

Louvain School of Management

The impact of distance in an organisation, the decision of re-locating an activity

An analysis with the DHL Connectedness Index and the Cage framework

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Foreword

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My thoughts go to my grandfather, that is currently fighting against cancer but who was able to help me through the values he transmitted to me that helped me through my studies. I am sure that he is proud of what I have been achieving during the last few years, and that he will be proud to see me graduate, whatever the place is he is looking from. I also would like to thank Aymeric and Sophie, respectively my brother and mother, for their supports throughout this journey. Furthermore, I am also very grateful to Mathilde, for her proofreading and useful comments.

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PART I: Theoretical framework

Chapter 1. INTRODUCTION

“*Re-location is a false good idea*” declared Isabelle Méjean, laureate of the latest Best Young Economist of France Award, in May 2020 (Le Monde, 2020). She made this statement during the Covid-19 pandemic, where the world supply of sufficient medical material was severely being put to the test. Every country tried as well as they could to provide their population with masks, surgical gloves, and artificial respirators, to fight the virus the most efficient way. In most countries, the domestic production could not meet the domestic demand and the shortage started. Several politicians and economists started to dispute the absence of reaction of past governments when companies, active in those industries, had relocated their production elsewhere on the planet. Nowadays, the debate took another proportion and the *re-location spark* spread to the entire economy of most of the countries. With the different forms of lockdowns and quarantines, whole industries have been destroyed and are desperately looking for something to make a reborn possible. The Covid-19 pandemic has played with the limits of our current economy and its globalisation. Can a country entirely rely on the production capacity of another country, even if situated at the opposite side of the World? How will big companies who heavily relied on few suppliers react to the incapacity of the latest to meet the companies’ demand? How will those production countries explain to their own citizens that production is meant for the export, while the crisis is still booming in their own country and they are lacking equipment?

In those times, the factor “distance” plays a crucial role because we are put in the harsh reality that it still matters. And it matters a lot. Distance is not only that I am geographically far or close from something, it means more. It means, that in critical times, such as the ones we are currently in, people tend to prefer what is close to them, what matters to them.

This paper will try to deepen the research regarding the relation between distance and the re-location decision. It will try to bring forward the different roles that this concept, we thought we mastered, still plays in important decisions such as re-locations.

Section 1.1. Objective

This thesis focuses on companies that want to re-locate a part of their business, or the whole business, in their country of origin, or other countries, closer to the country of origin. During the past decades, lot of companies decided to organise themselves on a more international way and this for variable reasons. Governments, and international organisations impacted those decisions with several tools they had in their possession. Some of those tools were useful to encourage those relocations, others wanted to prevent them. Some of those international organisations tried to facilitate those relocations, others tried to stop them. Despite all these different measures, the economy continued its growth towards globalisation and international trade kept its pace.

The common reason behind relocation has always been the economic one. With the increase of international trade routes and the establishment of more open international trade policies, it became easier for companies to base themselves in different countries and to operate at a global scale. With the gain in importance of emerging countries, companies decided to increase their productivity and thus profit, by going abroad. However, when talking about re-location (the phenomenon of coming back), the motives are various. Some scholars claimed that organisations will undergo a re-location process for *quality* reasons, others will claim that it are still the *costs* that define the location strategy of organisations; while recent studies showed that *flexibility* starts to play the prominent role in the re-location process. A common thought about the re-location process is the impression of the *death of distance*; where people, claiming that distance did not matter anymore in a full globalised world, relocated at a strong pace. But if distance still matters, does it still play a role in the location strategy of organisations and does it play a role in the re-location decision? This paper will try to answer that question or, at least, will try to settle a strong basement for future researches on the topic.

Section 1.2. Definitions

1.2.1. Defining relocation, internationalisation, migration, and reshoring

Relocation, internationalisation, and migration are three terms that are often used with the same meaning (Mariotti, I., 2005). However, in order to more specific and to avoid any further confusion, those terms will be defined in this part. The final objective is also to develop a reliable definition of the re-location concept, and to differentiate it with the previous concepts.

Relocation can be understood following Pallenberg et al. (2002) as ‘*a change of address of a firm from location A to location B*’. This definition, that is following the authors ‘*the most suited for small and medium sized single plant firms*’, doesn’t consider the international aspect a relocation can have, because all relocations aren’t *per se* international. Furthermore, it is only describing a change in address such a decision can have. On the other side, we can already notice two important aspects that will help us for our own definition. The first one is the concept of *change*. A relocation is a decision that will modify the company’s structure and create a disorder¹. The second one is the concept of *location*. A relocation will transfer activity from one location to another.

Internationalisation is concept that gained in importance during the second part of the twentieth century. With the number of companies with international operations increasing, the number of academic researches increased also. Aharoni discussed foreign investments in 1966; Wilkins analysed the emergence of multinationals in 1970; and Piercy described the internationalisation in 1988. But it will be Welch and Luostarinen (1988) that will give it the definition that will be commonly used, even if Bell and Young (1998) noticed that this was not a worldwide agreed definition. This definition states that internationalisation is ‘*the process of increasing involvement in international operations*’ (Welch and Luostarinen, 1988). Another often used definition is that from Calof and Beamish (1995) that described internationalisation as ‘*the process of adapting firms’ operations (strategy, structure, resources, etc.) to international environments.*’ This definition limits the concept to the firms’ operations what will leave aside some other concepts. That is why, in this thesis, the concept of internationalisation should be understood as Welch and Luostarinen defined it in their article of 1988.

Migration is a topic on which researches started to lean on after World War II. Like Pellenbarg explained in his conference *Firm migration in the Netherlands* (2005), the oldest well-known study on firm migration is probably *Why industry moves South* by McLaughlin and Robock (1949). The authors analysed the migration from American firms from Northern states to Southern states. The study described industrial firms, where they migrated their whole factories to the south of the US. In this context, migration is thus a shift of whole businesses – or important parts of them – to another place. The reasons behind those shifts are related to the

¹ This disorder is not a negative action, like it is commonly understood, but an action that change the previous order, inside the company.

labour market (lower wages, less labour policies, more working hours, etc.) and are thus economic.

Reshoring is a concept that gained in popularity among researchers during the last two decades. Thanks to a White Paper from Cranfield University (2015) about the number of media articles referencing reshoring and offshoring, De Backer et al. (2016) concluded that the concept gained in importance. Furthermore, beside researches, US companies also followed the popular trend and started applying reshoring as a part of their strategy (Reshoring Initiative, 2018). The concept of reshoring is mostly linked with manufacturing (Aboutaleb, R. pp 17-41, 2017). Aboutaleb explained further on in her article that *‘in-house reshoring strategy indicates the company’s decision to restart production in the home country by the company alone after closure of its foreign manufacturing activities in part or totally.’* By in-house Aboutaleb means *‘fully produced inside of the organisation’*. Reshoring is thus the process of bringing production back from countries or regions where it was relocated, to the firm’s country or region of origin.

1.2.2. Defining re-location

Re-locating is a concept that will mix some aspects from the previously cited concepts. As described in the previous section, in the large majority of the cases, reshoring concerns the operational branch of companies and thus, manufacturing or production. Re-locating is now less specific than reshoring and emphasise not only production, but also other branches from the industry. In order to use some of the previous cited authors’ language and definitions, this thesis will consider re-location as *‘the decision and process of restarting or continuing a specific activity of a company in the company’s home country – or region, alone, after the partial or total closure of the activity abroad.’*

Chapter 2. STRATEGY OF RE-LOCATING

To approach the re-locating strategy, this chapter will start with an insight of the de-locating strategy or offshoring. The types of re-location and the theoretical approaches used to support those re-location decisions will be discussed in the following sections.

Re-location and offshoring are strategies that developed themselves together with the internationalisation and the globalisation of our World. In the first stages they were linked with simple trade between countries, regions, and tribes. Merchants started to import and export raw

goods, and this created trade routes with the Silk Road and the Cape Route as the best known. It is with the East India Companies – Dutch and English ones, that private companies started permanent establishments abroad; early forms of FDIs, people flow, and information flows were established. Those 4 axes (Capital, Trade, People flow and Information flow) are the four aspects that different indexes use to measure globalisation. Ghemawat, in his 2017 *The Laws of Globalization*, explained in Chapter 1, 4 and 6 how these four measures were essential to grade countries, industries and businesses in function of their connectedness. He will also introduce the laws of semi-globalisation and distance that will be discussed later on this thesis (Part II). The raising connectedness between countries also increased the trade between countries. In fact, like Ghemawat explains it, those four axes, as variable of the connectedness, will increase the connectedness, and connectedness will also increase those four axes on its turn. These two levers happen at a different level of the globalisation, respectively *extensity* and *intensity*².

Section 2.1. Types of re-locations

Unlike reshoring, re-location can happen at different levels of a company or for various reasons. While those reasons will be discussed in further sections the types of re-locations will be introduced here. Re-location implies a previous business migration of a company to a host country. Those migrations can be the result of an outsourcing policy or an offshoring policy, or a combination of both of those strategies. While offshoring will draw attention on the international aspect of the migration, outsourcing will focus on the company's level of the migration. In their paper, De Backer et al. (2016) schemed the movement a company can have while relocating. Based on the paper from the OECD, “*Interconnected Economies: Benefiting from global value chains*” (2013), they came up with a simplified version of businesses' movements (Figure 1). Depending on the starting situation of a company, six relocation movements were identified. Five out of the six are international movements while the last one, *domestic outsourcing*, happens at a national level. It will therefore be left aside. One, out of the five left – *vertical integration abroad* – only happens outside of the home country and does not have an international relation with the home country. So, four different movements are left. *In-firm offshoring* – a business that continues an activity in a host country, *international outsourcing* – a business that finds an international supplier and ends the activity in the home

² Those two levels, or dimensions, were firstly introduced by Held et al (1999) and are part of the four spatio-temporals of globalisation together with *velocity* and *impact*. Ghemawat will compare *extensity* and *intensity* with *breadth* and *depth* that he uses in his *DHL Connectedness Index* (see Part II).

country, *international insourcing* – a business that ends its activity with a domestic supplier and continues it with a subdivision in a host country, and *global sourcing* – a business that replaces a domestic supplier by an international one.

Figure 1 – Firm's strategies of outsourcing and offshoring (reproduced from De Backer et al. (2016))

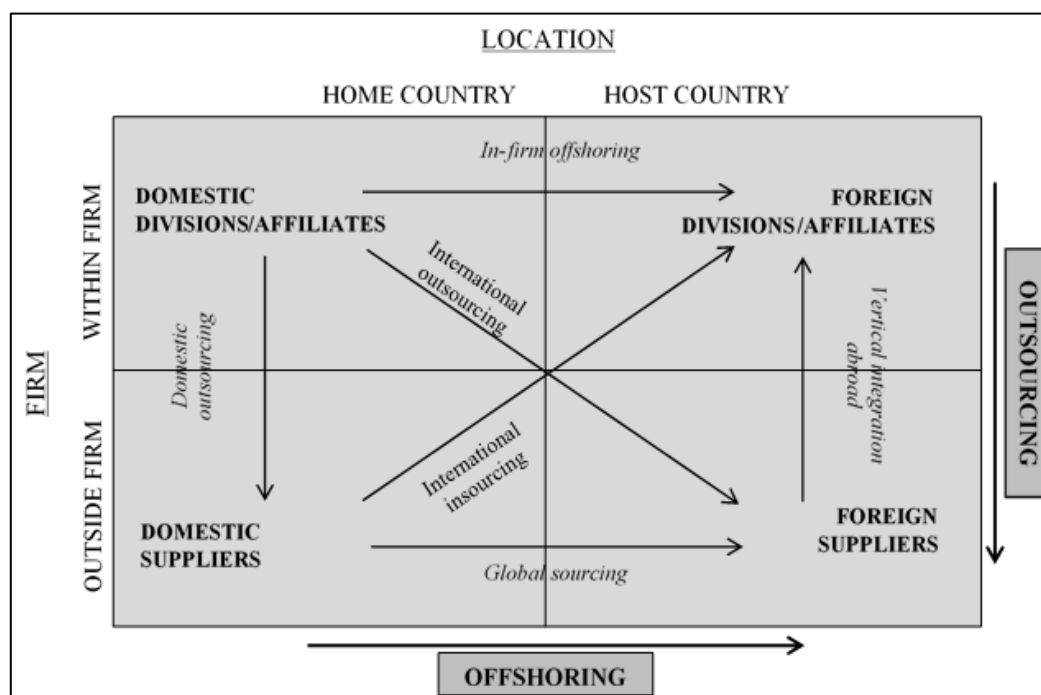


Figure 1 - Firm's strategies of outsourcing and offshoring; source OECD (2013) - reproduced from De Backer et al. (2016)

Based on this four relocation movements, inverse movements can be imagined. According to Dachs et al. (2019) *backshoring*³ happens with the same horizontal and vertical axis as relocation. Organisations will move along the location axis (horizontal), and the in/out-firm axis (vertical). The location strategies that start from abroad to the home country will be considered as re-location strategies. As for the outsourcing and offshoring strategies, four international movements can be discussed :

1. **In-house relocation.** Companies that re-locate an already in-house department of their business to their home country. It can occur with a *total re-location*, where the whole business changes its location; or with a partial re-location where only specific department of the company changes its location. The latter is the most common, while the former is more common among SMEs or very young companies.

³ The term 'backshoring' is used by Dachs et al. with the same signification as this paper is using the concept of 're-location'.

2. **Outsourced re-location.** Companies that decide to re-locate an in-house department unit from the host country to the home country. They will let a third party continue the activity.
3. **Insourced re-location.** Companies that had a part of their activity done by a supplier in a host country, and decide to bring the activity back in their home country and to continue the activity by themselves through a new business unit or by dispatching the activity across different departments.
4. **Re-located outsourcing.** Companies that decide to continue an outsourced activity with a domestic supplier instead of a foreign one.

Figure 2 schemed those movements based on De Backer et al.'s relocation scheme, and on Gray et al.'s (2011) reshoring figure.

Figure 2 – Firm's strategies of re-location

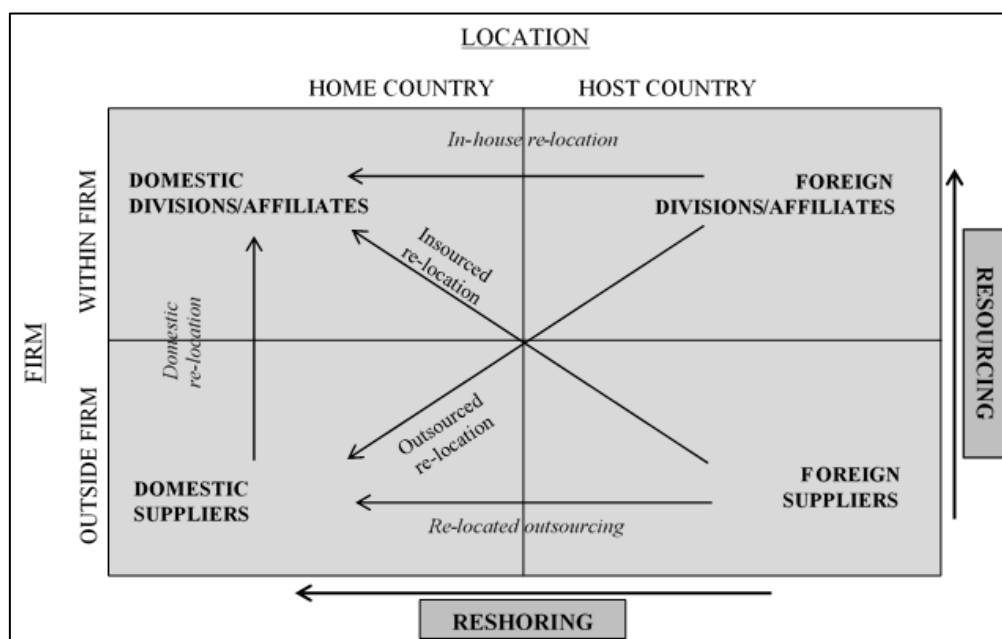


Figure 2 - Firm's strategies of re-location (own elaboration.; based on De Backer et al. (2016) and Grav et al. (2013). n. 28.)

