in (re-)structuring their global production networks. Yet, little is known about what happens *after* the decision to internationalize production activities is made (Mugurusi and de Boer, 2013). Empirical evidence on ‘relocations of second degree’ (RSDs) – i.e. location decisions that modify a prior one – is quite scanty to date and focuses mostly on the ‘back-reshoring’ phenomenon.

Back-reshoring has been defined as ‘a voluntary corporate strategy regarding the home-country’s partial or total relocation of (in-sourced or out-sourced) production to serve the local, regional, or global demands’ (Fratocchi et al., 2014, p. 56). As such, back-reshoring clearly denotes an RSD because it reverses – at least in part – a prior location

choice (the offshoring one). More specifically, back-reshoring is an RSD oriented toward the home country, which we therefore refer to as ‘Relocation to Home Country’ (RHC). However, back-reshoring is just one of several relocation options a firm can consider since production activities that have been originally moved from the home to a host country can either be back-reshored or relocated to a third country. While existing literature acknowledges these alternatives (e.g. Fratocchi et al., 2014, 2016; Tate et al., 2014), to the best of our knowledge, the vast majority of the studies investigating RSDs analyse the characteristics and motivations of back-reshoring only (Barbieri et al., 2018).

We aim to fill this gap by investigating the two alternative types of RSDs: RHC and relocations to a third country (RTC). Specifically, an RSD takes place when – after the initial delocalization from the home country to a foreign country (i.e. ‘first host country’) – a company moves its production activities from the first host country either back to the home country (i.e. RHC) or to a second host country which is not the home one (i.e. it relocates to a third country: RTC).

Given that the RSD follows a previous offshoring choice, to gain an extensive comprehension of the RSD, it is necessary to enquire about the why, where and when activities were previously offshored (Gray et al., 2013; Mugurusi and de Boer, 2013). Therefore, in this paper, we explore the relationship between the why and where of companies’ offshoring and the subsequent RSD decision. Similar to past studies (e.g. Buckley et al., 2007; Ellram et al., 2013), we utilize the ‘location advantages’ dimension of the OLI (Ownership-Location-Internalization) paradigm (Dunning, 1979). These advantages capture some favourable conditions that a foreign country offers with respect to the home economy, and they are generally adopted to explain the selection of the first host country when firms invest abroad (i.e. the why and where of offshoring). Specifically, we take into account the traditional framework proposed by Dunning (1993), which distinguishes among location advantages offering market-seeking, strategic asset-seeking and efficiency-seeking (in terms of cost-saving and productivity-enhancing) opportunities. Therefore, our research question is: *How do location advantages underlying the previous offshoring decision affect the probability to undertake an RHC rather than an RTC?*

Unlike most of previous papers that focus on one single home country (e.g. Di Mauro et al., 2018; Martinez-Mora and Merino, 2014), we develop our research question, both theoretically and empirically, by considering several (home and host)

countries located in Europe. Europe represents the ideal setting for our study because of the deep political and economic transformations that have occurred during the last 15 years (e.g. enlargements of European Union). These events provided firms with the opportunity to exploit new location advantages across European countries, thus offering several new opportunities to undertake relocation decisions, in terms of either RHC or RTC.

Hence, to answer our research question, we performed an exploratory empirical analysis on a sample of 496 RSDs undertaken across European countries from 2002 to 2015, 90 of which are RHCs and the remaining 406 are RTCs. After a descriptive analysis of the origins and destinations of the relocations, we perform an econometric analysis of a subsample of 291 RSDs (70 of which are RHCs). The results show an association between RHC and market-seeking location advantages, on the one hand, and a strong correlation between RTC and efficiency-seeking location advantages, on the other hand. In other words, the firms investing in locations offering market-seeking advantages seem to have progressively re-located their activity in their home country – although for Europe-headquartered firms, this pattern has not been observed during the 2008-2011 crisis. Conversely, firms offshoring for efficiency-seeking reasons continue to pursue this location advantage through further internationalization by investing in a second host country. We propose interpretations of these diverging choices.

We believe that our analysis contributes to both the International Operations Management and International Business literature by offering new insights to understand the evolution of global manufacturing networks and of the firm's internationalization process. We achieve this result by adopting a dynamic perspective for the strategic location decision since we consider both the offshoring and RSD decisions. In particular, we investigate the relationship between the location advantages driving the previous offshoring investment and the subsequent RSD decision. At the same time, we offer a novel contribution by introducing the RTC as an alternative to the traditional concept of back-reshoring (i.e. RHC).

The remainder of the paper is organized as follows. The next section discusses the theoretical background. The empirical section provides the descriptive statistics and the econometric analysis concerning the relationship between the offshoring location advantages and the two alternative RSDs (i.e. RHC and RTC). Finally, the last section contains the discussion and conclusions arising from our analysis.

Theoretical background

The growing interest in RSDs has been directed almost exclusively towards the back-reshoring phenomenon (i.e. the RHC), probably boosted by its political and social implications, leading to a rapidly increasing amount of literature on this topic (Barbieri and Stentoft, 2016; Wiesmann et al., 2017). A vast array of back-reshoring drivers has been identified (Barbieri et al., 2018), leading scholars to group them into ‘homogeneous categories’ such as costs, quality, access to knowledge and skills, institutional reasons (e.g. Stentoft et al., 2016a; Zhai et al., 2016), or based on theoretically-driven dimensions (Ancarani et al., 2015; Bals et al., 2016). Starting with the theories that are more commonly used to explain the location choices, Fratocchi et al. (2016) developed an interpretative framework that classifies the back-reshoring drivers based on the level of analysis (internal environment vs. external environment) and the goal (customer perceived value vs. cost efficiency). The goal indicates that repatriation of manufacturing can be undertaken to adapt to the firm’s strategic priority, i.e. it can be a purposeful goal-oriented decision (Baraldi et al., 2018; Di Mauro et al., 2018). Quite recently, scholars investigated the relationships between off-shoring and back-reshoring drivers (Di Mauro et al., 2018; Johanson et al., 2018; Johanson and Ohlager, 2018) putting in evidence that they are generally different. All these studies are useful, but insufficient to enable a broader and more complete understanding of why RSDs happen, for at least three reasons.

First, focusing solely on back-reshoring (i.e. RHC), these studies are narrow in scope and fail to embrace the broader spectrum of alternatives that firms can consider when deciding to abandon the first foreign location, such as investing in a new host country (RTC) instead of going back home (RHC). Di Mauro et al. (2018) and Johanson et al. (2018) recently showed the off-shoring motivations for RTC may differ from those for RHC and capturing these differences can prove to be particularly insightful for understanding the firm’s internationalization process and its evolution. We have found very few studies that have analysed other types of relocation different from back-reshoring. Manning (2014) enquired how firms in the software and service industries deal with the challenges of offshoring. He found that relocation (specifically the RTC) tends to happen in response to external challenges over which the company has little control, when the strategic orientation follows a cost reduction imperative and the impact of the challenges on performance is too high to be tolerated (Manning, 2014).

Instead, if challenges are internal and the firm considers a range of strategic objectives beyond cost reduction, then mitigation of the challenges is a preferred approach.

Albertoni et al. (2017) considered the planned relocation decisions of business services without distinguishing between RHC or RTC decisions¹. Their findings suggest that firms' propensity to offshore services in search of cost reduction or new market penetration, and the unsatisfactory outcomes of the latter, lead them to plan to relocate the activities. However, none of these studies clearly distinguishes the specific reasons underlying the different types of RSDs, and they focus on business services, while overlooking the manufacturing industries. Our study aims to fill this first gap by focusing on the relocation of manufacturing activities while distinguishing RHCs from RTCs.

Second, with a few exceptions (e.g. Fratocchi et al., 2016; Heikkilä et al., 2018; Johanson et al., 2018), the back-reshoring initiatives considered in these studies are directed towards a few or even just one home country (Arlbjørn and Mikkelsen, 2014; Kinkel, 2014; Zhai et al., 2016), thus precluding not only richer comparisons between several home and host countries but also a more nuanced understanding of the effects of country characteristics. In our study, we aim to fill this gap by developing our theoretical arguments and empirical analysis across several (home and host) countries located in one specific macro-area, i.e. the European region. As mentioned previously, Europe represents the ideal context for our study because of the deep political and economic transformations this region was subject to during the last 15 years. Among other exempla are the political enlargements of European Union (EU) that occurred in 2004, 2007 and 2013, the economic development of the 'transition economies'², the (partial) adoption of the Euro currency, and the strong negative impact of the economic crisis on several European economies (e.g. Greece). These events affected the location advantages of several countries and created opportunities to implement relocation decisions across European countries, in terms of either RHC or RTC.