Section 2.2. Purpose of re-location

2.2.1. Interests of re-location

Because of the increase in popularity of backshoring, reshoring, and re-location through news articles, case studies and researches; academics wanted to understand the reasons behind this process. Few surveys started to emerge with strong focuses on a single economy and/or single country. Canham and Hamilton (2013) analysed the production of 151 manufacturers from New-Zealand's consumer and industrial goods industry. Ellram et al. (2013) used data

from US manufacturers to understand the emerging backshoring trend across the industries. In Europe, it is Kinkel, together with the Fraunhofer ISI, that surveyed German manufacturers (2009, 2012, 2015), and later European manufacturers (2012, 2015, 2019). Thanks to the regularity of those surveys, he was able to examine trends and habits in the reshoring motives. Dachs, with his articles *Backshoring of production activities in European manufacturing* (2014, 2019) – the last one with, among other people, Kinkel as co-author; conducted other researches and discussed his results as well as those from public databases⁴.

During their seek for answers for the motives of backshoring, the different surveys focus their researches on primary motives of backshoring such as quality, flexibility, lead-times, communications, etc. Those motives are strongly linked with the Global Value Chains of the twenty-first century businesses, where the main goal is to maximise it. While discussing the distance factor, it was the delivery time, transportation costs and inventories that were embodied the indicator (Kinkel, 2012. Stentoft et al., 2015).

Section 2.3. Theoretical approaches to re-location

2.3.1. Internationalisation theory

The internationalisation theory is not new in the discussions about the location of businesses and companies. Like explained previously, the internationalisation aspect of trade has always been a popular topic among scholars with different theories that were developed around it, with the *Global Value Chain* as most relevant in the recent years, especially during the mid- and late-90's. However, before this, Buckley and Casson (1976) already discussed the advantages and drawbacks of the changes in international location of businesses, with a certain focus on manufacturers. With the rise of the Asian Tigers at that time, businesses were considering an international move and hyped by the promising future of those countries.

In his 2013 article, Ellram summarised those reasons being geographical or regional; facilitated policies; and global value chains analysis. In the same paper, Ellram, using empirical survey data declared that organisations changed their behaviour regarding geographical location: the classic, and simple, cost-reasoning became less important and organisations started to broaden their view on those decisions. Supply chain issues and strategic factors gained in importance. Thus, for years organisation's international expansion has been supported by labour arbitrage,

⁴ A detailed table with the different studies and their details will be reproduced in the second part of this paper.

lowering of import barriers, lowering of international transport and an increase in communication between countries (Dicken, 2014); and now, organisation's international expansion has been diminished by the reduction of the wage gap between countries, stagnation of the transport costs and lead-times, increased risk in currency fluctuations, travel expenses and other unforeseen costs, and losses in intellectual property (Kinkel & Maloca, 2009; Holweg et al., 2011).

2.3.2. *Uncertainty theory*

Uncertainty has always been a central aspect of decision making and has been underestimated for a long time (Choi, 1993). It is a lens that will be commonly used among scholars after the elaboration of the more 'classical' approaches described in this section. Froestl et al. (2016) introduced what they call *environmental uncertainty*, that they defined as "*the perceived degree of volatility and unpredictability in the marketplace by decision makers*". This concept has been discussed during the recent years under different names: *Global Uncertainty* by Ellram (2013), *Risks and Network effects* by Gray et al. (2013); and those findings combined with the researches of Foerstl et al. showed that such uncertainty can be considered as strong. *Environmental uncertainty* is made up of three different aspects, respectively the *Business context uncertainty*, the *Supply chain complexity*, and the *Task uncertainty*.

The first aspect emphasises all the uncertainties surrounding the business such as policy changes, tax structures, political stability, and labour market regulations (Gray et al., 2013). Other changes like government trade policies and basic country risks such as environmental issues, ethical uncertainty, natural disaster uncertainty and others; were also introduced by Gray et al. (2013) and further discussed by Tate et al. (2014). Through their researches, Gray et al. (2013) were able to highlighted that those uncertainties have been very consistent over the years, playing a considerable role in the decision making process of organisations; while other factors such as labour costs, transport costs and logistics were more volatile across countries and regions.

Supply chain complexity is an obvious focus on the supply chain and will include "*vertical complexity, horizontal complexity, geographic dispersion and length of the supply chain*" (Kinkel, 2017). Those are linked with excessive supervision and monitoring, important stock management, transportation costs, workforce safety, and environment. The internationalisation of a company complexifies its supply chain and this brings uncertainty with it.

The last part of Foerstl's *environmental uncertainty* is the *task uncertainty*. This last one has not been discussed very well because of its relative newness. It is linked with the technological innovations in manufacturing processes which is more and more common, partially thanks to the emergence of Industry 4.0 (Kinkel, 2017). This switch toward less labour-intensive manufacturing will reduce the advantages some regions and countries have over others, which will favour re-location (Handley and Benton Jr., 2013). *Task uncertainty* is also influenced by the *frequency* of task. It is not new that small and medium businesses rely a lot on a single customer, with for example 16% of the US SMEs relying on a single customer (i.e. at least 50 percent of their profit), and around a quarter of an SME's revenue comes from a single customer (25.5 percent) (Hiscox, 2017). A change in manufacturing location – from the customer or from the SME itself – will have important consequences. Foerstl et al. (2016) will use a study from McKinsey Global Institute (2012) on Third Party Logistics that shows that 57 percent of 3PLs' major customer brought manufacturing location back to handle the increasing need for customisation and smaller lot sizes.

The uncertainty theory has also been used by many scholars (e.g. Kogut and Singh, 1988; Vahlne and Wiedersheim-Paul, 1973) to explain (psychic) distance and the tendency of companies to start their international process in countries with low uncertainty (low distance) (Grady et al., 1996) (see section 3.2.5. *Psychic Distance*). By avoiding this uncertainty, companies will be able to reproduce their parent company's structure in the host country (e.g. management, production, marketing).

2.3.3. Cost managing theory

Cost management has always been an important factor for the location of a company. Organisations, wanting to increase profit, and optimise their global value chain, decided to shift production to more attractive regions and countries. This attraction will happen at different levels and will be mainly supported by government policies and economical situations. Zhai et al. (2016) will summarise this attraction for lowering costs through the Asian example, where, in the late 70's, the government of different states decided to afford miscellaneous tax incentives to attract FDIs. In the 90's, in a profit-maximisation perspective and through other political incentives, organisations decided to invest consequently in the countries by shifting a major part of their production to those countries, by doing so, millions of manufacturing jobs were eliminated from Western countries, and created in Asian countries. This trend of 'cost-optimisation location' encounter a serious drawback at the beginning of this millennium, with

more and more ‘protectionism’ from Western countries trying to keep manufacturing, and thus jobs, in the country. The ’08-’10 crisis and following depression increased nationalism and protectionist policies, always with cost-optimisation decisions done by organisations, but often under governmental incentives.

However, a long time ago it was proven that cost-based offshoring is not always the best solution (Markides & Berg, 1988) and that keeping specific department or businesses at home can be more cost effective (Warburton & Stratton, 2002). During the whole decision-making process of relocating to “cost-saving countries”, a lot of “hidden costs” are not considered, or under evaluated, by organisations (Pisano & Shih, 2009; Lewin et al., 2009). Higher managerial costs, transportation costs, administrative costs, and others, are part of those hidden costs (Tate et al., 2009). The under-evaluation and ignorance of those costs can sometimes be intentional in order to enjoy the ‘bandwagon effect’ (Abrahamson & Rosenkopf, 1993), a behaviour that explains the imitation of competitors in order to follow a certain mood (Kinkel, 2017). Costs, as a group, can often be the capital reason why organisations will consider relocation. But, on the other hand, concerning re-location, despite the numerous other aspects put forward by other academics, such as quality, flexibility, control, etc (see sections *2.3.4 Quality control theory* and *4.1 Motives for re-location*); all the different components of costs often play a bigger role than the previously mentioned aspect, mainly because of those hidden costs that entrepreneurs do not consider.

2.3.4. *Quality control theory*

The changing quality is often mentioned as a motive – and recently main motive – for re-location. The fluctuations in importance of quality are linked with the trend to re-locate, especially production. Higher quality is often linked with onshore location of manufacturing (Kinkel, 2017). With the perpetual adaptation of quality for the customer, during the recent years, organisations had to adapt their production. Technological progress, changes in raw material, optimisation of process, formation of the workforce; were very common tools to improve quality for labour intensive goods. Those tools have very different costs and effectivity. Businesses will use them differently depending on their structure, strategy, domain, mission, vision, ... Quality control is a very complex concept to reproduce, and distance will play an important role in the possibility to reproduce. Furthermore, the more a manufacturing process is a long-lasting experience through advanced quality management method, the more the reproduction of this process will be complex and resource-needing (Kinkel, 2012).

The increase in popularity of this theory can also be explained by the increase in importance in the customer experience. During the last decades, organisations increased their focus on the customer and on their ‘journey as a customer’ (The Economist, 2019). Quality also plays an increasing role in this experience. The quality of the service through which a product is offered to a customer plays a role in this experience and this can be retrieved in other aspects of Kinkel’s motives for reshoring (2017). Through his chronological analyses, he noticed a spectacular increase in the *flexibility* of re-location. Quality intervenes more implicitly, but flexibility is an important part in the customer experience (Lemke et al., 2011). The improvement of the flexibility of organisations will thus improve the customer experience and thus the quality of the service proposed.

Chapter 3. DISTANCE IN ORGANISATIONS AND INTERNATIONAL BUSINESS

Distance in business transactions is a concept that has been largely exposed by academics during the last century. It was explicitly introduced by Beckermann (1956), while he compared trade between countries. His researches have a considerable importance, because he was able to put different concepts and questions – that other academics will try to answer after his work – into the spotlight. The first one is the concept of *concentration of trade*. By comparing the trade figures between OECD countries in 1938 and 1953, Beckermann noticed that each country’s trade was concentrated on a small range of other countries. Trying to explain this phenomenon, he introduced the concept of distance, where, in order to facilitate his researches, he introduced distance as the remoteness of two countries’ *centres of gravity*. The introduction of this new concept is an important milestone for further visualisation of distance, because Beckermann proved that he was already aware of the complexity in the use of distance as a concept. Centres of gravity are impacted by the economic activity of the country, the administrative centre and transport costs. He will exemplify this by saying that even if Belgium and France are neighbours, but that if manufacturing and consumption are far away from transportation hubs, it can be cheaper to ship a good from London to Oslo if the distance between manufacturing and consumption are much closer to transportation hubs. The *concentration of trade* is particularly impacted by the distance-ratio there is between two

countries, and by the development of the country⁵, and thus by the economic situation of the country.

It is essential to emphasise the importance of Beckermann's work because it helped further explorations on the conceptualisation of distance in business. Hallén and Wiedersheim-Paul (1979) were able to develop their *psychic distance* concept based on Beckermann's work⁶. Others, also contributed to additional academic works to the subject, with a more international approach to distance (e.g. Johanson & Vahlne, 2003; Brock et al., 2011; Nachum et al. 2008; Ghemawat, 2007).

Section 3.1. Distance, its death and rerise

"*Distance is dead*" is a quote that many academics have made during the climax of globalisation, also known as the *Golden Age of Globalization* (e.g. Brun et al., 2005; Cairncross, 1995; Lin & Sim, 2012). Nothing seemed to stop the globalisation of the world, especially in business. A Belgian organisation could have its headquarters in Brussels, while having a financial subsidiary in Berne, a factory in Jakarta, suppliers from Shenzhen, a commercial office in Singapore, and would sell its final products in the United States. The World seemed flat and distance had no influence on trade anymore. Cairncross (1995) supported his sayings by the plundering costs of communication. The cost of international phone calls became as low as domestic phone calls – that were diminishing every year. The opening of communication markets to international competition helped with his thoughts, because at that time many countries had their own telecommunication company (e.g. Bell in the U.S., Belgacom in Belgium, NTT in Japan). Brun et al. (2005) used Isard's *gravity model* (1954) to measure the importance of international trade, and adapted it in order to avoid the paradoxical conclusion that the coefficient of distance was increasing while common thoughts suggested it would be diminishing. With their adapted gravity model, they concluded that, over the last 35 years, the coefficient of distance was reduced by 11 percent and noted that the importance of distance would continue its downward shape towards zero.

Reacting to the claims that *distance is dead* or that *distance does not matter anymore*, several scholars opposed themselves to the previous claim, stating that '*Distance still matters*'

⁵ Less developed countries tend to have a bigger concentration of trade. This is explained by Beckermann (1956) by the fact that they have less diversified economies.

⁶ Beckermann was in reality the first one to mention psychic distance, however, Hallén and Wiedersheim-Paul greatly improved the concept itself and are therefore commonly considered as the 'fathers' of psychic distance.

(e.g. Ghemawat, 2001; Ganesan et al., 2005; Brock et al., 2011). Their main arguments were that scholars on the opposite side overestimates the effect of globalisation while underestimating the impact of other basic factors (i.e. culture, and economic distance as main factors). Organisations, assuming that because of the reduction of communication barriers, an order from a German company to an American subsidiary would not encounter any other barrier, often exaggerate the attractiveness of international business – and international location – willing to believe that the World is flat, and that distance disappeared. As Ghemawat (2001) will demonstrate, this could lead to expensive mistakes (e.g. Star TV⁷).

The importance of distance in international business has diminished, it is true. This mainly thanks to the increase in rapidity and quality of communication flows. It becomes more and more difficult for people to know something before others, such as Nathan Rothschild did with his tremendous communication system during the Napoleon Wars, letting him know the victory of Wellington's army over Napoleon even before Westminster, and allowing him to make big money on the London Stock Exchange.

Stock exchanges are also trying to avoid this unequal velocity advantage that some traders may have and alternative stock exchanges with fixed delays start to emerge (e.g. IEX). However, not everything in international business relates on communication and on velocity. Improvements in communication will better *breadth* and *depth* of globalisation⁸, but will also allow other factors to influence this communication flows. Nowadays' world relies a lot on communication and its improvements, which are reducing distance, however, those improvements increases the importance of other distance dimensions that can be transmitted more easily and that will, at the end, increase the distance. Brun et al.'s (2005) willingness to bypass the paradox was a good idea, but by doing so, they also bypassed the more implicit effects that came in a second stage.

Section 3.2. Forms of distances

3.2.1. Geographic Distance

Through Beckermann's work, scholars were able to introduce new influences on distance. However, they often let the core concept aside, namely the geographical aspect of

⁷ The Star TV case was broadly used by Ghemawat in his explanations about the CAGE framework and the importance of distance in International Business (Ghemawat, 2001).

⁸ *Breadth* and *depth* in the globalisation phenomenon are the two main aspect of Ghemawat's Laws of globalisation discussed in the second part of this paper.

distance (Ghemawat, 2017). It is the most obvious dimension of distance, but not the most studied (Ghemawat, 2001). In his doctoral dissertation, Luostarinen (1979) explained that business distance was defined as geographical, economic, and cultural distance. This geographical distance will be later described by Ghemawat (2007) as “*more than simply matter of physical distance*”. Beckermann already started to introduce factors that influenced that physical distance with his centres of gravity and Ghemawat will help to materialise those centres by adding the impact of time zones, climate, topography, and others.

The major impact of this geographical distance will be translated through transport costs. However, recently, the communication costs have been introduced to express the geographic distance (Ghemawat, 2007). Even if this seems obvious, it is very interesting because it starts to redefine the importance of geographic location for interactions. In his book *The Laws of globalization* (2017), Ghemawat will notice that even in interaction that do not require any physical transportation of any kind, geography matters. Those intangible effects are much bigger than what was previously thought. Head and Mayer (2013) estimate that only 4 to 28 percent of distance-driven trade costs are the effect of transport costs. In their paper they will demonstrate that the physical distance impacts a lot more than just transport and communication. Information flows will be impacted as well and will be described as “icebergs floating away”. The further those icebergs go, the smaller they become. Geographic distance is not dead, it will continue to impact business decisions and trying to force this distance to become as small as possible increases costs exponentially⁹.

3.2.2. Cultural Distance

Between 1973 and 1979, the Dutch psychologist, Geert Hofstede, sent his survey to IBM's 116,000 employees in 50 different countries, he did not expect to be able to explain many national differences with only four dimensions. Before Hofstede's dimension, culture was often treated as a single variable. It was often used to explain statistical differences that could not be explained. In the coming years, many papers tried to alienise the theory from its original limits, by applying it at an individual or organisational level; the last major work doing so was written by Taras et al. (2010) (Minkov and Hofstede, 2011). Globally, Hofstede 1980's framework is the most used framework to operationalise cultural distance (Brock et al., 2011).

⁹ An example that came in my mind is the failure of the *Concorde* by BAC and Sud Aviation. The famous plane was able to reduce the distance between cities by doubling – or even tripling – the cruise speed, and therefore join Paris to New York in less than 4 hours. This attempt to reduce physical distance has not last long as the last *Concorde* has retired only 3 decades after its introduction.

Eight years after the first publication of Hofstede's results, Kogut and Singh (1988), came up with a formula that will be used in most cases to measure this cultural distance (Brock et al. 2010).

Beside Hofstede, Schwartz (1997, 1999) developed another framework for cultural distance. His researches are considered to be more axed on the cultural-level dimension, rather than the individual-level dimension, which is a characterisation of Hofstede's framework¹⁰ (Schwartz, 1999). Furthermore, he added seven cultural value dimensions to overcome Hofstede's limitations. Those dimensions will emphasise the *work dimension* of cultural distance.

However, an article in the International Marketing Review signed by Ng et al. (2007), stated that Schwartz' framework is more relevant on international trade than Hofstede's.

Inter-country distances between 23 countries suggest that the two bases of cultural distance were not congruent. While the correlation between both cultural distance measures and international trade suggested a negative relationship, as expected, only cultural distance based on Schwartz's values was significantly related to international trade ($p < 0.05$). It would appear that, at least in a trade context, Schwartz's values may play a more significant role than do Hofstede's dimensions. (Ng et al., 2007)

This idea of finding the best framework to describe and measure cultural distance is a never-ending debate (Ghemawat, 2017; Brock et al., 2011). New approaches to Hofstede's framework, such as Schwartz', GLOBE (House et al., 2004), and other methods to measure this distance (Kogut and Singh), often derived from the first framework made by the Dutch psychologist (Brock et al., 2011). Those frameworks will focus on a single economic business dimension and adapt Hofstede's framework in order that it matches other surveys (e.g. leadership for GLOBE; work and trade for Schwartz). However, a common conclusion that all those frameworks have, and that are reedited by scholars using them, is the lack of countries those frameworks incorporate. Many recommend reproducing such a survey as the IBM survey

¹⁰ By *cultural-level*, I mean that the surveys are specifically axed on culture instead of individual perception of things.

made by Hofstede, to comprise all kind of culture and to let other cultures' influences be into consideration at the country level¹¹ (e.g. Brock et al, 2011; Kogut and Singh, 1988).

Regarding the importance of cultural distance, many scholars covered the subject, especially regarding the level of control (e.g. Morosini et al., 1998; Kogut and Singh, 1998). Wilkinson et al. (2008) will define control as “*the process through which a parent company's interest are protected (in its subsidiaries)*”¹². Through the years, academics have one time claimed that the increase in cultural distance is associated with greater level of control, while, another time, others will claim that it is associated with lesser level of control (Wilkinson et al. 2008). Through a large-scale survey in Japan, it was proven that both groups were right; and that the age of a subsidiary plays an important role in the effect of cultural distance on the level of control. While for new subsidiaries, cultural distance will firmly impact the control on it by the parent company, this impact lowers over time and can even become irrelevant after some time. This phenomenon can be explained by the *learning theory*, the *international process model* and thanks to *experiential knowledge* by the subsidiary and third parties around it; and allows the subsidiary to reduce its costs and uncertainty-level toward the parent company, that will lead to a higher trust, and so, to lesser the needs to maintain a high control-level (Wilkinson et al. 2008).

3.2.3. Economic Distance

Economic distance is a form of distance that has often be neglected by scholars in favour of cultural and geographic distance (Tsang and Yip, 2007), even if Linder (1961) already introduced the importance of per capita income of trading's partners on trade, more than fifty years ago. The shift in trade between countries will be explained by the shift in demand structure, where countries with the same per capita income will have similar demand structure and thus the horizontal trade (amount of different products traded) will increase, which will then increase vertical trade. Another explanation could be the Heckscher-Ohlin model (H-O model) interpreted by Flam and Helpman (1987) where they proposed that higher income individuals will tend to purchase higher-quality products. With the H-O model, they showed that countries with a competitive advantage for high-quality product will tend to export those

¹¹ A common critic to those frameworks is the fact that they try to find the “true” culture of a country by selecting properly the sample of the survey. As example, Schwartz (1997) will select teachers as his sample to be able to comprise all aspects of the national culture. However, teachers do not have the same background, neither the same aura in each country.

¹² Definition based on Calantone and Zhao (2001).

products to countries with a high income per capita. Intra-industry trade, and thus vertical trade, will therefore increase (Le, 2017). Ghemawat (2017) will improve those sayings by showing that when comparing trade between countries, seven of the eleven interactions between countries that he analysed (e.g. services exports, FDI outward stocks, tourist arrivals), were negatively impacted by higher income differences between countries. This enforces the global idea that countries with similar income will tend to have more trade.

Similar, and greater, income per capita will thus increase trade between countries. However, the emergence of developing countries on the international level may help to close this gap between income disparities and thus, close the economical distance between countries. As noticed by Ghemawat (2017), emerging countries were able to double their output in US dollar between 2000 and 2014 (from 20 to 39 percent). Growth can still be seen in *Figure 1*, with the comparison of the GDP's share of emerging countries. Economic growth also happens mostly in emerging countries.

Furthermore, the economic 'centre of growth' has been shifting eastwards over the recent years. While being around Great-Britain at the beginning of the twentieth century, it was in the Mid-Atlantic in the eighties – its most western position so far; was around Turkey by the late 2000s and should be now around Iran. Forecasts suggest that it should be around the Indian Chinese border, by 2050 (Quah, 2011). From data from the UN comtrade database, Ghemawat also discussed the raise in trade among emerging countries (as exporters, importers, or both). Trade, that used to be concentrated among a small number of advanced countries, that would account for an important number of trades, has seen its distribution become more equal. The intensity

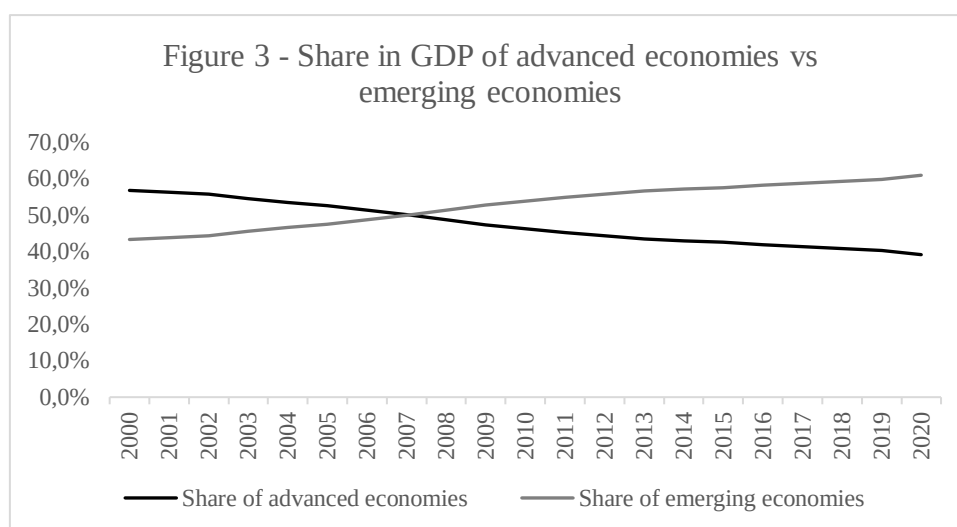


Figure 3- Share in GDP of advanced economies vs emerging economies. Source: IMF database, 2020

of trade represents it the best, indeed, since the 90's it became less concentrated among a small group of countries (Subramanian and Kessler, 2013).

3.2.4. *Administrative Distance*

Administrative distance is a distance that has often be left aside by scholars while studying distance in international interactions, especially during the twentieth century, before Hofstede's cross-cultural framework (1980). Many scholars linked some administrative factors with the culture differences there could be between countries (Ghemawat, 2017). Ghemawat will distinguish two main streams that gained in popularity during the late 90's. The first one will be considered as the 'horizontal institutional distance' and the second one as 'vertical institutional distance'. The former, describes a situation where countries differ but cannot be ranked (e.g. legal origin, colonial history), while the latter refers to a hierarchy between countries' institutions (e.g. power distribution among political parties, respect of legal institutions, corruption) . The results from the analysis on horizontal axis prove that countries with similar legal institutions, norms and cognition will tend to increase international interactions between them – the most notable factor being similitudes in legal institutions. However, the results from the vertical analysis were not as relevant as expected¹³. This can be explained using Cuervo-Cazurra and Genc's (2008) findings expressing that a country with poor institutions can have a relative advantage over other countries with even worse institutions. We can also imagine that countries with low regulations and high corruption can sometimes be useful for businesses wanting to put Corporate Social Responsibility (CSR) aside to improve profits, those will therefore create more interactions.

While he firstly introduced his CAGE-framework, Ghemawat (2001) also discussed more direct administrative distance causing barriers. Governments will create local incentives for the economy and the most common way to do it are the different forms of protectionist measures (e.g. import tariffs, favouritism for domestic organisations). Countries will tend to protect industries that are: 'large employers, national champions, vital to national security, produces staples, produces an 'entitlement' product, exploit natural resources, and/or involves high-sunk cost commitments'. Local companies acting in one of these categories will see their

¹³ This is explained by the author by the fact the variables used are very broad (from FDIs to phone calls), to objectify international interactions as good as possible. While stability has a clear correlation with FDIs, it influences phone calls a similar, opposite, way, but with less correlation. Despite this, the author did not deepen his analysis, because of the consistency of the factors they used in other measurements.

market protected by government policies and could profit from bigger freedom. International competitors' distance to the market will therefore be increased.

3.2.5. Other forms of Distance

Psychic Distance

After Beckermann's conceptualisation of distance, scholars tried different forms of distance to objectify it. Johanson and Vahlne (1977), will therefore, through their scientific explorations, put the psychically closeness between countries into the spotlights. Companies want to begin their internationalisation process in countries that are psychically close to them. Over the years different kinds of psychic distance have been expressed by several scholars (Beckermann, 1956; Linnemann, 1966; Vahlne and Nordström, 1992; Johanson and Wiedersheim-Paul, 1975). It will be Vahlne and Nordström (1992) that will agree on the final definition of the concept that can be described as follow : "*factors preventing or disturbing the flow of information between potential or actual suppliers and customers*". This definition, that has been written several years after the first mention of it, is commonly accepted by academics as the most fitted one, and the Swedish authors using the concept agreed with it. Those researches have been supported by Kogut and Singh's (1988) development of methods to measure distance. The two authors have seen a certain number of scholars criticising their concept. O'Grady and Lane (1996) put in evidence the paradox behind psychic distance and the superficial aspect of the theory. Perceived similarities are over-evaluated and rapidly linked to a closeness between countries. Differences between countries with low psychic distance are overseen and neglected, causing massive failures. Another neglected part of the theory, following the two authors, is the omission of the managerial decision-making aspect of internationalisation. Smaller businesses, that are more susceptible to be impacted by the decision of a single person, tend to internationalise in close countries. The uncertainty avoidance will impact this person's vision, and thus, the decision-making in the internationalisation process. Several authors will continue the critic especially around the measurement of the distance (e.g. Child et al., 2009; Prime et al., 2009). This has led to a lot of different studies depending on the perception of psychic distance by those leading the researches (Puthusserry et al., 2014). This phenomenon logically appeared in specific cases where the decision-making process of companies did consider a specific part of the psychic distance while omitting other aspects of the distance, impacting the interactions and the internationalisation (O'Grady and Lane, 1996).

Distance to knowledge, (markets, and resources)

Other scholars started to note the importance of knowledge, and its flows across the company, for a company's success (Kogut and Zander, 1992). Others described the importance of access to knowledge in the location decision process (e.g. Chung and Alcacer, 2002; Nachum et al., 2008). Nachum et al. (2008) will point out that MNOs will tend to settle in countries with an easy access (proximity) to the 'world's knowledge'. The importance of the quality of the information flows will be highlighted by Ambos and Ambos (2009). Their findings described the importance of good 'personal communication mechanism' (PCM) in businesses¹⁴. When distance is associated with knowledge, creativity and innovation, this distance will forcibly impact the PCM. This is mainly caused by the cost and complexity of knowledge sharing and communication flows.

Nachum et al. (2008) will also point out the importance of the distance to markets. Through their researches they were able to point out that countries with a short distance to large markets, such as the European, Asian, and American markets were more popular among organisations. This distance will also be impacted by trade agreements between those countries, that are more likely to occur between neighbour countries and between countries with big markets (opportunities). They will also describe the distance to resources and the preference of organisations to settle new to those. Despite the logic reasoning behind this idea, very few organisations are concerned by the proximity to natural resources and will thus locate in function. The proximity to specific resources can be decisive for specific industries but is not a global trend¹⁵.

Section 3.3. Occurrence of distances

3.3.1. Distance to other businesses

Why are gas stations so close to each other? Why are supermarket grouped on king size commercial spots? Why did we create malls? The impact of distance between two businesses is a phenomenon that started with the first businesses and that can still be noticed today. The previously given examples can be easily justified with the game theory. Businesses will settle close to each other to avoid letting others have competitive advantage. This will happen

¹⁴ *Personal communication mechanisms (PCM)* are mechanisms that rely on 'personnel liaisons, temporary task forces, and permanent teams as means of knowledge sharing' (Nachum et al., 2008).

¹⁵ We can easily imagine that a tropical wood furniture manufacturer will tend to settle in equatorial countries (e.g. South-East Asia and South America), while this proximity will be insignificant for a wood furniture retailer.

between gas stations (Talwalkar, 2008), as well as for supermarket and malls. However, other industries will also settle close to each other and for other reasons. Heavy industries will more likely locate next to transport nodes such as airports, harbours, and train stations. The advantage of doing so is mainly practical, where organisations will gather around the centres of gravity, introduced by Beckermann (1956), to reduce transport costs and thus distance. Globally, a reduction of physical distance with third parties will strengthen the output of companies (Läpple and Kelley, 2015). Another explanation to the physical clustering of businesses can be found in valuation of business. Occhino and Maté (2017) published their findings on agrarian companies, in which they spotlighted the clustering of companies based on their value. Companies with good financial results will influence the value of the surrounding companies positively and vice versa. Even though no analysis has been done on other industries, assuming that it would be the case for a lot of industries can be a good assumption¹⁶.