¹ More precisely, the authors distinguish between the two phenomena in the descriptive statistics, but not in the econometric analysis.

² The International Monetary Fund defines "transition economies" as those countries that are under transformation from centrally planned economies into market economies (<https://www.imf.org/external/np/exr/ib/2000/110300.htm>). Countries recognized as "transition economies" within Europe are Albania, Bulgaria, Croatia, Czech Republic, Estonia, FYR Macedonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia. Those within Commonwealth of Independent States (CIS) are Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

Third, most of the RHC studies ignore the link with the initial offshoring movement, which is a major pitfall because – as pointed out by Gray et al. (2013, p. 30) – ‘back-reshoring cannot be examined without also examining the starting point’. In a similar vein, Di Mauro et al. (2018, p. 109) observed that disconnecting the offshoring and back-reshoring analyses ‘implicitly denies the possibility that back-reshoring is one of the possible steps in the internationalization strategy of the firm’, as it reduces back-reshoring merely to the reverse of offshoring. To overcome this third gap, we account for the previous offshoring decision and investigate its (possible) impact on the RSD choice, as discussed in the next sections.

Linking the offshoring and RSD decisions

Recent empirical research has started to investigate RSDs while taking the previous offshoring step into account. Albertoni et al. (2017) showed that the firm-specific drivers of offshoring do play a role in influencing the likelihood that a relocation will happen at a later stage – be it a back-reshoring or a shift to a third country. Gray et al. (2017) analysed cases of small and medium enterprises that returned home previously offshore-outsourced activities that had been moved abroad for cost-saving or resource-seeking reasons. They showed that – despite any lack of macro-economic changes that could easily justify the relocation choices – the back-reshoring decisions eventually remediated the misjudged offshoring ones which had suffered from the limited offshoring experience of the decision makers and from their lack of experiential knowledge on the hidden costs and other performance implications of conducting operations abroad (Gray et al., 2017). Di Mauro et al. (2018) compared cases of back-reshoring in the textiles-clothing-leather-footwear industry that all follow cost-saving-driven offshoring decisions. In their study, back-reshoring is practically never due to cost reasons, but rather to a strategic repositioning towards higher-end segments and to the consequent need for higher quality, innovation and co-location of manufacturing with R&D and marketing. Gray et al. (2017) and Di Mauro et al. (2018) highlighted different motivations for back-reshoring of activities that had been offshored for cost reduction reasons, although it is possible that the different industries and governance modes influenced their outcomes. More importantly, the cases they present include only certain offshoring determinants (namely, cost-saving and resource-seeking) and they all refer to RHC. To better understand the linkage between offshoring investments and

RSDs, there is a need to expand the focus to include other offshoring and relocation types.

The location advantages of the offshoring investments

Traditionally, the International Business and the International Operations Management literature capture the drivers of a cross-border investment through firm-level and deal-level data, which rely on surveys providing a subjective assessment of the reasons underlying an offshoring decision. However, these literatures have also remarked the importance of using country-level data (which rely on more objective macro-economic indicators) when investigating the motives of offshoring investments. One of the most popular papers in International Business, i.e. Buckley et al. (2007) (winner of the JIBS decade award in 2017), investigated the determinants of cross-border Chinese investments by employing macro-economic indicators to identify the reasons underlying the offshoring investments. Within the International Operations Management literature, the study by Ellram et al. (2013) suggested that ‘ownership and internalization are very closely related and focus on a firm-level analysis’ while ‘location advantages can be explained by country-level analysis’ (Ellram et al., 2013, p.15). Indeed, they made use of a country-level approach to analyse how the attractiveness factors of the world’s regions influenced the recent location choices of a sample of American firms. At the same time, Di Mauro et al. (2018) found that the vast majority of offshoring motivations for their sample firms belong to the ‘external environment level’, i.e. lie above the firm’s internal level, thus further confirming the importance of the host country dimension for the firm’s decisions regarding ‘where’ manufacturing activities are placed.

Hence, a way to interpret the choice of a firm undertaking an offshoring investment is to associate it with the features that make a specific location attractive from the firm’s standpoint. This concept, known as ‘location advantage’, is one of the three components of the frameworks of internationalization known as the ‘OLI’ paradigm, developed by Dunning (1978, 1993, 2000).

Specifically, Dunning (1993) identified four different types of location advantages that explain why and where firms invest, based on what they seek when investing in a specific host country, i.e. (i) market-seeking, (ii) asset-seeking, (iii) efficiency-seeking and (iv) natural resource-seeking. These four location advantages arise when a host country offers the possibility to (i) penetrate a new market; (ii)

compete on prices by reducing costs and/or by increasing efficiency; (iii) source strategic assets that increase knowledge and, hence, the innovation and the competitiveness of the firm; and (iv) gain new natural resources. Thus, location advantages refer to some favourable conditions (in terms of markets, efficiency, assets and natural resources) that a foreign country offers with respect to the home economy and provide a reason (alongside the ownership and the internalization advantages) why and where a company decides to undertake a foreign direct investment.

Location advantages and the RSD decisions

In line with Gray et al. (2013), Ellram et al. (2013) and Di Mauro et al. (2018), we speculate that the location advantages underlying the previous offshoring venture of a firm can affect the subsequent propensity to undertake an RSD, in terms of either an RHC or an RTC. Firms investing abroad for market-seeking location advantages, for instance, might undertake an RSD to rationalize their cross-border activities by serving the foreign markets from a single (or few) location(s), which might be their home country (thus triggering an RHC) or a third country (thus triggering an RTC). This process might be fostered by the unsatisfactory sales performance of the foreign ventures faced by several companies, especially after the financial crisis, or by the reduction of the cross-border transaction costs arising from the increasing political and economic integration of the EU, which represents the geographic context of our analysis for the reasons discussed above.

Regarding the asset-seeking location advantages, firms located abroad might decide either to go back home (thus triggering an RHC) because the location advantages associated with the foreign assets (e.g. advanced knowledge and technology) have run out or to invest in new alternative locations (thus triggering an RTC) because they offer complementary or even superior assets. In both cases, the process might be amplified by the diffusion of 'Industry 4.0' policies implemented by European countries to foster investments in new production technologies, automation and integration of manufacturing systems (EPRS, 2014; Stentoft et al., 2016b).

Such policies might also be responsible for the RHC or RTC of companies investing abroad for efficiency-seeking location advantages, e.g. to take advantage of the higher productivity offered by the technologies belonging to 'Industry 4.0'. Efficiency-seeking location advantages might also trigger an RSD when the savings achieved abroad by the firm during the previous investment are lower than expected or when quality and

productivity drawbacks or other ‘hidden costs’ of offshoring arise (Larsen et al., 2013). At the same time, similar to market-seeking investments, firms looking for efficiency-seeking opportunities might have taken advantage of the enlargement of the EU to relocate their activities in ‘transition economies’.

To gain more insights into the underlying mechanisms described above, we now explore empirically whether and how the location advantages associated with the previous offshoring investments affect the probability to undertake an RHC rather than an RTC. The natural resource-seeking location advantage was omitted in the theoretical discussion and in the empirical analysis since Europe is not a natural-resource abundant area and, hence, this location advantage is less likely to be responsible for foreign direct investments in this macro-region.

Empirical evidence

Dataset and descriptive statistics

Our dataset consists of relocations recorded in the European Restructuring Monitor (ERM) database, which publishes fact sheets on large-scale restructuring announcements by European and non-European firms affecting subsidiaries based in the EU.

As reported in the ERM website, the information in the restructuring events database is the result of an analysis of daily newspapers and business press in the EU28 Member States and Norway. To complete the background information, other sources are also used, including company websites, social partner websites and specific sources dealing with restructuring processes. A European network of experts – mainly economists, sociologists and journalists specialising in industrial relations – is in charge of information collection.

(<https://www.eurofound.europa.eu/observatories/eurwork/industrial-relations-dictionary/european-restructuring-monitor>)

The ERM, which is part of Eurofound – the European Foundation for the Improvement of Living and Working Conditions – is an official source used by policymakers to evaluate policies related to the employment. The ERM considers only those restructuring cases that meet at least one of the following criteria:

- affects at least one European country,
- provides for a reduction or increase in employment of at least 100 jobs, and
- involves at least 10% of the workforce in sites with more than 250 employees.