Distance between organisations can also take place in the customer perception. As part of a marketing strategy, businesses can decide to create distance, or to avoid it, between them and other businesses. This can happen inside a company and the different brands it possesses but can also occur between two companies (e.g. brand differentiation). Corporate rebranding is a common technique that often occurs with merger and acquisitions (Muzellec and Lambkin, 2006). It is strongly linked with customer experience and despite the topic being important and often costs consuming for companies, few academic explorations were made on the topic. Therefore, it is not that easy to incorporate it in this thesis – and also not relevant for the understanding of further sections.

3.3.2. *Distance inside the company*

Distance inside companies has a strong relationship with internationalisation and globalisation. Organisations were able to increase the physical distance between business units without letting it impact the perceived distance, or real distance (see *Section 3.3.3 Distance between countries*). The path toward a fully globalised world gives organisations the impression that they can settle on the location that will fit them the most. Communication has played an important role in this phenomenon. As example, Hamill (1997), claimed that the Internet, the most obvious objectification of never-ending progress in communication media, has made the traditional distance sensitive internationalisation process no longer relevant.

¹⁶ Such clusters exist everywhere in the World, where businesses by the simple fact of being located somewhere will increase their value (e.g. Silicon Valley in California, Wall Street in New York, La Défense in Paris)

Others claimed that distance inside an organisation was simply dead (e.g. Cairncross, 1995; Brun et al., 2005) (see section 3.1 *Distance, its death and rerise*).

Inside the internationalisation process, distance will play different roles. The most obvious are transport costs, communication flows, and knowledge sharing. When firms are going international, those factors will be more considered, while the other dimensions of distance are left aside (cultural and administrative distance mainly). The best researches concerning those dimensions were led by Hofstede (1980, 1991) (cultural distance) and Reimann et al. (2012) (administrative distance). Both studies converge to claim that organisations should proceed to a certain degree of changes in the host country to optimise their adaptation. Those adaptations can happen at different levels. Campbell et al. (2012) will stress the conflicts that some SMEs could encounter with their CSR strategy while expanding to emerging countries. Hofstede (1980) thanks to his researches, was able to develop four – and later six – dimensions of culture differences. Many scholars will use those results and dimensions to describe an aspect of international business life and how to improve interactions with those dimensions. Some did it regarding communication (e.g. Hofstede, 2015; Redmond, 2000), comparing communication methods – often unsaid communication – between countries/regions, while giving advice on how to react being confronted to specific cultures. Others will apply it on global branding and marketing (e.g. De Mooij and Hofstede, 2010; Nakata, 2009; Soares, 2007). Schwartz' framework (1997 & 1999) is also often used by researchers to get a better insight on workers behaviours and on work values across countries and cultures.

3.3.3. *Distance between countries*

Distance between countries has been described since the early days of the use of distance in international business with Beckermann (1956). His findings described *centres of gravity* in countries and region to explain the ease some countries had to reach others, while others would struggle. His introduction of psychic distance (see section 3.2.5 *Psychic distance*) also helped with the understanding of the concept of distance. Then came Hofstede (1980) with his four dimensions of culture distance. His work strongly helped with the measurement of that distance since countries (cultures) were now described following four dimensions. Some phenomena could now be explained by countries being on opposite axes in one or more dimensions. Kogut and Singh (1988), supported Hofstede's work with qualitative researches about joint ventures and acquisitions with cultural distance. They were also able to develop a

formula to measure this distance between countries, a first, big step to fully comprehension of this new concept. Schwartz (1992 to 1997), will introduce seven different values to explain differences between countries. Unlike Hofstede's work, his findings are not focused only on culture, but will also have an economic and a geographic touch in them. His *work values* (1999) will be very popular to help understanding different behaviours in employees' work value across cultures (Brock et al., 2011).

In 2001, Ghemawat came with his now famous article *Distance still matters – The hard reality of global expansion*, in which he describes the *Cage framework* (see Part II) stating that “Companies routinely exaggerate the attractiveness of foreign markets, and that can lead to expensive mistakes”. He will re-delineate distance, around four dimensions – that have been discussed previously – namely, *Cultural, Administrative, Geographic, and Economic distance*. Those four dimensions will allow countries to be compared more effectively and organisations will be able to have a deeper knowledge of the *real distance* between them and any potential third party (country, customer, supplier, subsidiary, daughter company, etc.). Ten years later, with Steven Altman's help, he developed the *DHL Connectedness Index* (2011), in which they measure, country by country, their connectedness with ‘the World’. This is done by the depth and breadth of connectedness, terms that will be re-used after in his book to define the *Laws of Globalization* (2017). This index is an important step in the false assumption that ‘distance is dead’ and that ‘the world is flat’ (section 3.1 *Distance, its death and rerise*). Some countries are still very isolated, and we are very far of some people's thoughts of a ‘full globalised world’ (Ghemawat and Altman, 2011).

Chapter 4. DISTANCE AND THE LOCATION DECISION

Throughout the recent years, many companies decided to approach their location strategy with a different method. Many scholars conducted studies and Gray et al. (2013) summarised those ‘*factors to examine the location decisions*’ in four different categories: *Input factor costs, Risks, Network effects, and Differences between location* (see Table 1). Those factors are often clustered in other concepts to describe the *motives* for relocation. Those factors

are easier to use for understanding the organisations' decision to relocate, because they act at a more macro level¹⁷.

Table 1 – Factors to examine the location decision; reproduced from Gray et al. (2013)

<i>Category</i>	<i>Factors</i>	<i>Authors</i>
Input factor costs	Tax rates	De Mooij & Ederveen (2003)
	Tariffs	Culem (1998)
	Currency changes	Froot & Stein (1991), Blonigen (1997)
Risks	Currency risk	Campa (1993)
	Expropriation risk	Henisz & Delios (2001), Henisz (2003)
	Quality risk	Gray, Roth, and Leiblein (2011)
Network effects	Cluster/agglomeration	Porter (1998), Almeida & Kogut (1999), Bell (2005)
Differences between locations	Psychic distance	Beckermann (1956), Johanson & Wiedersheim-Paul (1975)
	Cultural distance	Hofstede (1980), Kogut & Singh (1988), Kirkman, Lowe, and Gibson (2006)
	Institutional distance	Kostova, Roth, and Dacin (2008)

Table 1 - Factors to examine the location decision Source : Gray, J. V., Skowronski, K., Esenduran, G. and Rungtusanatham, J.M. (2013). p. 29.

During the ‘Golden years of relocation’, scholars, who conducted surveys among organisations to better understand this new phenomenon and the reasons behind it, developed a group of motives that were popular among entrepreneurs. Motives such as *production costs*, *network*, and *legislation* were very popular at the time and were the main motives for massive relocation. As discussed previously (section 2.3.3. *Cost Managing Theory*), those reasons have been strongly criticised because of the neglected risks those decisions could have.

¹⁷ An entrepreneur will more directly say that he backshored his production because of a lack of quality in the abroad subsidiary than saying that he backshored because of the *quality risk* or because of the *psychic distance* that dampened the knowledge transmission.

When, at the beginning of the new millennium, scholars started to study the new topic of re-location under its different forms (i.e. reshoring, backshoring, nearshoring, etc), and making surveys about it, they often used the same motives used for the relocation surveys. Unsurprisingly, those surveys did not reflect the reality. It is only during the last decade that new concepts such as *flexibility*, *digitalisation*, *communication costs*, or *intellectual property* emerged. Those concepts made their appearance together with the emergence of *Industry 4.0*. While *Industry 3.0* (roughly *automation*) was linked with the relocation and offshoring phenomena, the former is playing an increasing role in the re-location process. However, it is important to note that *automation* still matters when talking about re-location. Organisations saw their production costs decrease and it was not useful anymore to profit from the low, offshored, labour costs (Bonchoux, 2020; Eurofound Report, 2019).

When looking to the core motives to re-locate, some scholars have tried to develop some theoretical frameworks around those (e.g. Fratocchi et al., 2016; Barbieri et al., 2018) and surveys have been conducted using those frameworks (e.g. Eurofound, 2019). To take the Fratocchi et al. framework as example, it will distinguish two main dimensions for re-locating strategies: the *contextual factors* and the *strategic goals of the firm*. The former puts in evidence the external and internal factors a firm can encounter when facing the re-location decision (e.g. legislation, culture, etc., and product innovation, production processes, etc.). The latter puts the strategic choice of the organisation to either chose for customer perceived value or cost efficiency. Despite being an attractive framework to work with, several academics have showed their reserve towards those frameworks (e.g. Dachs, Kinkel, Jäger, Zanker). The main reason behind it is the fact that those frameworks are often not theory based (Dachs et al., 2019). Therefore, the following section will not consider motives based on those frameworks and will keep it with the more ‘classic’ surveys conducted by many scholars, that are not based on any framework¹⁸.

Section 4.1. Motives for re-location

In Europe and in the US, many studies have been conducted to analyse the phenomenon and its motives. The strong majority of the studies have been led through surveying specific

¹⁸ Those studies also received some critics mainly because they used a lot of surveys to collect data and thus, they only ‘enables to collect only information explicitly requested by the questionnaire’ (Eurofound, 2019). However, when using other framework, such as the Fratocchi et al. framework, a lot of respondents answered with ‘Firm’s global reorganisation’, ‘Proximity to customers’, ‘Made in effect’, etc. Those answers are often subjective and can thus be influenced by ‘hidden risks’.

organisations regarding their home country, their previous host country, their size, and their sector. Even though surveys have often been criticised¹⁹, those have been accepted as the ‘best’ method to lead those studies (De Backer et al., 2016). Table 2 summarises those studies (Eurofound, 2019).

What is interesting is to see, is that some studies have been conducted among the same organisations at several years of interval and over a large period (e.g. Kinkel (2009, 2012, 2015)), and have thus a very interesting oversight of the topic. It is also important to note that only studies led by Dachs and/or Kinkel also have a very high quantitative quality with always over 1,000 organisations surveyed and sometimes over 3,000. The conclusions about motivation to reshore drawn by those studies will receive a higher consideration and a better appreciation during the following sections.

Table 2 - List of authors and studies about reshoring

<i>Authors</i>	<i>Year</i>	<i>Country</i>	<i>Period</i>	<i>Surveyed companies</i>
Heikkilä et al.	2018	Finland	2010-2015	229
Heikkilä et al.	2018	Finland	2010-2015	847
		Sweden		
		Denmark		
Johansson & Olhager	2018	Sweden	2010-2015	373
Fel & Griette	2017	France	n/a	270
Kinkel	2014	Germany	Every 2 years from 1997	1,450 to 1,650
Kinkel & Maloca	2009	Germany	2005-2006	1,663
Canham & Hamilton	2013	New-Zealand	2001-2011	676
Dachs & Zanker	2014	13 EU countries	2010-mid 2012	3,500
Dachs & Kinkel	2013	9 EU countries	2007-2009	3,293

Table 2 – List of authors and studies about reshoring Source: Eurofound (2019); reproduced from Eurofound (2019). p. 6.

¹⁹ See previous note.

4.1.1. Quality

Quality has often been considered as the main reason to re-locate (Kinkel, 2017). However, during the Golden Age of relocation, it was of cost reduction that was the main motive. Organisations wanting to increase their profit enjoyed the low labour costs, flexible legislation and lowering transport costs to relocate in emerging countries. Because of those cost-savings behaviours, the importance of quality was neglected. Therefore, now, in the majority of the studies before 2015, it is quality issues that came as main motive for re-locating (Kinkel, 2015). Dachs et al. (2019) will break down those quality issues in different aspects among which, *quality securing measures* and *quality control* are two major dimensions that are considered as being missing – or very difficult to control – abroad. Those will necessitate new production runs and recalls of deficient products and will lower the cost advantage such regions could have previously. Other aspects, more related to the cultural distance there could be between the countries, will also influence the – poorer – quality abroad. The absence of skilled worker has often been overseen while the impact on the quality needs no proof. The core perception of quality also differs from culture to culture and from country to country. This distance between their own perception of quality and the quality workers are asked to fulfil tasks complexifies the reproduction of production lines and the time needed to implement a new production process.

4.1.2. Flexibility, ability to deliver

In his surveys for the Fraunhofer Institute, Kinkel noted the rise of a new motive for re-locations (2009, 2012, 2015). The *flexibility* facet of today's business becomes capital for global companies, with the ability to respond quickly to demand changes and unexpected events as main factors. This way, it is easy to see that an organisation that has all its units located close to its market will be more flexible. This flexibility has often been only seen as the production flexibility (Eurofound, 2019), but can express itself in other parts of the organisation. Customers, suppliers and other third parties are praising flexibility and therefore, organisations will try to optimise it. While it was firstly thought to occur only in the manufacturing industry with two main axes on which organisations had to work in order to improve their global flexibility: the resource flexibility and the coordination flexibility of the firm using the resource; the importance of flexibility at other levels of an organisation have been demonstrated during the last years. Morris et al. (2016) will talk about the *behavioural*

flexibility of organisations; Nadkarni and Herrmann (2010) revisits the strategic flexibility, even sociologist Smith-Doerr (2004) will use the flexibility to handle the gender proportion inside businesses.

What is useful to note is the rise of flexibility as motive for re-location together with the rise of the incorporation of Industry 4.0 inside of businesses. It is a correlation that has emerged among scholars and some of them decided to dive deeper into it (e.g. Kinkel (2018); Ancarani & Di Mauro (2018)) and will be discussed more broadly in *Section 4.2 Re-location and Industry 4.0*²⁰.

4.1.3. Capacity utilisation

Capacity utilisation is a motive which is obvious especially when trying to reduce costs or lead times. Optimising the utilisation of already existing processes or productions is an easy way to increase production and thus to re-locate. Therefore, this part will not develop this motive in depth. However, it is still important to note that the output of an organisation can be improved either by optimising the capacity utilisation, or by firstly increasing the capacity and thereafter optimising the utilisation of it. Increasing a business' capacity occurs by bettering the processes and/or technological improvements. As mentioned by Ancarani and Di Mauro (2018): "*The rapid technological progress has opened up a range of new opportunities to address or bypass some of the challenges tied to the relocation to high cost countries*" (Ancarani and Di Mauro, 2018, p88). Emergence of Industry 4.0 will reinforce the capacity some processes have and will therefore increase home country's production. Almada-Lobo (2015) will explain the shop-floor manufacturing thanks to the implementation of Industry 4.0 in an organisation. The shop-floor also becomes a part of the production unit of a company.

4.1.4. Logistic costs

Logistic costs are, together with the *labour costs*, the biggest cost-related motives for companies to re-locate (De Backer et al., 2016). About the logistic costs, half of it are related to transport (50.3 percent), while inventory costs account for a fifth of those costs (21.8 percent). Other logistic costs represent only 28 percent with respectively labour (9.5), customer service (7.8), rent (4.3), administration (2.7), supplies (2.2), and others (1.2) (Rodrigue, 2016). Organisations logically try to optimise the two first categories. Everyone knows Toyota's Just-

²⁰ The presence – or absence – of Industry 4.0 inside a company has also a strong impact on other motives for re-location. However, the strongest, and most evident, link occurs with flexibility.

in-Time that has fascinated scholars for more than 4 decades now, that strongly impacted the inventory costs in industries with a high dependency on stocks²¹. Costs relying on transport are more difficult to optimise because the location constraint plays a major role in the optimisation process. Scholars will thus try to develop algorithms concerning the fleet size companies should have to optimise their costs (e.g. Yan & Zhang, 2015), others will suggest optimising the truck volume utilisation and other factors (e.g. Parkhi, Jagadeesh & Kumar, 2014), and others will discuss the location of distribution centres – in the retail industry (Nozick & Turnquist, 2001). However, the transition to cheaper transportation to reduce costs and the importance of the closeness to transport hubs is not something new. Beckermann's paper introducing to the concept of distance in 1956 already pointed out the importance of transport costs in international business, and the importance to reduce physical distance to lower the transport costs. Grouping organisations around transport hubs was a first – good – step to do so. He also developed the fact that organisations should try to locate close to their customers.

4.1.5. Coordination

Coordination is tightly linked with the companies' communication and with their information flows. How a parent company can transfer its mission, vision, and strategy to a subsidiary – even a supplier or a plant, is a capital achievement companies try to unlock. Bad coordination can imply unforeseen coordination costs such as travelling expenses, increase in lead times or opportunity costs (Kinkel, 2017). Scholars were able to develop the 'ideal MNO' to avoid mismatches in coordination as good as possible but noticed that the reproduction of this ideal MNO was far more complicated than could be imagined (Meijboom & Obel, 2007). The choice between a complete decentralised subsidiary or a strongly IT-based, centralised organisation has been demonstrated to be much more difficult than what was previously thought.

Companies are forced to maintain their intellectual property when going abroad. If a subsidiary cannot maintain the intellectual property inside of its company, competitors could profit from this and reproduce products at lower costs. This is especially true in the countries with weak legislation. The risk to offshore the production of a highly technical good, or a good with high intellectual property, in a country with few regulations can be too high that organisations decide to avoid it (Meijboom & Obel, 2007).

²¹ One of the first analysis of Toyota's Just-in-Time supply chain has been done by Sugimori et al. in 1977.

4.1.6. Others

Other motives have been highlighted by academics during the different surveys they have been leading. With the difference to the previous motives of being less reluctant and less determinant. The ‘made in effect’ played an increasing role in recent studies, especially in Europe (Kinkel, 2017; Eurofound, 2019). Organisations, aware of the emergence of their CSR as choice factors for customers – and also employees, often decide to rethink their company’s strategy. Beside CSR, local and national governments try to increase their incentives towards company to keep them home²².

Other, more generic, motives are also recognised in the “new” *Glocal* approach of doing business (Bonchoux, 2020). Organisations, trying to adapt their previous global strategy with the 2020 reality. Keeping an important part of their business in their home country is a strategic decision that business try to adopt. Sensitive business units or business units that need to be close to the decision centre of the company are often kept in the home territory. Research and development, financial departments, and others, will therefore be kept home or will be re-located (Kinkel, 2017). This is especially true when organisations faced any form of loss of control or if they are afraid of losing intellectual property. Organisations will also sometimes cancel their relocation decision when they better conceptualise the risks and challenges such a strategy could lead to.

²² The increase of marketing campaigns made by regions in order to promote the quality of the local products is an example among others.

Section 4.2. Re-locating and Industry 4.0

Kinkel (2018), will highlight the strong link between re-location and Industry 4.0, claiming that “advanced users” of Industry 4.0 have on average a ten-times higher propensity to re-locate than “non-users”. He will link this claim with the emergence of *flexibility* and *individualised solutions* among the motives for re-location. However, the fact that reshoring is strongly linked with technology is not new. Dachs and Zanker (2015) will spotlight the trend that high technology industries are more often linked with backshoring strategies than low technology industries. In 2019, Dachs, together with other scholars, highlighted those sectors being mainly *electrical equipment*, *information*, and *communications equipment*. They developed a graph with the relation different industries have with backshoring and offshoring (Figure 4). Furthermore, they saw an increase in the reshoring of the *Automotive industry* (Dachs et al, 2019). This is still the impact of *Industry 3.0* and also the increase in protectionism policies led by different governments in order to save jobs, keep ‘national champions’ at home (see section 3.2.4 *Administrative Distance*). On the other side of the table we can find that sectors such as printing, wood, food, and metal products have a negative trend to backshore (see Figure 4).

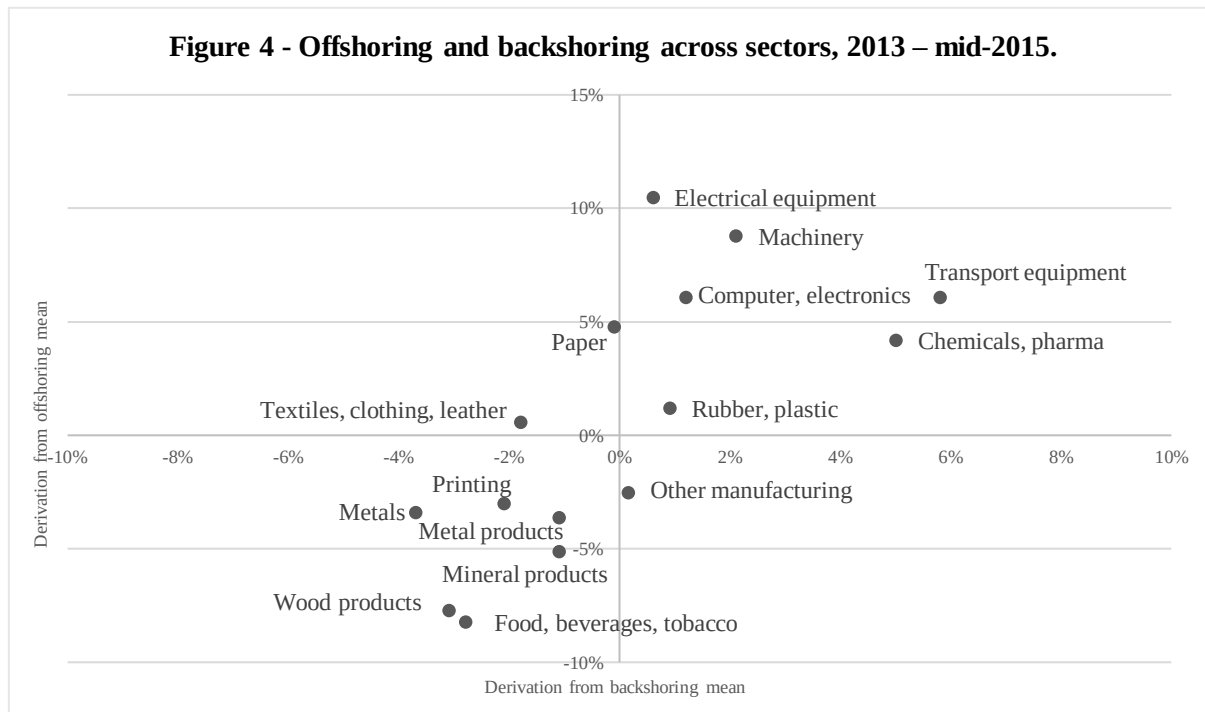


Figure 4 - Offshoring and backshoring across sectors, 2013 – mid-2015. Source EMS 2015; reproduced from Dachs et al. (2019). p. 10.

When bringing back production or other business units in the home country because of Industry 4.0 it often represents job losses for the company (Kinkel, 2018). The majority of the jobs being

automated in the home country and new technology replacing employees, there is no need for the organisations to keep those workers. This can be a misconception for many socially close decision makers that do not understand that re-locating can even be bad for the workers in the home country. On the other hand, implementing Industry 4.0 will create jobs for suppliers of those technologies and for skilled employees responsible to use the tech in the organisation.

Ancarani and Di Mauro (2018) made a consequent survey concerning 840 US and German companies that were active in reshoring. They analysed the importance of Industry 4.0 on the re-location process and on the motives of those companies. Even if only a fifth of the businesses concerned by reshoring were active in Industry 4.0 (18 percent), they notice a considerable increase over the three years of their survey (from 4 companies to 66). They also noticed that the use of Industry 4.0 was linked mostly with quality and cost-based motives, thus, to change their labour-intensive production with more automated production.

To put the implication of Industry 4.0 on re-locating in a nutshell, through the different researches it is clear that companies already active in Industry 4.0 and with an offshore business unit have a bigger tendency to re-locate when compared to other businesses. However, Industry 4.0 is not a must have to re-locate, companies that re-locate without any Industry 4.0 are doing as good as the ones with it. The importance of Industry 4.0 on re-location is also strongly linked with the industry of the concerned companies. An organisation that relies on heavy labour costs are, globally, more tended to use Industry 4.0, while those that do not rely on it see less benefits to do so. Thus, cost-oriented and quality-oriented companies have a bigger propensity to use Industry 4.0 to help them re-locate. Another important point are the benefits of Industry 4.0 that are very specific (e.g. *flexibility, lead times, quick reactions*). Those are significant for businesses with high importance of design and product innovation, while other industries see less importance in it, and will thus have a lower propensity to re-locate.

Part II: Empirical study

This part will be dedicated to answering the different research questions and confronting the distance concept and its influences on companies' re-location and attractiveness of specific countries over others. The confrontation was done by using empirical data about re-location cases and using specific frameworks to discuss the distance aspect. The first chapter will introduce you to the research questions and discuss the data and methodology. Then, the second chapter provides an overview of the key findings and notable trends different calculations put forward. That chapter also regroup the characteristics of re-locating firms that were found in the different subsections. A third chapter will discuss the findings while keeping an eye on the limitations. At the end, a fourth, and last chapter provides the reader with a critical point of view on this second part, underlying the limitations those data and methodology may have, and the impact it may have on the results and conclusion. Finally, the last section of that chapter will highlight the implications that could be used in business application and will suggest future researches.

Chapter 1. RESEARCH QUESTIONS, DATA, AND METHODOLOGY

Section 1.1. Research questions and hypotheses

Regarding the first part of this paper on the re-locating phenomenon, certain gaps in the literature were pointed out. The link between the perception of distance by organisations and their decision to re-locate has never been explained or described by previous academics. However, even if some scholars mentioned a probable link between those two aspects, no clear relation has been set. On the other side, the motives that push a firm to re-locate have been described by a small number of scholars, each time using a new measurement method or a new bundle of motive types (e.g. Ancarani et al., 2015; Zhai et al., 2016). Also, as seen in the theoretical part, scholars often focus on a single economy, and or industry. This gap, having small and partial answers in the actual literature, still needs some complementary researches.

The perception of distance will be completely different depending on the country and industry. But will it influence the propensity to re-locate? Answering this question raises other questions that this chapter will try to answer. To do so, four different research questions were developed with each a hypothesis based on the theoretical background the first part provided.

Research question 1 (RQ1) - *Do companies that re-locate, reduce the perceived distance (Cage distance) between the re-located activity and the home country?*

The first question may seem to be logic and easy to answer just because of the definition of ‘re-location’, where a company brings an activity back, or close, to its country. However, talking about perceived distance here tend to avoid the “hidden distance” introduced in the first part. When a firm decide to re-locate, does it consider those factors that can make them do a bad move?

Hypothesis 1 (H1) – Ghemawat and others already pointed out that distance still matters in international business (Ghemawat, 2011). Considering the dimensions of the Cage framework and the nature of the firms re-locating, the probability is high that firms reduce their perceived distance. Furthermore, the Cage framework, measuring the similarities between the countries, will strongly reduce the distance between countries with similar backgrounds such as the European countries.

Research Question 2 (RQ2) - *Do companies re-locate in the country with the smallest perceived distance (Cage distance)?*

The second question looks similar or complementary to the first one but is not. When a firm wants to re-locate, they often have a broad range of countries to choose between. Even if some countries will be more appealing than others, because of an already existing plant in that country for example, do some companies neglect this aspect in order to gain in distance reduction?

Hypothesis 2 (H2) – Errors in the appreciation of “hidden” aspects of the location decision have already been proved by Pisano & Shih (2009), where countries would overestimate the cost benefits from a migration (see Part I, Chapter 2). A part of the distance between two countries is also “hidden”, and a misrepresentation of the distance could also appear during the re-location process. However, the presence of an already existing plant or subsidiary in a country will strongly impact the re-locating decision and the distance a firm has with that country.

Research Question 3 (RQ3) - *Do industries that are less sensitive to distance, re-locate less?*

Each industry has its own perception of distance, being strongly or weakly sensitive to distance. Ghemawat talked about it in his *Laws of Globalization* (2017), explaining that

for example that the book industry is very sensitive to the presence of a common language (through the multiplier of distance).

Hypothesis 3 (H3) - Out of this, the deduction can be done that businesses active in distance-sensitive industries, will have a bigger tendency to re-locate because of distance, while firms in less sensitive industries would simply continue their business being less impacted by the kilometres.

Research Question 4 (RQ4) - *Do the specific dimensions of the CAGE distance framework have an impact on a specific motive for re-locating?*

Even if it does not look like, this question is related to RQ3. The goal of this question is to highlight if some motives for re-location can be linked with a certain type of dimension of the Cage framework. To clarify this, here is an example: “Firms that re-locate for labour-costs motives, are more often active in an industry where the economic distance is important”.

Hypothesis 4 (H4) – Because this question partially depends on RQ3, the hypothesis of this question partially relies on the verification of the previous hypothesis. If a dependency exists between “highly” sensitive industries and re-location, then it could be explained by a Cage-dimension. If no dependency exists, no dimension could explain this.

Section 1.2. Database

To collect the data about recent re-locations the decision was made to use the data from the Eurofound in their *European Reshoring Monitor* project. The project was run by a team of scholars belonging to four Italian universities, between January 2015 and December 2018; and under the supervision of Eurofound, entrusted by the European Commission (European Reshoring Monitor, 2018). To identify, sort, and classify all the cases of re-location, they went through 7,500 press releases that covered the previously mentioned period, looking for any key word in international, national, regional, and industrial newspapers, mentioning this phenomenon (Eurofound, 2019). Out of this work, 250 specific cases were identified and analysed. Those re-location cases concerned 23 European countries and 3 cases concerned 2

non-European countries with a European re-location (i.e. the United States and Taiwan)²³. This paper will use the different variables used to collect the data by the research group using questionnaires, deduction, and official company's statements (e.g. *industry*, *firm's size*, *reshoring date*, *offshoring date*), with the exception of the *motivation's* variables. As explained in Part I, Chapter 4, the scholars used the Fraticelli et al. framework to measure the motivation to re-locate; and this framework is not based on a proper theoretical approach. Therefore, to stay consistent with the other frameworks that will be used later, those variables will be reworked and matched with the more theoretically accepted motives introduced by Kinkel and the European Manufacturing Surveys (2009, 2012, 2015).

Section 1.3. Research frameworks

1.3.1. Cage framework

The Cage framework has been introduced by Ghemawat in his 2001 review “*Distance Still Matters*” and has as goal to “*help managers to identify and assess the impact of distance on various industries*”. As mentioned by its author, the Cage framework will summarise distance, in four dimensions: *Cultural*, *Administrative and Political*, *Geographic*, and *Economic* distance (Ghemawat, 2001). In facts, it is an extension of Beckermann (1956), Vahlne and Johansson (1977), Hallén and Wiedersheim-Paul (1979), Luostarinen (1979) and Hofstede (1980), and their approach to distance inside international business. The fact of decomposing distance into those different dimensions is not new. Luostarinen broke distance down into *geographic*, *economic*, and *cultural* distance (1979). However, Ghemawat's framework added some measurement methods and industry-based appreciation. During his researches, he was able to develop multiple factors that will impact one, or several, dimensions (e.g. common language, colonial heritage, existing free trade agreements). This allowed two main forms for the application of the CAGE-framework: the *country level* and the *industry level*.

The first one will compare two countries' distance from the perspective of a third country (e.g. How India and China compare, from the perspective of U.S. companies). The author added four important comments about the comprehension of the distance there might be between countries. The first one concerns the choice of the perspective. From another country

²³ Due to practical reasons, the United Kingdom will be considered inside of the European Union in this paper. The Brexit taking place after the Eurofound Report was finished, because of that, data has not been actualised in every document.

or region, for example Western Europe, the perspective is different. Some similarities change and become dissimilarities when irrelevant factors gain in importance. The second, concerns the size of the countries. An enormous country such as Russia cannot be summarised in a single phrase. The difference between the perspective of an American company settling in Kamchatka or in Kaliningrad is completely different, therefore, the variation inside a country should be considered before trying to measure the distance. To use this framework at the European scale is a good application, considering the size of the *Old Continent*. Third, the broad empirical studies Ghemawat conducted during his researches, should not be overlooked. In the case of China, the labour costs are often exaggerated and other advantages such as the common language ignored, even though a common language can tie the advantage of lower labours costs. And last, some industries are more sensitive to specific dimensions while other industries will be more sensitive to other dimensions. A consultancy company will be strongly dependant on *administrative distance*, while a manufacturing company will be watching the *economic distance* more closely.