First, we selected all the movements classified by the ERM as ‘relocations’ available between 2002 and 2015. From this database, we drew the following information:

- Company name
- Country, classified as follows:
 - home country, which is also the final destination in the case of RHC;
 - first host country, which is the destination of the first offshoring investment; or
 - second host country, which is the final destination in case of RTC.
- NACE code (2-digits)
- Announcement date
- Planned jobs moved: Note that the transfer of jobs from the first host country can also be partial, meaning that the plant in the first host country is not always shut down.
- Additional information (i.e. the text of the news)
- Source (i.e. link to the article)

Next, we dropped all the cases missing critical information and cases involving a non-European country as the home, first host and second host country; we had to drop these cases due to their limited number and sampling significance. The ERM database only tracks with precision and completeness relocations within Europe; relocations from non-European countries are more sporadic and random.

We ensured that each announcement was relevant to our study by reading the available additional information, and we finally classified the movements into RHC and RTC. We ended up with 496 intra-Europe RSDs regarding manufacturing operations, of which 90 cases are RHCs and 406 are RTCs. Given the exclusion of non-European countries, RHCs were implemented only by companies with the headquarters in Europe. Table 1 provides a description of the sample.

– Insert Table 1 about here –

Figure 1 shows a peak in the relocation initiatives between 2005 and 2007, which is likely due to the EU enlargements that happened after 2004. These events were favourable for companies that could move into the ‘transition economies’ low-cost

countries to exploit the advantages of EU countries (removing Customs duties). The worldwide financial crisis, which started in late 2008, might explain the huge reduction in relocation initiatives between 2009 and 2010.

– Insert Figure 1 about here –

Table 2 presents the industries considered. We can observe a good representation of different industries, with a majority of the companies in the ‘manufacture of motor vehicles, trailers and semi-trailers’ and ‘manufacture of electrical equipment’ sectors.

– Insert Table 2 about here –

To provide a geographic perspective of the RSDs included in our sample, we employed a ‘directed graph’ representation of the RHC and RTC movements, using Gephi software. In particular, we restructured the data so that each home, first host and second country was a node in the network. Next, each movement First host→Home (in the case of RHC) and First Host→Second Host (in the case of RTC) was mapped as an arc between two nodes (Figure 2). The size of the arrow is proportional to the number of movements. Tables A1 and A2 in the Appendix provide detailed information about each country and movement.

– Insert Figure 2 about here –

Considering RHC movements, the most frequent destination countries were Germany (DEU – 24 incoming movements) and France (FRA – 14).

Considering RTC movements, we can see that Poland (POL – 88 incoming movements), Czech Republic (CZE – 51 incoming movements), Romania (ROU – 38 incoming movements), Hungary (HUN – 35 incoming movements), Germany (DEU – 30 incoming movements) and Slovakia (SVK – 29 incoming movements) were the most popular destination countries. In particular, Poland (POL) received significant flows from Germany (DEU – 12 RTC), France (FRA – 12 RTC) and Great Britain (GBR – 11 RTC).

To obtain further insights, we also grouped the first and second host countries distinguishing between ‘transition economies’ and ‘other economies’ (Figure 3).

– Insert Figure 3 about here –

Notably, the first offshoring decisions were mainly from ‘other economies’ to ‘other economies’ (417 out of 496 movements), while the ‘transition economies’ were perceived as a less appealing destination by these countries (72 out of 496 movements). Moreover, few offshoring decisions were implemented by companies with the home country (i.e., headquartered) in ‘transition economies’ (5+2=7 out of 496).

It follows that the majority of RHCs are from ‘other economies’ back to ‘other economies’ (72 out of 90).

When focusing on RTCs, we can observe that the majority of RTCs concerns relocations from ‘other economies to ‘transition economies’ (220 out of 406). In other words, while the first offshoring decisions were addressed to ‘other countries’, RTCs are generally oriented to ‘transition economies’ (220+53=273 out of 406). Notably, however, most of the companies that initially offshored to ‘transition economies’ (72+2=74) moved to another transition economy (53).

Methodology and variables

After conducting the descriptive analysis presented so far, we performed an econometric analysis of a subsample of 291 companies to answer our research question (the number of observations available for the econometric analysis is lower than the original full sample due to some missing values in the variables employed in the regressions).

Dependent variable. Our dependent variable is a dummy, named *RHC*, which takes the value of 1 if the company undertakes an RHC, corresponding to 70 observations (i.e. about 24% of the sample), and 0 if it undertakes an RTC, corresponding to 221 observations (i.e. almost 76% of the sample). The information about the relocation was obtained from the ERM database.

Explicative variables. To capture the location advantages of the previous offshoring investment, which are our main explicative variables, building on Buckley et al. (2007) and Ellram et al. (2013), we gathered macro-economic indicators about the countries involved in our study from secondary sources. More specifically, to account

for the location advantage of the first host country with respect to the home country, we computed, for each observation, the difference between the first host country and the home country³ of the average value of each indicator in the last three years before the announcement of each RSD⁴. The underlying idea is that the difference in the values between countries estimates a location advantage. For instance, if a company moved some activities from a home country with a low indicator to a first host country with a high indicator (considering the average value in the last three years before the investment), the difference between the first host and the home country captures better conditions in the former, thus reflecting its location advantage. Hence, the explicative variables of our econometric analysis, which reflect the location advantages of the first host (with respect to the home) country underlying the initial offshoring investment, are the following:

- *Market-seeking location advantage*: The difference between the first host country and the home country in GDP in US\$ at Purchasing Power Parity, constant 2011 (source: World Bank Data, International Comparison Program database, <https://data.worldbank.org/indicator/NY.GDP.MKTP.PP.KD>).
- *Strategic asset-seeking location advantage*: The difference between the first host country and the home country of the Researchers in R&D per million people (source: World Bank Data, United Nations Educational, Scientific, and Cultural Organization Institute for Statistics, <https://data.worldbank.org/indicator/SP.POP.SCIE.RD.P6>).
- *Cost-saving location advantage*: The difference between the home country and the first host country in the Unit Labour Cost, being the base year 2010=100 (source: OECD Data, OECD Compendium of Productivity Indicators, <https://data.oecd.org/lprdy/unit-labour-costs.htm>).
- *Productivity location advantage*: The difference between the first host country and the home country in the ratio of GDP per person employed in US\$ at Purchasing Power Parity, constant 2011 (Source: World Bank Data, International

³ For one indicator, i.e. cost-saving driver, we computed the difference between the home country and first host country, since higher values are associated with worse conditions. More details are provided when describing the indicator.

⁴ The average values enable both to avoid bias due to outliers and to account for managers' propensity to make decisions based on medium-run perspectives and on trends rather than on punctual values. The variables have also been standardized to avoid biases arising from the different scales of the indicators.

Labour Organization, ILOSTAT database,
<https://data.worldbank.org/indicator/SL.GDP.PCAP.EM.KD>).

The last two indicators aim to capture two different dimensions of the efficiency seeking location advantage underlying foreign direct investments.

Control variables. We also introduced in the model a number of control variables that might affect the choice in the RSD, namely:

- *Crisis period 08-11:* To take into account the most detrimental immediate crisis effect, we employed a first dummy variable whose value is equal to 0 from 2002 to 2007, and 1 from 2008 until 2011.
- *Post-crisis period 11-15:* To take into account the medium-run period after the crisis, during which companies started to recover and economies to stabilize, we employed another dummy variable whose value is equal to 0 from 2002 to 2011, and 1 from 2012 until 2015, i.e. the end of our time horizon.
- *Firm size:* Company size can be related to the willingness of a company to make FDI, as larger companies can rely on more resources to implement their internationalization strategies, including the RSDs. To measure company size, we gathered data on the Total Asset (Thousand of US\$) from Orbis - Bureau Van Dijk. We used this measure because the number of employees was unavailable for all the companies. Moreover, given the variety of labour and capital-intensive industries, the measure of the total assets can be a better proxy for company size.
- *First host country transition economy:* This variable is a dummy identifying those host countries that, according to the definition provided by the International Monetary Fund, are classified as ‘transition economies’.
- *First host country Euro:* This is a dummy variable capturing those first host countries that, given the year in which the RSD occurs, belonged to the Euro currency area.
- *Medium-high tech industries:* We control for the industry of the companies implementing the RSDs by employing a dummy based on the Eurostat-OECD (2007) classification for manufacturing industries, which distinguishes four different groups of industries according to their technological level. Our dummy variable takes the value of 1 if the industry of the company is classified as medium-high tech or high-tech and 0 if the industry of the company is classified as medium-low-tech or low-tech.

- *Cultural distance*: We used the Kogut-Singh (1988) index based on Hofstede's (2001) items to identify the four main dimensions underlying the cultural difference between countries A and B, i.e. Power Distance, Uncertainty Avoidance, Individualism or Collectivism and Masculinity or Femininity.

Table 3 shows the correlation matrix and the descriptive statistics of the dependent and explicative variables of our model. All correlations are low. However, we also computed the variance inflation factors (VIF) to rule out any multicollinearity problem: no value is higher than the threshold of 10.

– Insert Table 3 about here –

Given the dichotomous nature of our dependent variable (RHC vs. RTC), we employed a logit econometric model to estimate the relationship between the dependent variable, which accounts for the propensity to undertake RHC (rather than RTC), and the explicative variables, which capture the location advantages of the first relocation choice.

Results of the econometric analysis

Table 4 reports the results of the logit model, which shows both the coefficients (column a) and the marginal effects (column b) stemming from the regressions. The variable *market-seeking location advantage* displays a positive and significant correlation ($p < .01$) with the dependent variable, thus showing that firms that invested in European economies to search for location advantages in terms of market opportunities are more likely to back-reshore than to invest in new markets. In particular, marginal effects show that an increase of 10% in the intensity of the market-seeking location advantage increases the probability to undertake an RHC (with respect to an RTC) of about 1.57%. The variable *strategic asset-seeking location advantage* also displays a positive relationship with the dependent variable, but the coefficient is not significant. Conversely, firms investing abroad to exploit efficiency-seeking location advantages are more likely to undertake an RTC than an RHC, given that both the *cost-saving location advantage* and *productivity location advantage* display a negative and significant relationship with the dependent variable ($p < .05$ and $p < .01$, respectively). Specifically, the effect of the latter variable seems to be stronger than the effect of the former, given

that an increase of 10% of the intensity of the productivity driver decreases the probability to undertake an RHC by about 1.58%, while an increase of the intensity of the cost-saving driver decreases the probability to undertake an RHC by about 0.46%. Regarding the control variables, our results show that the RHCs are more likely during the economic crisis of 2008, given that the variable *crisis period 08-11* displays a positive and significant relationship ($p < .05$) with the dependent variable. Conversely, the RSDs seem to be unaffected by the medium-run recovering period after the crisis, given that the dummy *post-crisis period 12-15* is positive but not significant. The results also show that larger firms are slightly more likely to undertake an RHC than an RTC, given the positive and weakly significant coefficient of the variable *firm size* ($p < .10$). In addition, when the first host country is a transition economy, the probability to relocate the investment back to the home country is lower, meaning that companies tend to re-invest in a second host country, given the negative and significant ($p < .01$) sign of the coefficient of the variable *first host country transition economy*. Finally, Table 4 also shows that the larger the cultural distance, the lower the probability to undertake an RHC, given the negative and significant (although weak, being $p < .10$) sign of the coefficient *cultural distance*. In other words, it seems that firms that invest in culturally distant countries are more likely to re-invest in second host-countries than return home.

– Insert Table 4 about here –

Additional evidence

We performed a set of alternative analyses to test the robustness of our results. First, we introduced an alternative measure for the asset-seeking location advantage to account not only for the skilled human resources but also for the intangible knowledge-intensive and innovative assets that a company might be willing to source in a foreign country. Therefore, instead of using ‘Researchers in R&D per million people’, we employed as an alternative proxy the (delta between the first host and home country of the average value in the three years before the RSD of) ‘Research and development expenditure as percentage of GDP’ (source: World bank, United Nations Educational, Scientific, and Cultural Organization, Institute for Statistics, <https://data.worldbank.org/indicator/SP.POP.SCIE.RD.P6>). The results, which are

available upon request, confirm the not significant impact of the variable *asset-seeking location advantage*, while the other results are fully confirmed⁵.

Second, we acknowledge that the use of GDP as proxy of market-seeking location advantage might be appropriate to capture the benefits for producers of consumer goods (i.e. B2C companies), but less appropriate for suppliers of goods to other firms (i.e. B2B companies). Therefore, we introduce three alternative proxies that should be better able to disentangle the different markets a company might seek: (i) Household Final Consumption Expenditures – constant 2010 US dollars (source World Bank national accounts data, and OECD National Accounts data files), which better captures the B2C market; (ii) Manufacturing, value added – constant 2010 US dollars, (source: World Bank national accounts data, and OECD National Accounts data files), which better captures the B2B market; and (iii) General government final consumption expenditure – constant 2010 US dollars (source: World Bank national accounts data, and OECD National Accounts data files), which captures the B2B and B2C markets involving the public administrations. The results, which are reported in Table 5, confirm the positive and significant correlation of all these variables with the probability of undertaking an RHC⁶.

– Insert Table 5 about here –

Third, as mentioned in the sample description, our data include companies with their headquarters both inside and outside Europe. Hence, while both types of companies can perform RTCs, only European-headquartered companies can perform an RHC because we only consider movements within Europe. To avoid this bias, which might affect our results, we performed two additional analyses. First, we represented the network diagram of RTCs by distinguishing between European and non-European firms, which account for 219 and 225 observations, respectively (see Table 1). Figure 4 shows that companies with European headquarters concentrated their movements towards Poland (POL), especially from Great Britain (GBR) and France (FRA). With regard to companies with their headquarters outside Europe, we found more *binary* types of

⁵ Since R&D expenditures is an input measure of the innovation activity, we also resorted to an output measure, i.e. ‘patent applications, residents and non-residents’, provided by the World Bank based on the World Intellectual Property Organization Patent Report (Statistics on Worldwide Patent Activity). However, we were unable to apply this variable to our analysis due to its high correlation (about 90%) with the proxy employed to account for the market-seeking location advantage.

⁶ For three observations, the variable accounting for Manufacturing value added was not available; therefore, the regression in column (b) was run over 288 observations instead of 291.

relationships: from Germany (GER) to Poland (POL), from France (FRA) to Czech Republic (CZE) and from Czech Republic (CZE) to Romania (ROU).

– Insert Figure 4 about here –

Finally, we performed an econometric analysis on a subsample of 202 observations involving only the European headquartered companies to investigate the relationship between location advantages and RSDs, using a homogeneous dataset both for the RHC and RTC in terms of firms' headquarters. Column (a) of table 6 shows the results of the regression performed on the subsample using the dummy RHC as the dependent variable, equal to 1 in the case of RHC (which accounts for 70 observations) and to 0 in case of RTC (which accounts for 132 observations). The variables *cost-saving location advantage* and *productivity location advantage* confirm their negative and significant ($p < .10$ and $p < .01$) correlation with the dependent variable, thus corroborating the positive relationship between efficiency-seeking investments and RTC.

Conversely, the variable *market-seeking location advantage* appears to be no longer significant. Based on this partially unexpected finding related to the market-seeking effect for the companies headquartered in Europe, and given the persisting strong positive effect of the variable accounting for the crisis period in the subsample, we performed an additional econometric model including an interaction effect between the variables *market-seeking location advantage* and *crisis period 08-11*. The aim is to understand whether the relocation strategy of market-seeking European firms has been somehow affected by the economic crisis. Results, which are reported in column (b) of table 6, suggest that the interaction effect is negative and significant ($p < 0.05$), thus showing that market-seeking European firms are more likely to undertake a RHC outside the crisis period, while opting for RTC during the crisis period. Given the non-linearity nature of our model, we also plotted the results in order to gain more insights on the interaction effect. Figure 5 confirms that, during the crisis period (continuous line), firms with a weak orientation to market-seeking location advantage are more likely to undertake a RHC, while firms driven by a strong market-seeking location advantage are more likely to undertake a RTC. Conversely, outside the crisis period (dotted line), a clear positive relationship between the market-seeking location

advantage and the probability to undertake a RHC arises, consistently with the pattern observed for the whole sample⁷.

– Insert Table 6 and Figure 5 about here –

Discussion and conclusions

Overview of the results

The aim of the present paper is to answer the research question: *How do location advantages underlying the previous offshoring decision affect the probability to undertake an RHC rather than an RTC?* Our results provide evidence of the relationship between the location advantages underlying the initial offshoring decision, on the one hand, and the different typologies of RSDs, on the other hand. Our results show that when the offshoring investment is driven by efficiency-seeking reasons, in terms of both cost-saving and productivity-enhancing, companies are more likely to undertake an RSD in second host countries (relocation to a third country – RTC). This finding means that companies that internationalize to decrease costs or increase productivity are more likely to exploit arbitrage opportunities through frequent relocations across countries. In particular, such opportunities have been greatly enhanced when some transition countries joined the EU.