The *industry level* application is a direct extension of the last-mentioned point of previous section. The goal is to compare the challenges a specific industry could face by entering a specific country (e.g. broadcast a TV satellite service in China). While analysing the distance at the *industry level*, it is important to consider the *liability of foreignness*, *comparing foreign competitors*, and *comparing markets*, because the distance inside the industry will occur at those different levels. All those factors will have different relations with the four dimensions of the CAGE framework. The task is thus to “*understand which [differences] matter the most in the industry of interest to you*” (Ghemawat, 2007, p 22).

The empirical analyses allowed Ghemawat to develop a CAGE Comparator TM. The tool allows users to compare the distance between a country and the other countries, based on more than 100 international activities. In the Appendix, there is an example of such a table with the case of Spain as demonstration (Table A.1). By taking a quick look, it is easy to see that countries such as Belgium and Luxembourg score well despite being quite far from Spain originally. A bit lower on the ranking, countries with a common language – and colonial past, such as Colombia (38th), Panama (39th), and others, score far better than countries with a very “central” position in international trade like the US (86th) and China (159th). From a Spanish perspective, the distance with those South American countries would be shorter. The impact of distance in trade would thus be lower when a Spanish company opens a subsidiary in Panama

than in the US. Note that this is a generic distance where the four dimensions have each a specific importance based on the results of all the countries. A company with very specific industry would prefer to adapt the importance of each dimension in the measurement of the distance.

Beside the CAGE Comparator TM, Ghemawat also developed interactive mapping, where a world map is drawn in function of the CAGE distance a specific country has with the other countries. This paper will not explain the principles behind the maps but will just mention it to make the CAGE distance more visual. In the appendix, Figure A.2 is an example of a CAGE distance map of Belgium, that only serves as informative purpose (Ghemawat, 2020).

1.3.2. Connectedness Index

In 2011, Deutsche Post DHL, or shorter, DHL ordered an Index to Ghemawat and Altman to rank countries from most to least connected. Ghemawat and Altman decided to base the connection between countries on the *Global connectedness* and defined it as the following: “*Global connectedness, as defined here, refers to the depth and breadth of a country’s integration with the rest of the world as manifest by its participation in international flows of products and services, capital, information, and people*” (DHL, Ghemawat & Altman, 2011; p 16). This definition is the mass of gravity of the concept because it objectifies the two main ideas, namely the *depth* and *breadth* of the connection; and the four dimensions of that connection, namely flows of: *products and services, capital, information, and people* (Ghemawat, 2017).

Looking at the four different flows, they developed formulas and methods to measure those flows, and, through multipliers according to the importance of each flow and its different components, were able to quantify them more precisely. This way, the breadth and depth of the flows could be measured and, in extend, compared between each other. Countries were then ranked depending on the breadth and depth of their connections with other countries, and a global ranking was also created.

Section 1.4. Research method

To describe the impact of distance on the re-location decision, different steps were successively applied on the database. First a global approach was done about the cases to have a better insight of the type of data that this paper was working with. The cases were classified

depending on different indicators such as their size, nationality, or industry. Those results were compared with freely available data from Eurostat (Eurostat, 2020) to notice some eventual inconsistencies with the actual European economy. Those inconsistencies were mainly about the size of the companies and the industries in which they were active. The decision was made to continue the analysis even if those inconsistencies were significant, because even if it was not a true representation of the European economy, the fact that those inconsistencies exist gave a better idea of the type, and thus profile, of the companies that were active in re-location decision.

In a second time, the research continued with an in-depth analysis of the precise re-location phenomenon. However, it quickly came out that some indicators were missing. The decision was made to focus on the most relevant indicators. To grade the relevance of those indicators, the number of available data was considered, as was their pertinence to the re-location phenomenon. The date of their decision, as well as the previous host country, the type of re-location and the new host country, were the selected data. Every analysis on each data gave more insight on the phenomenon and gave parts of the answers to the different research questions. Arriving at the analysis of the re-located countries, an important observation was made, namely that out of the 250 cases of the database, 232 re-located in their home country. Even if it created a narrower sample because the distance between the home country and reshored country was null, it allowed an important step forward toward the answers of two of the research questions.

The decision was thus done to continue with this *Group of 18* to better understand why those firms, and specifically those, decided not to re-locate in their home country. A comparison was thus done between those cases and the 250 cases, which helped for the development of a profile of those outsiders. Then came finally the process of measuring the distance between the countries. Firstly, with the DHL Connectedness Index and a comparison of ranking between the three different countries; secondly, with the Cage framework and a comparison of distance to the home country between the offshored country and the re-located one.

Finally, a reworked table of the motives those companies claimed for their re-location decision was added to the Cage Table; and a comparison between the different indicators of the framework with those motives, was done. Out of this, common trends of those indicators were noticed allowing to answer to the last two research questions.

Beside those answers to the different research questions, the results allowed the creation of profiles. Those profiles will also help in the conclusions, discussions, and further researches sections.

Chapter 2. EMPIRICAL EVIDENCES

During their researches, the scholars that partnered with the Eurofound listed a total of 250 cases of re-locations. They gathered around 30 different indicators going from the *company name*, to the *reason for offshoring and reshoring*, and going through the *job gains* and the *motives of reshoring*. Some data were more accessible than others and this created some gaps in their global table. For the quality of the research, this paper decided to gather some “missing” information by itself. Even if it will influence the end results in comparison with the original data, those changes are very few and will not have a major impact on the results²⁴. In order to have a better overview of the data base, Table 3 regroups the indicators used by Eurofound. Column 1 gives the Title of the indicator, column 2 explains briefly the indicator, column 3 counts the number of data that Eurofound was able to collect on each indicator (max: 250), and column 4 gives an arbitrary relevance dependant on the indicator’s relation with distance and the number of data, going from *very poor* (1) to *very relevant* (5).

Table 3 - Indicators used by Eurofound

Name of indicator	Explanation	N° of data	Relevance of data
Status	<i>Actualisation of the case study</i>	2	1
Title	<i>Title of the case study</i>	250	5
Company name	<i>Name of the company</i>	250	5
Group name	<i>Name of the parent company</i>	57	3
Company country	<i>Home country of the company</i>	250	5
Group home country	<i>Home country of the parent company</i>	53	2
Number of employees	<i>Number of employees in the company</i>	179	4

²⁴ An example of such a change was the addition of missing information about the number of employees working in the company (*company size*). Around 70 cases did not have this information. Information from own researches were thus added where it was possible.

Sector	<i>NACE classification</i>	250	5
Sector_1	<i>NACE classification</i>	250	5
Sub-sectors	<i>NACE classification</i>	205	4
Announcement date	<i>Announcement date of re-location</i>	250	4
Starting implementation date	<i>Starting implementation date of re-location</i>	195	2
End of Implementation	<i>Ending implementation date of re-location</i>	142	2
Reshored to	<i>Future host country of re-location</i>	250	5
Location of affected unit(s)	<i>Re-location city in the host country</i>	199	2
Location code	<i>EU-Code of re-location location</i>	205	1
Reshored business function	<i>Type of business function for re-location</i>	239	4
Reshored services/activities	<i>Specific activity for re-location</i>	18	2
Reshoring governance mode	<i>Type of re-location</i>	221	3
Job gains	<i>Gains in jobs due to the re-location</i>	102	2
Reasons for reshoring	<i>Reasons for reshoring^b</i>	238	3
Reshoring ERM database code	<i>Reshoring European Reshoring Monitor database code</i>	14	1
Case narrative	<i>Explanation of the case</i>	250	2
Sources	<i>Sources</i>	246	1
Sources link	<i>Sources link</i>	246	1
Offshoring date	<i>Date of offshoring</i>	64	2
Offshored from	<i>Host country of the activity before offshoring</i>	2	2
Offshored to	<i>Host country of the activity post-offshoring</i>	242	3
Offshored services/activities	<i>Specific activity for relocation</i>	162	5

Offshored business function	<i>Type of business function for relocation</i>	4	2
Offshoring governance mode	<i>Type of relocation</i>	139	2
Offshoring entry mode	<i>Mode of entry of the relocation</i>	46	1
Number of jobs lost	<i>Lost in jobs due to the relocation</i>	4	1
Reason for offshoring	<i>Reasons for offshoring</i>	53	2
Host country geographical area	<i>Geographical area of the offshoring host country</i>	131	2
Offshoring ERM database code	<i>Offshoring European Reshoring Monitor database code</i>	0	1
Notes	<i>Notes</i>	19	1

Table 3 - Indicators used by Eurofound. Source: Eurofound, 2019 (<https://reshoring.eurofound.europa.eu/>)

Section 2.1. Global results

First of all, a small analysis of the database to have a better overview of the concerned figures. This analysis will use free available data and compare it with the data collected by the Eurofound during its researches.

2.1.1. Company country

During its survey, Eurofound was able to collect the data of about 250 different reshoring cases. Those cases concerned a European country, or by the company country, or by the country of re-location. Regarding the company countries, 23 were European, while two came were from a non-European nationality (the United States (2 cases) and Taiwan (1 case)). That makes that out of the 250 cases, 247, or 98.8 percent, concerned European companies. Only two of those European countries are not member states (i.e. Norway and Switzerland), but are however two countries with very tight relations with the European Union²⁵. European Union members states' cases represent thus 224 cases (89.6 %).

Regarding the distribution of the cases by country, it can be seen, on Figure 5, that the United Kingdom leads with a strong 44 number of cases (17. 6%), while other strong economies follow, like Italy (39), and France (36). Surprisingly, Germany is at the sixth place with 17

²⁵ The situation of the United Kingdom being still a member of the EU at the beginning of the writing of this paper is unique, and it will therefore still be considered as a member state.

cases, despite being Europe's biggest economy. Smaller economies are also represented with lots of countries with one or two cases at their name. By comparing this data with the data of the European Commission (Eurostat, 2020) about the number of companies by country²⁶ (Figure 6), the same distribution seems to occur – sort of decreasing exponential distribution – with the top having a big share and the distribution having a lot of smaller players. However, in the current European economy, it is not the UK with the most cases, but Italy. Other misrepresentations also emerges, with the overrepresentation of Denmark as main example (4th most cases, but 17th in terms of companies). Also, some countries such as Czechia and Hungary do not have any case on their territory despite being respectively 8th and 13th on the ranking in terms of companies by country²⁷. Nevertheless, beside those misrepresentations, the distribution of cases seems decent. Top countries are in the top, middle countries are around the middle and smaller countries have lesser cases.

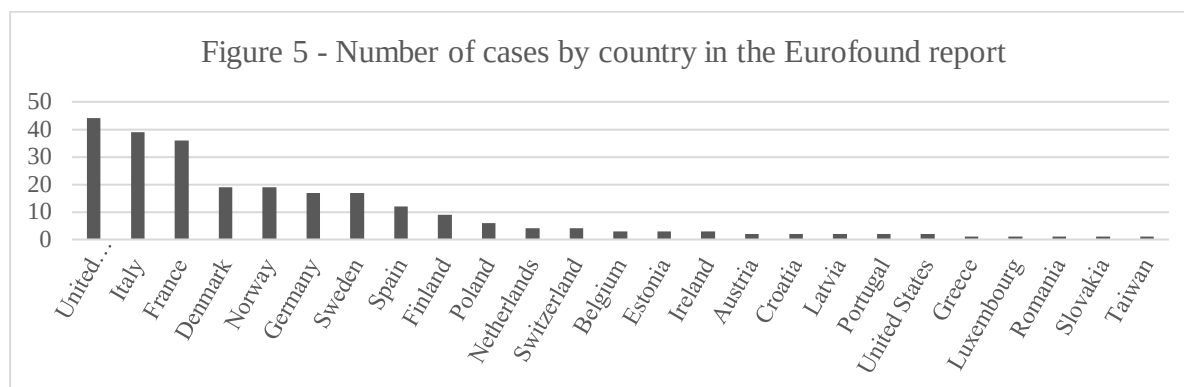


Figure 5 - Number of cases by country in the Eurofound report. Source: Eurofound, 2019 (reshoring.eurofound.europa.eu/)

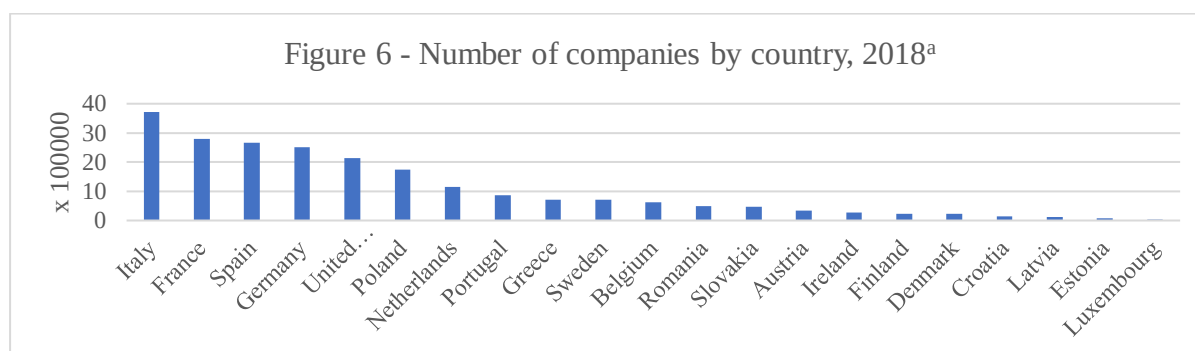


Figure 6 - Number of businesses by country in Europe. (a) Some countries, not present in the previous figure, are purposely left aside; refer to footnote 26. Source: Eurostat, 2020. Retrieved from : <https://ec.europa.eu/eurostat/web/structural-business-statistics/data/main-tables>

²⁶ Only the countries present in the previous figure have been used for more clarity. Countries like Czechia (8th) or Hungary (13th) are present in the full graph in the Appendix. Other countries with no cases representing them: Bulgaria, Lithuania, Slovenia, Cyprus, and Malta.

²⁷ See previous footnote.

2.1.2. *Number of employees*

Regarding the size of the companies present in the case, the easiest way to compare those companies between each other was the number of employees. The data was available for 179 cases (71.6 %) while it was missing for 71. In order to add consistency to the data base, some of the missing data was completed with numbers that were available online and that seemed reliable. Those were collected through financial statements, specialised websites (e.g. Bloomberg), or the company website. If no precise data was available for the year of the relocation, an approximation was done using press releases about the recent companies' restructuration. Finally, if a company had no reliable source, or if the numbers were too distant from each other, it was classified as 'no data'.

To compare the company's sizes, 4 different categories were created. Because every country possess its own classification method about the company size, the classification used by Eurostat was applied, namely : Micro (<10 people), Small (≥ 10 and < 50), Medium (≥ 50 and < 250), and Large (≥ 250). Figure 8 represents the distribution of the 250 cases, were most cases come from *Large* organisations (58 %); *Medium* sized organisations are a quarter of the sample (25.2 %), while *Small*- and *Micro*-sized companies represented respectively 13.2% and 2.0 %. Regarding the European trend (Figure 7), it is something completely different. *Large* sized companies are barely visible on the figure, representing 0.2% of the European organisations. The same rules for *Medium* sized companies (1.0 %); while *Small* companies are good for 6 %, the biggest share is made of the *Micro* sized companies, representing a strong 92.9 %.

Figure 8 - Database's companies by size (in percentage)

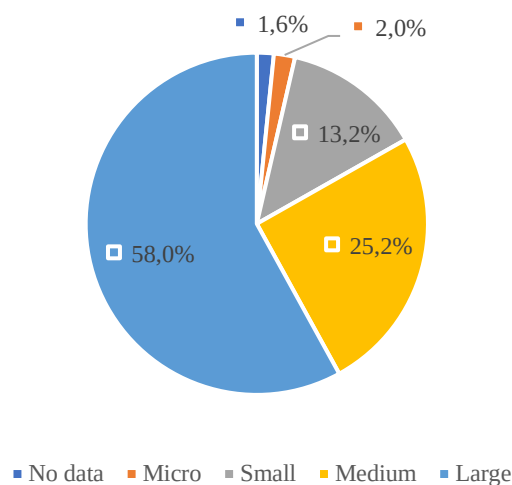


Figure 8 - Companies by size (number of employees) from the database; n=250. Source: Eurofound, 2019 (reshoring.eurofound.europa.eu)

Figure 7 - European companies by size (in percentage)

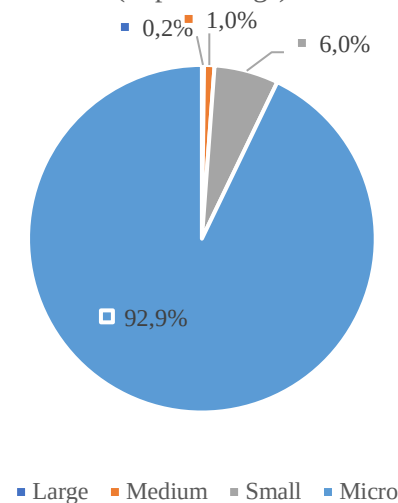


Figure 7 - European companies by size (number of employees), in percentage; n=23,500,328. Source: Eurostat - Number of enterprises in the non-financial business economy by size class of employment.

Retrieved from :
<https://ec.europa.eu/eurostat/web/structural-business-statistics/data/main-tables>

2.1.3. Industry

Regarding the industries present in the sample, based on the NACE classification²⁸, ten different classifications were used to describe the economic activity of each organisation. The *Manufacturing* industry is very well represented with about 86.4 percent of the organisations active in that specific industry. Then come two services-based sectors: *Information and communication* and the *Financial and insurance* sector, with a small 4.8 and 3.6 percent, respectively. The other sectors are representing a small margin of the sample with *Whole sale and retail trade*, *Mining and quarrying*, *Administrative and support service*, *Agriculture, forestry and fishing*, *Construction*, *Transportation and storage*, and *Professional, scientific and technological activities*, with each time around one percent in share.

Now looking at the European figures, the situation is completely different. There is no single sector that represents the European economy like *Manufacturing* did in the sample. The distribution is more balanced with three main sectors, namely *Wholesale and retail* (26.4 %), *Professional, scientific and technological activities* (18.6 %), and *Construction* (14.5%).

²⁸ From the French, “*Nomenclature statistique des activités économiques dans la Communauté européenne*”, or “Statistical classification of economic activities in the European Community” in English.

Manufacturing is – only – ranked fourth with 8.9 percent of the European economy. Other important sectors in the European economy are not present in the sample such as *Accommodation and food* (8.2 %) and *Real estate* (5.6%).

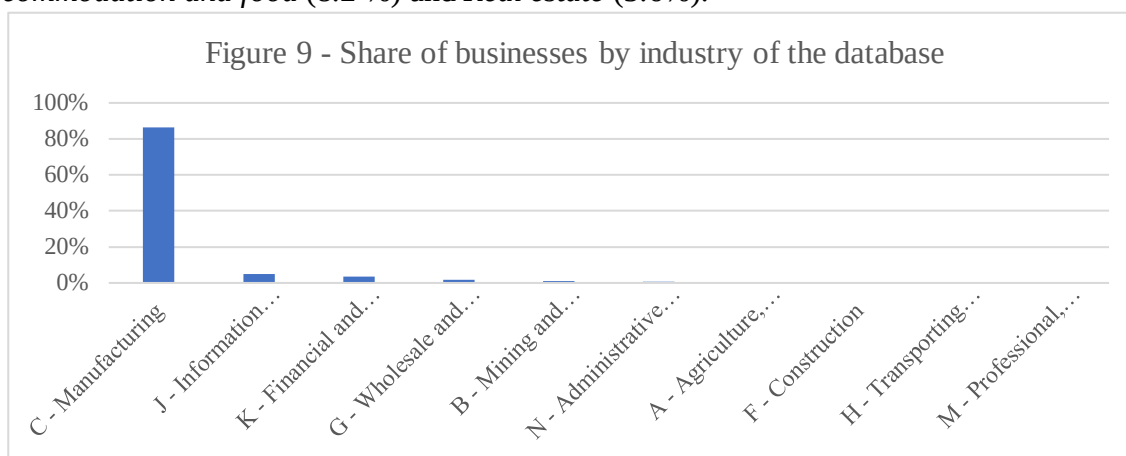


Figure 9 - Share of businesses by industry, from the database. Source: Eurofound, 2019 (www.resourcing.eurofound.europa.eu)

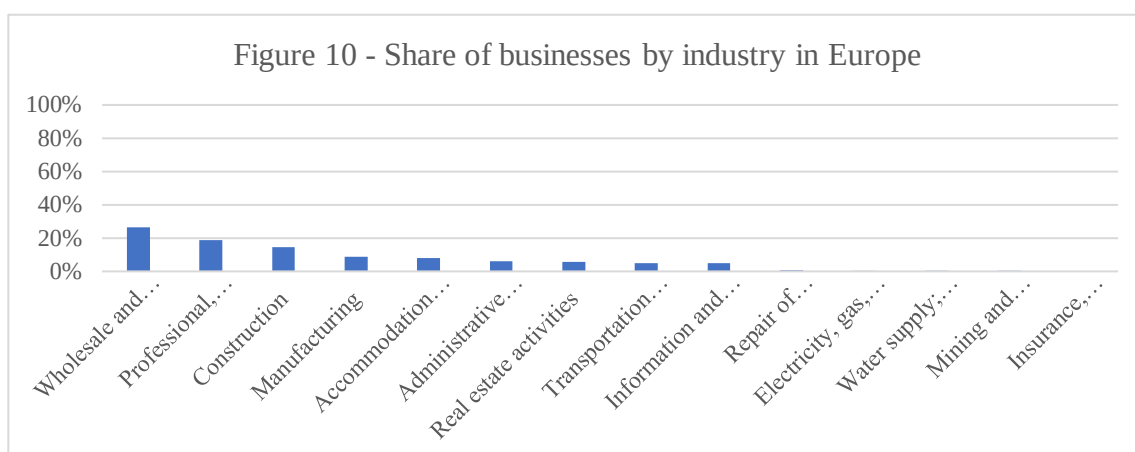


Figure 10 - Share of businesses by industry in Europe; n=23,500,328. Source: Eurostat - Annual detailed enterprise statistics for services (NACE Rev. 2 H-N and S95) [sbs_na_1a_se_r2] and Annual enterprise statistics for special aggregates of activities (NACE Rev. 2) [sbs_na_sca_r2]. Retrieved from: <https://ec.europa.eu/eurostat/web/structural-business-statistics/data/main-tables>

Section 2.2. Re-location results

Once the context of the sample has been explained through the companies' country, their size, and their industry, the focus can now be shifted to the essential – and more interesting – part of this paper, the results about the re-location of those cases.

2.2.1. Period

When analysing the distribution of the *announcement dates* by year, two main reflection jump out. The first one concerns the cumulative number where a trend occurs of the popularity of re-location. The number of cases increases over the years, especially in 2016 and 2017. With

an average growth of 26.34 percent over the 5 years and a 30.43 percent increase between 2014 and 2018, the number of cases has been raising over the years. Then comes 2018, where the number drops with 26.34 percent. The second one concerns the number of cases in 2018 where a drop can be noticed; from 74 in 2017, to 2018. Even if no explanation was given in the Eurofound report, suggesting that all the re-locations from that were not notified, seems a good guess. However, it should be interesting to keep track of that number to see if a possible backward effect is not occurring.

2.2.2. Offshored to

Looking at the popular destinations for relocations, the popularity of Asian countries is noticeable, with China as main destination with 76 cases out of the 250 (30.4 percent). The second place comes to another Asian country India (6.0 percent), while third and fourth places come to Poland (6.0 %) and Germany (5.6 %). Interestingly, regarding the cases in China, 74 out of the 76 cases (97.4 %) concern the *Manufacturing* sector, thus a labour-intensive sector, while as a quick reminder, 86.4 percent of the sample are active in that sector. The two other sectors being *Information and communication* (1) and *Wholesale and retail* (1). Among the *Other* category, countries with two or less cases on their name; 22 countries are part of that category. In total, there are 48 different countries from which organisations decided to relocate in Europe.

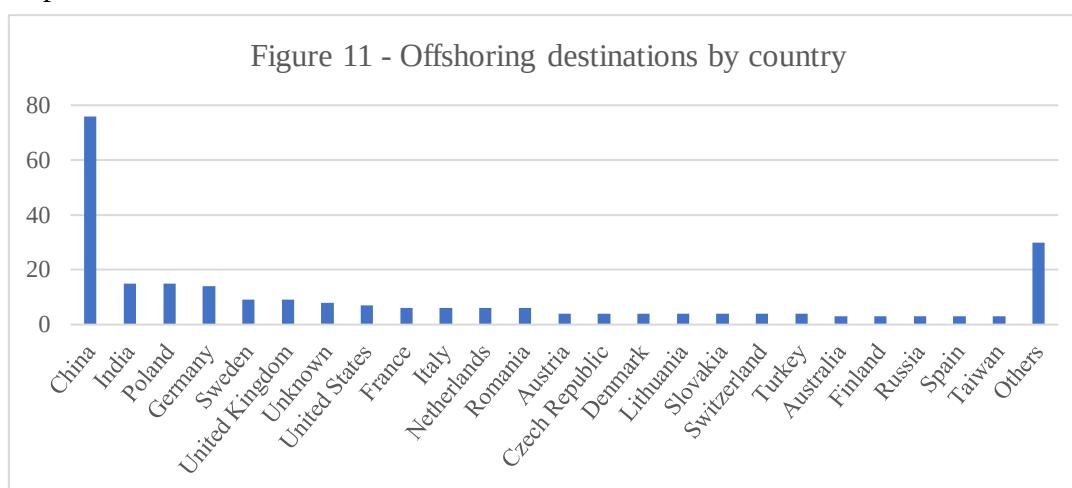


Figure 11 - Offshoring destinations by country. Others are countries with less than 2 cases: Belgium, Bulgaria, Canada, Ireland, Serbia, Tunisia, Vietnam, Bangladesh, Cyprus, Estonia, Japan, Latvia, Malta, Mexico, Moldova, Morocco, Norway, Singapore, Slovenia, South Africa, Thailand, and Ukraine.

2.2.3. Types of re-locations

While looking at the type of re-location, that were introduced in Part I (see Figure 12), the popularity of *in-house re-location* is significant. With 199 cases, it is the most common

type of re-location, while *outsourced re-location* and *re-located outsourcing* form, together²⁹, the last 22 cases (29 cases did not have the information about the type of re-location). The absence of *domestic re-location* is logic because of the nature of the data base that did not looked for those types of movements. Out of those 199 cases, 112 are large companies (56.3 %) , 55 medium-sized (27.6 %), 27 small-sized (13.6 %), and 3 are micro companies (1.5 %) (2 cases do not have data (1.0 %)); those are seemingly the shares that were present in the sample. The numbers are also similar for the other types of relocations (i.e. Large: 45%, Medium: 23%, Small: 18%, Micro 5%, n/a : 9%). Concerning the industry of those 199 cases, they are in the same trends as for the 250 cases, no industry is over- or underrepresented among those cases. To assume that the size of the company does not matter for the type of re-location seems a reasonable idea.

Figure 12 – Firm's strategies of re-location

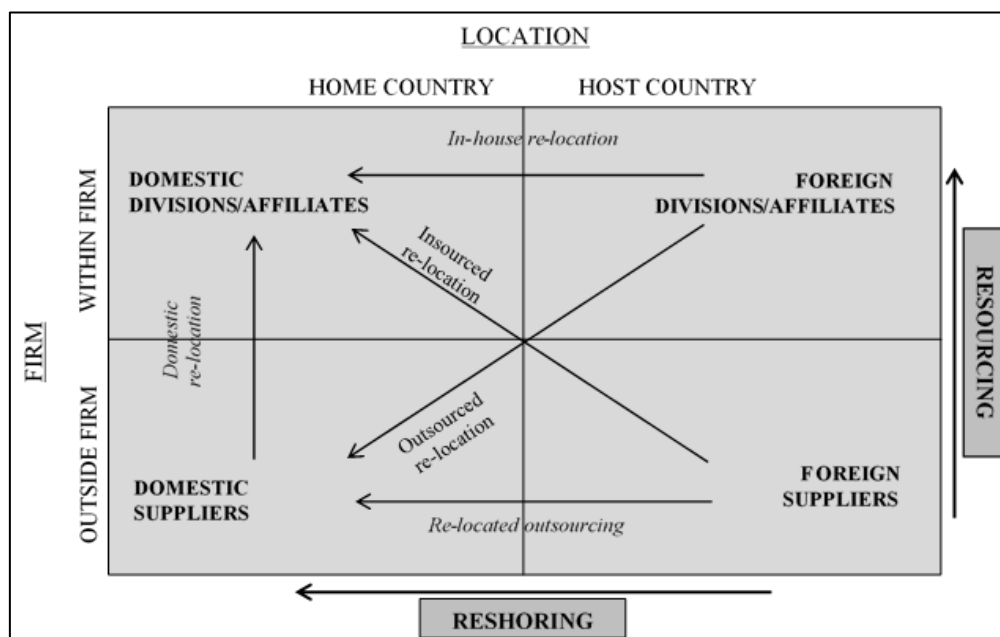


Figure 12 - Firm's strategies of re-location (based on De Backer et al. (2016) and Gray et al. (2013). p. 28.)

2.2.4. Reshored to

Concerning the destinations of the re-locations, to show the different countries with their number of re-locations towards them would not be useful. The figure strongly looks like the figure of the company countries (see Section 2.1.1 Company country). However, it should be useful to compare both data to see if there is a certain form of correlation between them. The fact is that there is a link. Out of the 250 cases, 232 cases concerned companies that decided

²⁹ The database does not do the difference between both types of re-location.

to re-locate in their company country (92.8 percent) and 18 decided to re-locate in another country (7.2 percent). Among those 18 cases, the three cases concerning extra-European countries can be retrieved; meaning that the percentage of European countries re-locating in their own country grows to 93.9 percent. The next section will explain the importance of those numbers with the context of distance and with the angle of attacking the global re-locating phenomenon.