Indeed, our macroeconomic indicators (i.e. Unit Labour Costs – employed to account for the cost-saving location advantage – and GDP per employees – employed to account for the productivity location advantage) show that, during the period 2002-2015, transition economies provided companies belonging to other countries with two different types of opportunities to improve their efficiency. While countries such as Romania and Bulgaria have been able to offer low-cost location advantages at least until the year 2010, other countries such as Czech Republic and Hungary have been able to offset the rise in labour costs (whose levels have been, however, lower than several other European economies for a long time) by improving their productivity. This twofold type of location advantage offered by transition economies is also reflected by the different steps through which the EU enlargement process took place, given that

⁷ We also performed the interaction effect between *market-seeking location advantage* and *crisis period 08-11* in the full sample, but the moderation term is not significant. The same holds for the interaction effect between *efficiency-seeking location advantage* and *crisis period 08-11* and between *cost-saving location advantage* and *crisis period 08-11* both in the full and in the European subsample, which turned out to be never significant.

some countries joined EU in 2004, while others, lagging behind from an economic and political viewpoint, joined EU in 2007 or later. The duality and dynamism of the efficiency-seeking location advantage offered by these countries might also explain the negative and significant result of our dummy variable *first host transition economy*. This result tells us that offshoring to a transition economy tends to be related to an RTC movement and, from Figure 3, we can see that the RTC is usually directed to another transition economy. Indeed, some firms looking for cost-saving location advantages might have decided to relocate from those transition countries that enjoyed a surge of their economic development (which typically comes with an increase of the production costs) to those countries offering more long-lasting cost-saving location advantages (e.g. Romania and Bulgaria). On the other hand, other firms might have decided to move from transition economies excluded from the first enlargement to those that joined the EU during the first step to take advantage of the integration process. Another explanation might be that some companies evolved their search by switching from cost-saving to productivity-seeking location advantages, thus relocating their activity across transition economies towards those countries that were able to enhance their productivity.

Our analysis also provides evidence that firms that undertake their offshoring investment for market-seeking reasons are more likely to go back home (relocation to home country – RHC) when undertaking an RSD (although in the subsample of European firms this outcome is found only out of the financial crisis). This result is confirmed for different measures of the market-seeking location advantage aimed at disentangling the different markets a company may seek (e.g. B2C and B2B markets). As such, it seems applicable also to the case of component suppliers, whose offshoring initiatives were more likely attracted by the (comparative) magnitude of the manufacturing activities of the first host country, rather than by its GDP. The observed effect of market-seeking advantage on RDS is likely to be due to both the increasing opportunities provided by the European political and economic integration, and by the disappointing results that have been obtained by companies investing abroad.

When it comes to the effects of the variable accounting for the crisis period (2008-2011), our results deserve attention. On the one hand, the direct effect of the crisis appears to be in favour of RHC in all the analyses conducted. Companies have likely decided to rationalize their investments, e.g. by concentrating their production in the home country so as to (at least partially) compensate for the decreased utilization of

the installed capacity. Alternatively, they might have simply decided to exit those markets. Our results also indicate that this effect has probably ceased in the more recent years (2012-2015). On the other hand, when focusing on the subsample of Europe headquartered firms only, we find that the crisis period negatively moderates the effect of the market-seeking location advantage on the relocation choice, leading these companies to preferentially select a RTC. In other terms, during the crisis period, European companies that had undertaken offshoring initiatives for market-seeking reasons have apparently looked for other markets across Europe, maybe in an attempt to discover opportunities they could hardly find in their domestic ones.

Finally, we found no significant effect of asset-seeking advantages on the RSD decision. Some noteworthy evidence arises, however, from other control variables. In particular, larger firms seem to be more likely to undertake an RHC than an RTC, probably because they can afford more readily to reverse their investment than less large firms (consistent with Kinkel, 2012), which are more likely to be willing to pursue their internationalization strategy through RSD to avoid losing sunk costs and to foster their growth. In terms of the culture variable, the results suggest that investing in culturally distant countries increases the probability of undertaking a further RTC. This finding suggests that firms that have already faced a strong liability of foreignness in distant countries are better equipped and readier to undertake further investments (in countries with similar or lower distance in terms of culture) than firms that have invested in culturally close countries. Indeed, the latter firms might be afraid of facing the increased complexity and liability associated with investments in new (and eventually more culturally distant) countries.

Theoretical contribution

The findings discussed above contribute first to the International Business literature on the topic of (re)location choice by showing the strong relationship between the original offshoring location advantages and the subsequent RSDs' choices. Different from past literature (e.g. Albertoni et al., 2017), we provide evidence on manufacturing (rather than on service) industries and we distinguish between two different types of RSDs: the RTC and the RHC. Our paper also offers insights into the International Operations management literature on back-reshoring (e.g. Gray et al., 2013, 2017) by highlighting

the importance of accounting for the location advantages influencing the prior offshoring decision.

A relevant contribution for both streams of literature lies in the way this work enlarges the perspective under which RSDs have usually been seen to date. To date, most of the research in this area has focused on the back-reshoring (RHC) choice only, and RTCs have rarely been analysed. More specifically, in the extant literature on offshoring, the differences between the ‘initial relocation’ (from the home country to the first host country) and the following ones (from the first host country to the second host, and so on) have rarely been taken into account (Mattarelli and Tagliaventi, 2015). Our paper confirms that RTCs – which may also be defined as ‘further offshoring’ (Fratocchi et al., 2014) – have relevance for both the number of movements and their association with special drivers.

Further, in contrast to various past studies which analysed the back-reshoring phenomenon towards a single home country (Arlbjørn and Mikkelsen, 2014; Kinkel, 2014; Zhai et al., 2016), we adopted a broader perspective and considered several target countries of the RSDs.

RHCs have typically been interpreted as the revision of an earlier offshoring decision generally aimed to reduce costs (Bals et al., 2016; Mugurusi and de Boer, 2014). This strategic change has been variously conceptualized as follows (Barbieri et al., 2018): (a) a reduction in the relative attractiveness of the host country versus the home one (Ellram et al., 2013; Fratocchi et al., 2016), (b) judgement errors (e.g. hidden costs, quality fade) in the prior offshoring decision (Gray et al., 2017; Kinkel and Maloca, 2009), or (c) a firm’s strategic repositioning (Baraldi et al., 2018; Di Mauro et al., 2018). This narrative has its validity but is based on a narrow perspective of the RSD choices. In particular, it fails to respond adequately to this question: Is RHC the only choice that firms searching for markets and efficiency advantages undertake once they decide to abandon the host country?

Our data (on both the whole and subsample) hint that including RTC as an RSD option is important to more comprehensively characterize the relocation patterns of efficiency-seeking-oriented firms. In our study, RTC emerged as a more likely choice with respect to RHC when offshoring decisions had been led by this reason. Therefore, although firms investing abroad to exploit efficiency-seeking location advantage might still decide to back-reshore their activities for the reasons identified in the literature – e.g. to correct a prior misjudged decision (Gray et al., 2017) or when they undertake a

repositioning in the competitive strategy (Baraldi et al., 2018; Di Mauro et al., 2018) – the RTC seems to be a more likely option. This finding seems consistent with the conceptualization of the ‘footloose’ model – one of the two prototypical forms of international manufacturing networks proposed by Ferdows (2008) and Ferdows et al. (2016). In particular, a ‘footloose’ approach advocates continuously searching the world to reduce production costs and increase efficiency, while a ‘rooted’ one advocates making a long-term commitment to one location and developing unique capabilities there. The footloose model tends to be particularly attractive for its cost reduction potential (Ferdows, 2008; Ferdows et al., 2016), therefore representing a preferred choice for efficiency-seeking firms. This preference is because – in Ferdows’s words – ‘there are always places with lower wages, lower taxes, more generous government subsidies, and access to cheaper raw materials’ (Ferdows, 2008, p. 153). Compared to an RHC, an RTC reflects a higher degree of ‘footlooseness’ since, in this case, the company moves to a new location instead of returning to the well-known domestic one. By showing that an RTC is a more likely option for efficiency-seeking firms, our results offer empirical support for their supposed preference for the footloose model.

From an International Business perspective, our results suggest the need to adopt a more dynamic view of the ‘location advantage’ component of the OLI paradigm, not only because location advantages evolve, but also because firms pursue their internationalization strategy through RSDs. In other words, the search for a location advantage might occur not only through a sequence of investments stemming from the home to a set of different host countries, but also by relocating the initial offshoring investment from a first to a second (and maybe to a third, fourth and so on) host country. This finding seems to be especially true for efficiency-seeking firms.

Managerial implications

Our results also have managerial implications. First, our paper highlights the importance of taking a dynamic view of internationalization. Specifically, we suggest managers take a ‘real option theory’ approach when they design an offshoring movement: besides concentrating on the first destination, managers should also plan future potential RSDs (RHC and RTC) in case the context changes. When the investment is of an efficiency-seeking type, our results suggest that an RTC is more likely to occur than a RHC. Hence, managers should evaluate in their investment a *switching option*, which refers to

the sunk costs of investing in one country and the following costs of transferring the investment to a third country. Our results also suggest that an RHC is more likely to occur if the investment is a market-seeking type. In this case, managers should evaluate an *abandon or de-escalation* option, i.e. the costs that the company will incur when it brings back all or part of the production previously offshored. In this way, managers can pursue the strategy of the company beyond the single movement and anticipate potential constraints or opportunities.

Furthermore, our results suggest that policymakers should focus their attention not only on offshoring and on the RHC dimension of RSDs, as it is happening currently both in the United States and European countries, but also on the RTCs, which represent the majority of the RSDs. Notably, the same ERM database used for this study reports in same period (2002-2015) only 313 offshoring movements, intended as *first-time* movements. This means that the relocation movements of second degree considered in our study (496) account for even more movements than traditional offshoring.

Hence, policies aimed at discouraging offshoring or at incentivizing back-reshoring may be focused on a narrow concept (Ailworth and Tangel, 2018; Irwin, 2017). By contrast, our results support the idea that investing in country attractiveness in terms of productivity and efficiency (e.g. Industry 4.0 policies) may prove beneficial to attract an RTC.

Future developments

Our paper has some limitations, which represent possible avenues for further developments of our research. First, our data refer to public announcements of relocation initiatives. Although this can be seen as a limitation in our study, the public disclosure of these intentions and the authoritativeness of the institution collecting the data (i.e. an EU-Agency) give us high confidence about their reliability. Data on planned initiatives have been used in past studies (e.g. Albertoni et al., 2017). Second, data are limited to relocations inside European countries. Europe has been deeply affected by both offshoring and back-reshoring initiatives (Fratocchi et al., 2016; Kinkel and Maloca, 2009), and has been subject to deep political and economic transformations affecting the location advantages of several countries, thus making this region the ideal setting for our study. However, future research would benefit from a broader geographical focus including, for example, the United States and main Asian countries. Future research should also try to compare the country-level location advantages with

the firm-level drivers underlying the previous offshoring initiatives, for example, through a survey-based approach that enquires into the firm-level reasons underlying the first investments (besides the location advantage associated with the host country). Besides the reason underlying the first investments, future research might also consider examining additional drivers of the RSD phenomenon, such as the performance of the foreign venture, and investigating the relationship between the first offshoring investment and other types of RSDs, such as the further-offshoring outside European countries. Finally, future studies should attempt to assess the effective strength of each location advantage in triggering an RSD by employing a counterfactual sample of not-relocating firms to better understand whether and how the different internationalization strategies are pursued through static (i.e. by keeping the location choice in the host country) or dynamic (i.e. through RSDs) location choices.

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TABLES

Table 1 – Sample description by relocation typology (RHC or RTC) and headquarters location

Type of RSD	European HQ		Non-European HQ		Total	
	Announcements	%	Announcements	%	Announcements	%
RHC	90	100%			90	100.0%
RTC	202	49.8%	204	50.2%	406	100.0%
Total	292	58.9%	204	41.1%	496	100.0%

Table 2 – Description of the sample by industry

NACE Code	Description	Announcements
29	Manufacture of motor vehicles, trailers and semi-trailers	94
27	Manufacture of electrical equipment	79
26	Manufacture of computer, electronic and optical products	49
10	Manufacture of food products	45
28	Manufacture of machinery and equipment n.e.c.	38
20	Manufacture of chemicals and chemical products	30
22	Manufacture of rubber and plastic products	22
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	21
30	Manufacture of other transport equipment	14
12	Manufacture of tobacco products	13
31	Manufacture of furniture	12
24	Manufacture of basic metals	11
25	Manufacture of fabricated metal products, except machinery and equipment	11
13	Manufacture of textiles	10
15	Manufacture of leather and related products	10
17	Manufacture of paper and paper products	9
11	Manufacture of beverages	7
32	Other manufacturing	6
16	Manufacture of wood and products of wood and cork; except furniture; manufacture of articles of straw	5
	Other industries	10
Total		496

Table 3 – Correlation matrix and descriptive statistics of the dependent and explicative variables

	1)	2)	3)	4)	5)	6)	7)	8)	9)	10)	11)	12)
1) RHC	1.000											
2) Market-seeking location advantage	0.280	1.000										
3) Strategic asset-seeking location advantage	0.170	0.231	1.000									
4) Cost-saving location advantage	-0.127	-0.110	-0.261	1.000								
5) Productivity location advantage	-0.366	-0.023	0.075	-0.035	1.000							
6) Crisis period 08-11	0.072	-0.032	-0.075	-0.095	-0.034	1.000						
7) Post crisis period 12-15	0.036	0.056	0.086	-0.058	-0.039	-0.346	1.000					
8) Firm size	0.058	-0.168	-0.151	0.069	-0.116	-0.005	-0.010	1.000				
9) First host country Transition Economy	-0.012	-0.050	-0.380	0.132	-0.356	0.088	-0.045	0.053	1.000			
10) First host country Euro	-0.058	0.109	-0.001	-0.147	0.261	-0.114	0.010	-0.002	-0.506	1.000		
11) Medium-high tech industries	-0.029	-0.074	-0.211	0.171	-0.013	-0.051	-0.047	-0.008	-0.007	0.000	1.000	
12) Cultural distance	-0.088	-0.018	0.048	-0.107	0.057	0.027	0.038	-0.025	-0.021	-0.007	0.005	1.000
Observations	291	291	291	291	291	291	291	291	291	291	291	291
Mean	0.241	0.193	-0.042	-0.024	-0.081	0.285	0.230	0.033	0.165	0.663	0.653	-0.001
Std. Dev.	0.428	0.895	1.069	0.958	1.079	0.452	0.422	1.061	0.372	0.473	0.477	0.964
Min	0.000	-1.772	-2.237	-3.085	-5.768	0.000	0.000	-0.545	0.000	0.000	0.000	-1.095
Max	1.000	1.257	2.965	3.447	6.039	1.000	1.000	7.890	1.000	1.000	1.000	5.341

Table 4 – Results of the Logit econometric model (dependent variable: RHC)

Variables	(a) Coefficients	(b) Marginal Effects
Market-seeking location advantage	1.708*** (4.46)	0.157*** (5.30)
Strategic asset-seeking location advantage	0.265 (1.48)	0.024 (1.42)
Cost-saving location advantage	-0.506** (-2.47)	-0.046** (-2.46)
Productivity location advantage	-1.720*** (-6.25)	-0.158*** (-5.33)
Crisis period 08-11	0.878** (2.07)	0.094* (1.78)
Post crisis period 12-15	0.604 (1.37)	0.063 (1.22)
Firm size	0.296* (1.81)	0.027* (1.75)
First host country Transition Economy	-1.817*** (-2.60)	-0.109*** (-3.29)
First host country Euro	-0.343 (-0.77)	-0.033 (-0.73)
Medium-high -tech industries	0.221 (0.59)	0.020 (0.61)
Cultural distance	-0.366* (-1.71)	-0.034* (-1.72)
Constant	-2.650*** (-4.31)	
Number of observations	291	291
Chi-square	111.228***	111.228***

Please note: * p<0.10, **p<0.05, ***p<0.01. Z-Statistics between brackets.

Table 5 – Results of the Logit econometric model using different measures of the market-seeking location advantages (dependent variable: RHC)

Variables	(a) Coefficients	(b) Coefficients	(c) Coefficients
Market-seeking location advantage – Households Final Consumption Expenditures	1.809*** (4.39)		
Market-seeking location advantage - Manufacturing, value added		1.356*** (4.89)	
Market-seeking location advantage - General government final consumption expenditure			1.404*** (4.71)
Strategic asset-seeking location advantage	0.247 (1.38)	0.252 (1.42)	0.240 (1.34)
Cost-saving location advantage	-0.506** (-2.46)	-0.448** (-2.17)	-0.524** (-2.56)
Productivity location advantage	-1.731*** (-6.24)	-1.700*** (-6.20)	-1.705*** (-6.24)
Crisis period 08-11	0.888** (2.08)	0.856** (2.04)	0.874** (2.08)
Post crisis period 12-15	0.611 (1.38)	0.546 (1.25)	0.632 (1.45)
Firm size	0.299* (1.81)	0.293* (1.84)	0.293* (1.82)
First host country Transition Economy	-1.825*** (-2.60)	-1.720** (-2.52)	-1.658** (-2.42)
First host country Euro	-0.309 (-0.69)	-0.354 (-0.82)	-0.297 (-0.68)
Medium-high -tech industries	0.198 (0.53)	0.350 (0.94)	0.210 (0.57)
Cultural distance	-0.359* (-1.67)	-0.426** (-1.97)	-0.363* (-1.71)
Constant	-2.728*** (-4.34)	-2.518*** (-4.29)	-2.515*** (-4.27)
Number of observations	291	288	291
chi2	113.200***	105.561***	106.796***

Please note: * p<0.10, **p<0.05, ***p<0.01. Z-Statistics between brackets.

Table 6 – Results of the Logit econometric model applied to the subsample of European firms (dependent variable: RHC)

Variables	(a) Coefficients	(b) Coefficients
Market-seeking location advantage	-0.800 (-0.97)	0.266 (0.28)
Strategic asset-seeking location advantage	0.101 (0.51)	0.080 (0.40)
Cost-saving location advantage	-0.431* (-1.87)	-0.393* (-1.68)
Productivity location advantage	-1.771*** (-6.05)	-1.787*** (-6.01)
Crisis period 08-11	1.057** (2.32)	3.751*** (2.86)
Post crisis period 12-15	0.682 (1.44)	0.620 (1.32)
Firm size	0.193 (1.13)	0.226 (1.32)
First host country Transition Economy	-2.742*** (-3.43)	-3.044*** (-3.65)
First host country Euro	-0.393 (-0.81)	-0.433 (-0.88)
Medium-high -tech industries	0.081 (0.21)	0.152 (0.38)
Cultural distance	-0.308 (-1.38)	-0.359 (-1.53)
Constant	-0.584 (-0.69)	-1.268 (-1.40)
Market-seeking location advantage X Crisis period 08-11		-4.063** (-2.19)
Number of observations	202	202
chi2	76.151***	76.151***

Please note: * p<0.10, **p<0.05, ***p<0.01. Z-Statistics between brackets.

Appendix 1

Table A1 RHC data used in this study

First host country (origin)	Home country (destination)																Total
	AUT	BEL	CHE	CZE	DEU	DNK	FIN	FRA	GBR	ITA	LUX	NLD	POL	SVK	SVN	SWE	
AUT			1		2	1									1	1	6
BEL					1			3								1	5
CZE					1			1	1								3
DEU			2				1		2	1		1	1	1		1	10
DNK			1		2		1			1		1		1			7
ESP					3			1	1	1							6
EST												1					1
FIN																2	2
FRA		1	1		4				1	1	1						9
GBR				1	1			2		1							5
HRV															1		1
IRL			1		1			1	1							1	5
ITA	1				3			4									8
LUX		1			1												2
NLD					1			1									2
NOR																1	1
POL					2					1							3
PRT										1							1
ROU	1									1							2
SVK					1												1
SVN	1																1
SWE		1			1	2	1	1				1			1		8
TUR									1								1
Total	3	3	6	1	24	3	3	14	7	8	1	4	1	2	3	7	

Table A2 RTC data used in this study

First host country (origin)	Second host country (destination)																								Total										
	AUT	BEL	BGR	BLR	CHE	CZE	DEU	DNK	ESP	EST	FIN	FRA	GBR	GRC	HRV	HUN	IRL	ITA	LTU	LVA	MKD	MLT	NLD	POL		PRT	ROU	RUS	SVK	SVN	SWE	UKR			
AUT																																		20	
BEL					1	3	4		2			1	3	1		2		2	1						3	2	3	1	1				30		
BGR															1																			2	
CZE							1																											17	
DEU	1				5			1			1	1	1					2					1	12		4							33		
DNK					1	4						2						1					2										13		
ESP					5	1						3	2					1					4		5								28		
EST																				1														1	
FIN					1	1	2			1														7										16	
FRA	1				12	3		4				1					4	1	1				3	12	2	5							51		
GBR	1				9	7				1		5											1	1	11		2							52	
HRV																																		1	
HUN	1				2	1																												16	
IRL					1	1																												12	
ITA	2	1			5	1		2				1	1												5		1							22	
LTU										1																								2	
LUX																																			1
LVA																																			2
NLD	1	2					3	3					1												3										20
NOR																																			2
POL																																			4
PRT					1	1		2																		3		1							18
ROU												1																							3
SVK													1																						11
SVN																																			3
SWE	1				1	1			2	2	1																								26
Total	5	7	2	2	1	1	51	30	3	16	7	2	13	13	2	2	35	3	13	3	1	2	7	88	10	38	6	29	4	6	3	3			

FIGURES

Figure 1 – Number of announcements per year

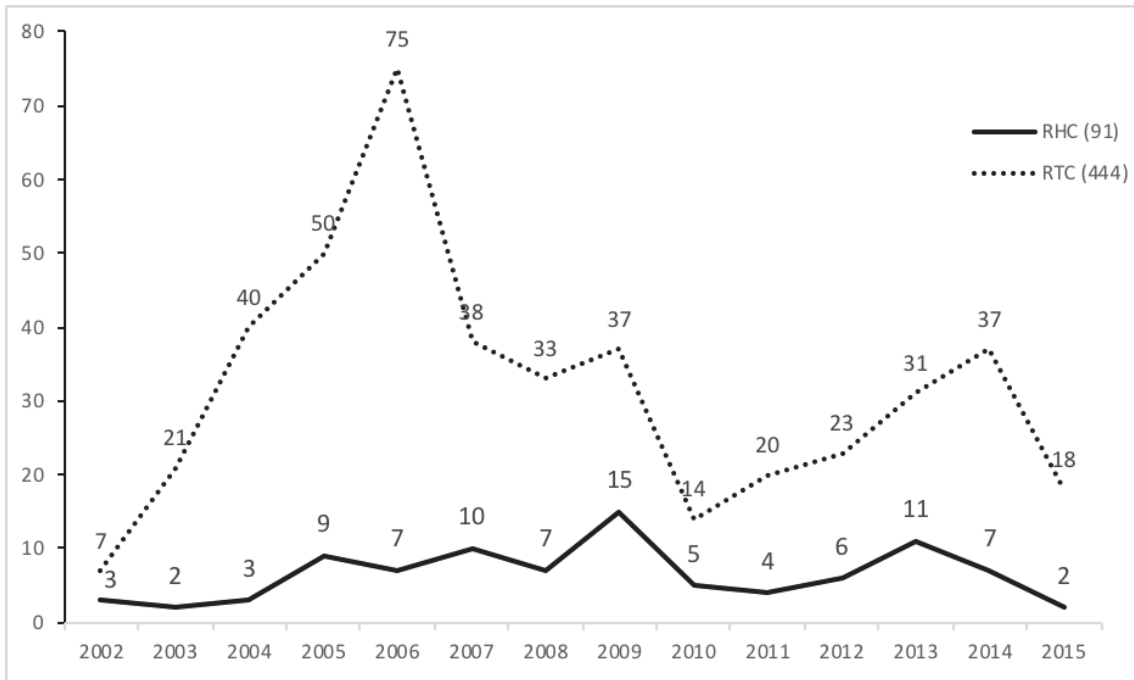


Figure 2 – Network diagrams of RHC (left) and RTC (right). Size of the arrow proportional to the number of movements.

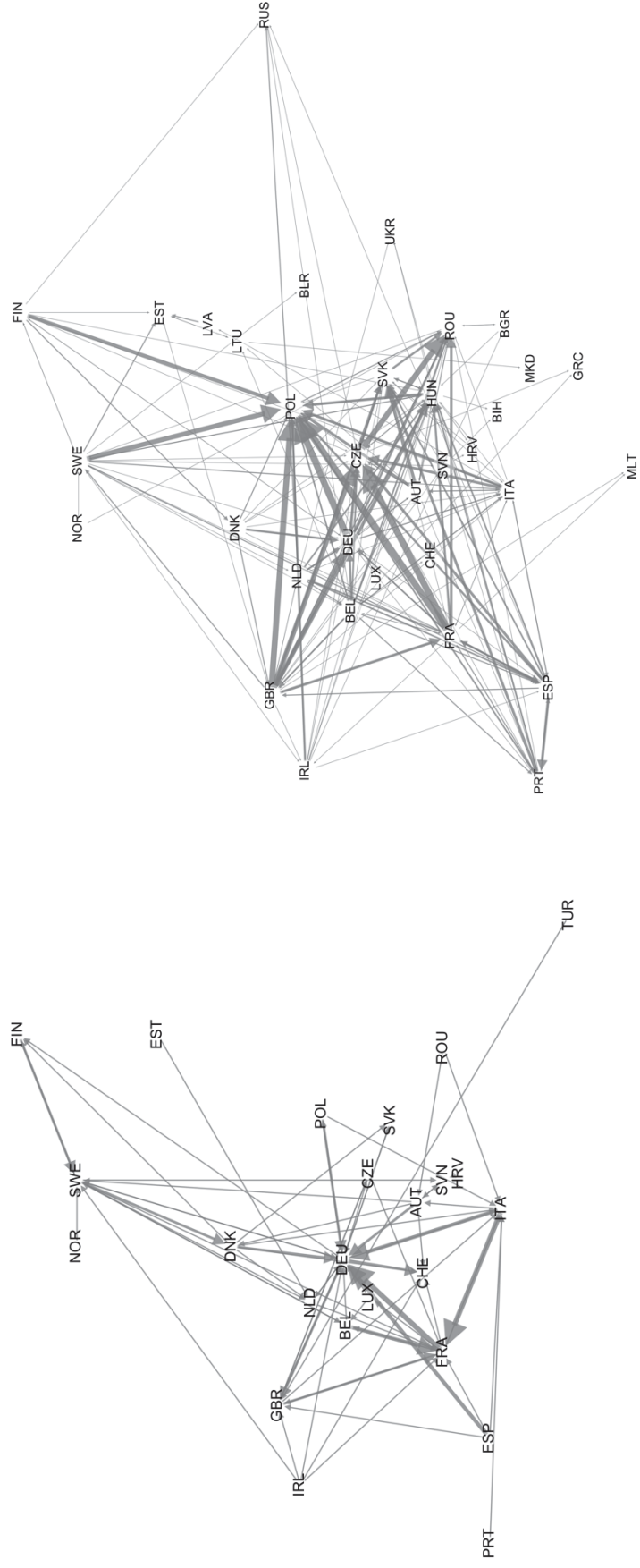


Figure 3 – First offshoring, RHC and RTC movements across transition and other countries

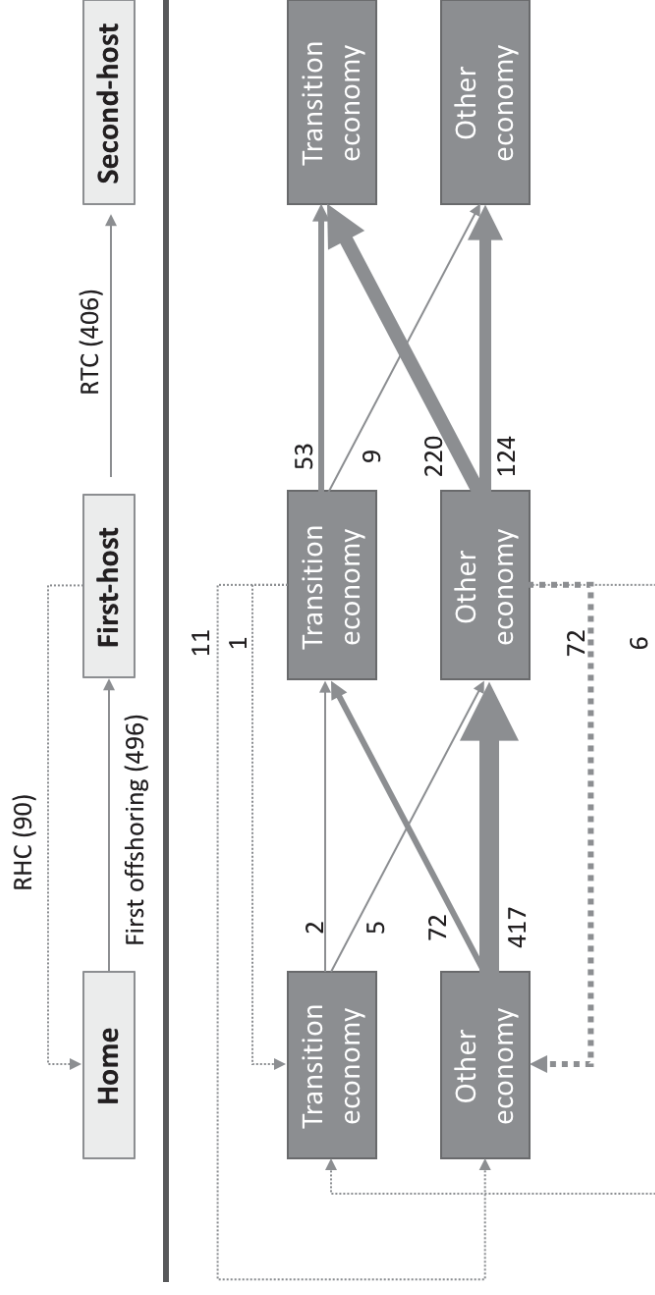


Figure 4 – Network diagrams of RTC by companies with non-European headquarters (left) and with European headquarters (right). Size of the arrow proportional to the number of movements.

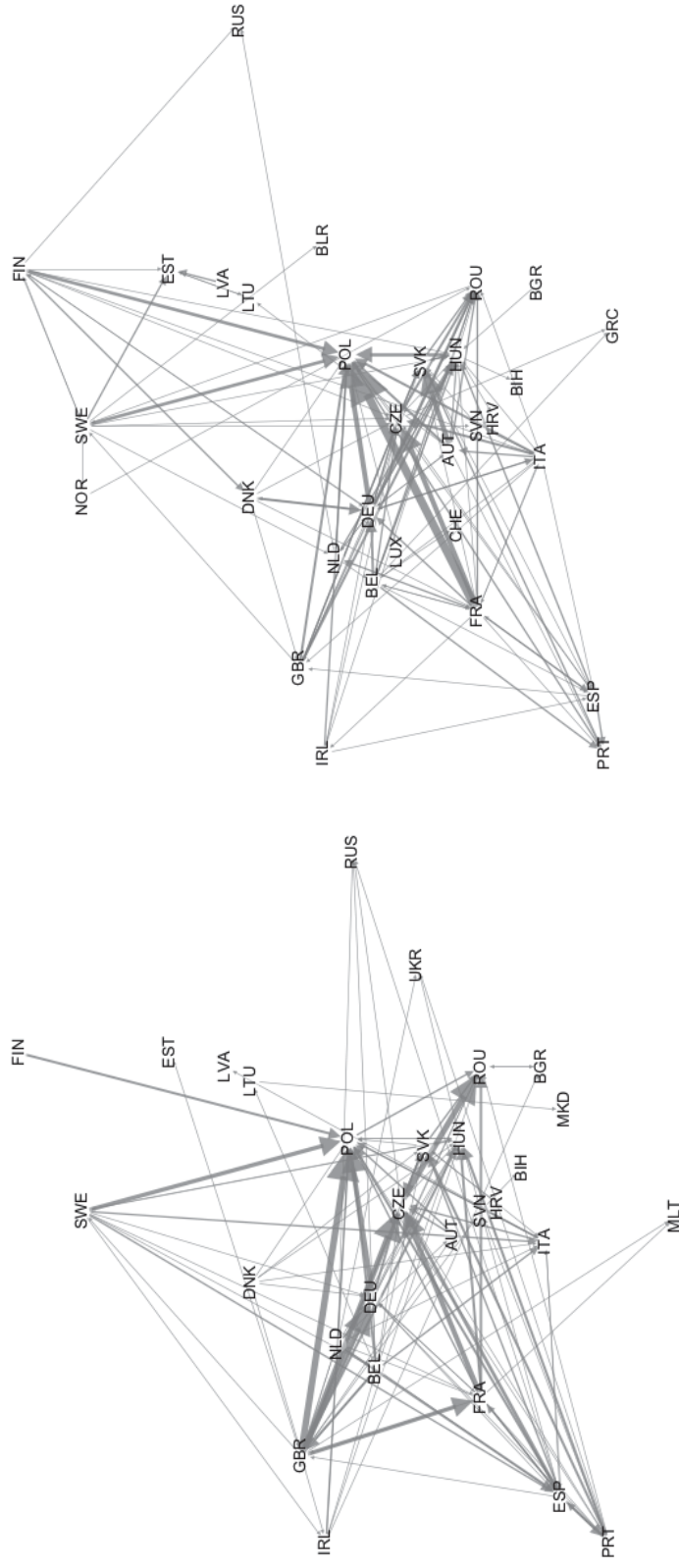


Figure 5 – Plot of the interaction effect between market-seeking location advantage and crisis period 08-11 in the European subsample