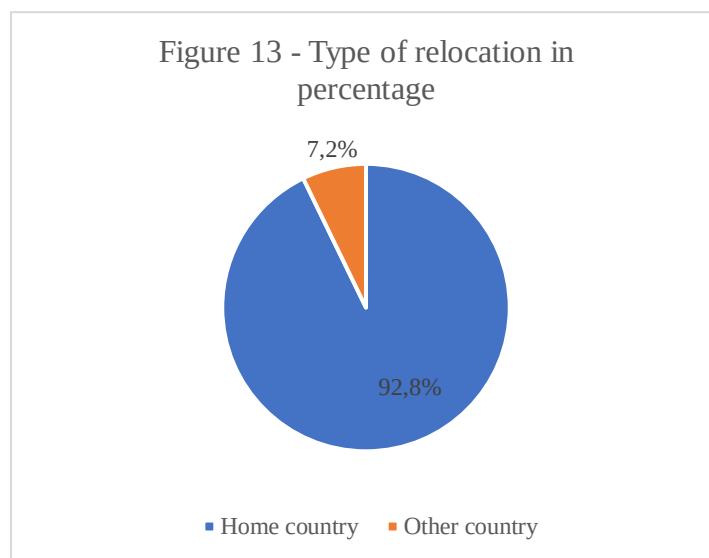


Figure 13 - Type of relocation in percentage. Source: Eurofound, 2019 (www.reshoring.eurofound.europa.eu)

Section 2.3. Results concerning the 18 cases – *Group of 18*

The fact that more than 9 cases out of 10 concerned companies that decided to backshore, strongly influences the approach that will be used. In order to compare the impact of distance on the re-location decision, the first methodology as described in *Section 1.4 Research method* cannot be applied anymore. Companies that re-locate in their company country will have an inexistent distance between their company country and their reshored country because it is the same country. Therefore, their re-location distance³⁰ will be the distance between the company country and the offshored country. Those distances would strongly bias the results obtained through the methodology that was initially planned. A stronger analysis on the qualitative side of the methodology will be done in order to compensate this disruptiveness. Sometimes, a comparison will be done with the other cases, that decided to

³⁰ Δ distance from company country to offshored country, with distance from company country to reshored country

re-locate in their company country, to see what differences there are between both groups. Nevertheless, the main analysis will remain on those 18 cases (hereafter “Group of 18”), even though new data, through new tests on those other cases will occur in this section also.

Table 4 – List of 18 cases without backshoring					
Name	Company country	Number of employees	Sector	Offshored to	Reshored to
ABB	Switzerland	140400	Manufacturing	United States	Italy
ABB (E)	Switzerland	140400	Manufacturing	United States	Estonia
BSH	Germany	61856	Manufacturing	Australia	Poland
Carggo	United States	60	Information and communication	Russia	Lithuania
Credit Suisse	Switzerland	46840	Financial and insurance	Russia	United Kingdom
Custom	Italy	300	Manufacturing	China	Romania
EE (Ireland)	United Kingdom	15000	Information and communication	India	Ireland
Electrolux	Sweden	59481	Manufacturing	Australia	Poland
Glunz & Jensen	Denmark	200	Manufacturing	China	Slovakia
Jabil	United States	177000	Manufacturing	China	Poland
Jysk	Denmark	18500	Manufacturing	China	Poland
Mango (IT)	Spain	8600	Manufacturing	India	Italy
Marklin (Hungary)	Germany	980	Manufacturing	China	Hungary
Neuman Aluminium	Austria	2400	Manufacturing	China	Norway
Orbea	Spain	280	Manufacturing	China	Portugal
Pegatron	Taiwan	177950	Manufacturing	China	Czech Republic
Sennheiser	Germany	2183	Manufacturing	China	Romania
SWEP SL	Sweden	800	Manufacturing	Switzerland	Slovakia

Table 4 - List of cases without backshoring. Source: Eurofound, 2019 (www.reshoring.eurofound.europa.eu)

2.3.1. *Global results*

To better understand the decision location those companies made this section will apply an in-depth analysis of those cases and companies. Those analysis will help to create a profile of those companies that preferred – against the more common decision to re-locate in their company country – to re-locate in another European country. For a better – visual – understanding of the situation, the figures can be retrieved in the Appendix (from *Figure A.5* to *Figure A.11*).

Regarding the *size* of the companies, all the cases except 2 are large companies. The two other companies are medium-sized ones with the smallest employing 60 people and the other 200. No company had fewer than 60 employees. Regarding the *sector*, the *Manufacturing* sector is still the most represented industry with 15 companies active in that environment while there were 2 cases concerning *Information and communication* businesses and a single case concerning a *Financial and insurance* company. Concerning the *nationality* of those companies no single country overperforms neither underperforms. Ten different nationalities are present. However, on the 44 cases that concerned English companies, only one decided not to re-locate in the United Kingdom. Similarly, only a single Italian company re-located outside its own borders – on the 39 cases concerning the country. On the other side, Switzerland had four cases and three of them re-located elsewhere than in the Alpine country. Beside the company countries, differences also occur in the offshored and reshored countries. Concerning the *offshored countries*, China's dominance remains with half of the cases, no other country had a significant change. Regarding the *reshored countries*, Poland was able to distinguish itself by being the most popular country among the others, doubling the number of the second place with four countries. The repartition between the other countries is about of equal, however, the presence of the Baltic States and Eastern- and Central Europe (such as Romania, Slovakia, Czechia, and others) is noticeable, because they were not the major actors elsewhere.

2.3.2. *Connectedness*

Looking at the database through the Connectedness Index, it is noticeable that a lot of the countries are among the most connected countries in the world. This is mainly the case of a lot of European countries. Eight countries of the ten most connected of the DHL Connectedness Index are from Europe, seven are from the EU, and, in the top 20, sixteen are from Europe. The “least” connected European country is Romania with a decent 64th place. For more details, the full ranking can be retrieved in the on DHL's website.

If we look at each country's doing backshoring – the 232 cases, out of the 23 countries present, six countries are in the top 10 of the most connected countries (37.1% of the cases), three countries are in the top 20 (30.6% of the cases), and 10 countries are over the top 20 (32.3% of the cases). Those repartitions are close to each other, where each classification represents about a third of the cases. On the other hand, while looking at the other 18 cases, the situation is completely different. Out of the ten different nationalities of the organisations, four are in the top 10, two in the top 20 and the last four are outside the top 20. If we exclude the three extra-European cases from the sample, it reduces the number of countries outside the top 20 to two. On a case by case basis, the influence of the well-connected European members is even more significant. Figure A.11 (Appendix) shows how the distribution then occurs. Half of the cases concern a country in the top 10 (50.0%); a sixth, a country in the top 20 (16.7%); and a third a country outside the top 20 (33.3%).

Regarding the ranking in connectedness of offshoring decision of the Group of 18 (available in the Appendix, Table A.12), another major observation is the deterioration of that connectedness. Only a single case will improve the connectedness with the relocating in a more connected country (Swep, from Sweden to Switzerland). The improvement is relatively small (+ 10 ranks) in comparison with the diminishment of the other 17 cases. The worst move has been done by EE Limited that relocated a part of their call services in India, decreasing the ranking of their business unit by 65 ranks. Looking at the average and median of the cases, those are around 38, which is significant. This is mainly the cause of the number of relocations that happened towards China, that is ranked 61st, considerably increasing the distance between company country and offshored country.

While looking at the ranking of the reshored country, the rankings are already globally better, thanks to the fact that those countries are from Europe and thanks to the decent ranking of European countries. Three cases concern organisations that, by re-locating, improved the ranking of their location in comparison with their company country (i.e. Pegatron (+10), Neuman Aluminium (+8), and EE Limited (+3)). The other 15 cases all decreased their connectedness, the worst being Sennheiser re-locating in the least connected European country, Romania. However, the average and median drops with 20 ranks and the re-located countries' ranks are now around 18. Globally, the re-located countries are better connected than the offshored countries.

Most interesting indicator is the connection improvement/decline. Out of the 18 cases, 5 cases concerned countries that decreased their connectedness by reshoring. The worst case is Swep that offshored to Switzerland while reshoring in Slovakia thereafter (decline of 38 ranks). However, the four other cases lost three ranks of connectedness. Regarding the improvement, the numbers are more significant with six cases over the 40 ranks improvement. The mean and median are this time concentrated around 21, meaning that those companies will, by average gain 21 places on the Connectedness Index when re-locating.

2.3.3. CAGE Distance

Looking at the database using the CAGE framework, things also become pertinent (for a more visual understanding it is useful to read this part with Table A.13 in the Appendix).

Offshored countries

Interestingly, most of the countries are active in industries that have a smaller CAGE distance. The difference between, “real”, geographic distance, and between the average of both *Exports* and *Imports*, is always bigger at the *Industry specific* side (see formula); meaning that their industries have a better distance relation (lower distance), than the global international trade in *Merchandise* or *Services*. Regarding the offshored destination country, the organisations will even increase their Cage distance in comparison with the actual geographic distance (average increase : 1770 km, median increase : 973 km). Therefore, in order to avoid more complexifications of the data, this section will consider the *Industry specific* distance as more reliable in the context of this research.

$[\text{Geographic distance}] - \text{Avg}([\text{Industry specific export distance}] + [\text{Industry specific import distance}])$	$>$	$[\text{Geographic distance}] - \text{Avg}([\text{Trade export distance}] + [\text{Trade import distance}])$
--	-----	--

While doing a more in-depth analysis of the difference in distance between the geographic distance and the Cage distance of the offshored countries, the observation was done that eight home countries increased their perceived distance with their host country, by offshoring. This represents about half of all the cases. Five cases made a significant improvement in their distance: Swep (Sweden to Switzerland), ABB 1 & 2 (from Switzerland to the United States), Pegatron (from Taiwan to China), and EE Ltd. (from the United Kingdom

to India). Those five cases got all very strong indicators³¹ than can retrieved in Table 5. However, at the other end of the table, the companies that increased their distance by offshoring, those host countries are performing poor on each indicator. With BSH as the worst case that offshored from Germany to Australia, making the Cage distance bigger than the geographic distance by 2.882 km. In the electrical and electronical equipment sector (BSH's sector), the indicators that play an important role in the reduction of distance following the Cage framework are indicators were Australia performs badly from the German point of view (i.e. Common official language, colonial linkage, and physical distance). In fact, Germany has very few indicators that helps decreasing the distance with Australia.

Table 5 - Cases with strong indicators (offshoring)				
Name	From	To	Improvement	Main Indicators
Swep	Sweden	Switzerland	1.143 km	- Trade agreement - Physical distance - GDP per capita
ABB 1	Switzerland	United States	3.575 km	- GDP per capita - Trade agreement
ABB 2	Switzerland	United States	2.567	- GDP per capita - Trade agreement
Pegatron	Taiwan	China	1.331	- Colonial linkage - Official Language - Physical distance - Trade agreement - GDP per capita
EE Ltd.	United Kingdom	India	3.307	- Colonial linkage - Trade agreement - Official Language

Table 5 - Cases with strong indicators (offshoring). Source: Eurofound, 2019 (www.reshoring.eurofound.europa.eu)

Reshored/re-located countries

Focusing on the reshored countries, the differences between industry specific distance and global trade distances between countries are not similar to that of the offshored countries. Twelve out of the eighteen countries have a worse industry specific than a global trade distance

³¹ The six indicators that influence the distance are: Common Official Language, Colonial linkage, Any trade agreement, Physical distance, Common border, GDP per capita ratio, and Product of GDPs. For a more detailed description of those indicator, please refer to sections 1.4 Research Method and 1.3.1 Cage Framework

(66.7%). If we take the three cases concerning an extra-European company country out (or geographic distance > 1.000 km), the percentage climbs to 80 percent. However, the reduction of the distances is still very important using the Cage comparator. With distances averaging a 66.5% reduction of their geographic distance, with some cases reducing this distance proportion to a single digit, in comparison with their original geographic distance (i.e. BSH from 698 km to 23 km (3.3%), and ABB from 610 km to 53.5 km (8.8%)). In comparison, for the offshored countries, the average reduction was 13.6%. Nevertheless, to remain consistent with the previous section the report will be done on the industry specific distance.

A single company increased their distance with the new country, Carggo (American company that reshored to Lithuania), that increased its distance with 1.774 km (+22.0%). Beside this increase, all others decreased with two thirds of the cases reducing it to less than 25 percent of the initial geographic distance and five of them went under the 15 percent. Alongside with BSH and ABB, as mentioned hereabove, Neuman, EE Ltd., and Jysk also achieved this. All the indicators matter, even if some such as *Common border*, *Physical distance*, and *official language* will have a stronger impact. Most of the cases will have four indicators, while other five, meaning that they are similar, and thus very close, on a various number of things³². At the bottom of the table are Credit Suisse (96.7% of initial distance), and Carggo. The fact that a Swiss banking company is that low, may be explained by the secrecy that is linked with the sector. Ghemawat's Cage model does not work well, and three indicators out of the six have a p-value > 0.1 (OLS), the only analysed industry to have so. Carggo on its side have no major indicator that is prominent, only the trade agreements that exist between the United States and Lithuania play role and performs badly because of that.

Table 6 - Cases with strong and weak indicators (re-locating)				
Name	Company country	Reshored to	Improvement	Main Indicators
BSH	Germany	Poland	675 km	- Common border - Physical distance - Trade agreement - GDP per capita
ABB	Switzerland	Italy	556,5 km	- Common border - Official Language - Physical distance - GDP per capita

³² The indicator *Colonial linkage* was not chosen because even if every country in Europe has, at one time of its history, being conquered by another country, the term *colonial* cannot be used.

				- Trade agreement
Neuman	Austria	Norway	1301 km	- Physical distance - GDP per capita - Trade agreement
EE Ltd.	United Kingdom	Ireland	366 km	- Common border - Official Language - Physical distance - Trade agreement - GDP per capita
Jysk	Denmark	Poland	602,5 km	- Physical distance - Trade agreement - Official Language - GDP per capita
.				
Credit Suisse	Switzerland	United Kingdom	869 km	- Physical distance - Trade agreement - GDP per capita
Carggo	United States	Lithuania	9837 km	- Trade agreement

Table 6 - Cases with strong and weak indicators (re-locating). Source: Eurofound, 2019 (www.reshoring.eurofound.europa.eu)

Re-location process

Finally, looking at the re-location process (coming from an offshore country and redefine a company's location in a closer country), seventeen cases improved their Cage distance. Only Pegatron increased it by 5.721 km (Taiwanese company that offshored to China and re-located to Czechia). The company making the best move is BSH, being able to decrease its Cage distance by 18.794 km (German company that offshored to Australia and re-located in Poland). The rest of the results can be retrieved in Table 7.

Table 7 – List of 18 cases with their distance reduction results					
Name	Company country	Offshored to	Reshored to	Final reduction	Final % reduction
Orbea	Spain	China	Portugal	10,867 km	-99.03%
Electrolux	Sweden	Australia	Poland	15,565 km	-99.11%
BSH	Germany	Australia	Poland	18,794 km	-99.88%
EE	United Kingdom	India	Ireland	3,958 km	-98.53%

Jysk	Denmark	China	Poland	7,315 km	-98.66%
ABB	Switzerland	United States	Italy	4,107 km	-98.71%
Glunz & Jensen	Denmark	China	Slovakia	6,986 km	-97.75%
Neuman Aluminium	Austria	China	Norway	6,995 km	-97.78%
Custom	Italy	China	Romania	7,912 km	-97.83%
Sennheiser	Germany	China	Romania	7,843 km	-96.12%
Mango	Spain	India	Italy	9,063 km	-96.17%
Marklin	Germany	China	Hungary	7,840 km	-96.39%
ABB (E)	Switzerland	United States	Estonia	4,736 km	-91.63%
Credit Suisse	Switzerland	Russia	United Kingdom	1,777 km	-67.16%
Jabil	United States	China	Poland	5,808 km	-45.64%
Swep	Sweden	Switzerland	Slovakia	39 km	-13.81%
Carggo	United States	Russia	Lithuania	157 km	-1.57%
Pegatron	Taiwan	China	Czechia	-5.721 km	3586.24%

Table 7 - List of 18 cases with their distance reduction results. Ranked from worst to best. Source: Eurofound, 2019 (www.reshoring.eurofound.europa.eu)

Considering the percentage increase/decrease of distance the results are significant. With, again, Pegatron, that is the only positive case, and where the distance increased by 3.586,24 % (from 160 km to 5.881 km). The other seventeen cases have been able to strongly decrease that distance. Thirteen of them decreased that distance with more than 90 percent, with three organisations exceeding the 99 percent reduction and a global mean of 82.10 percent.

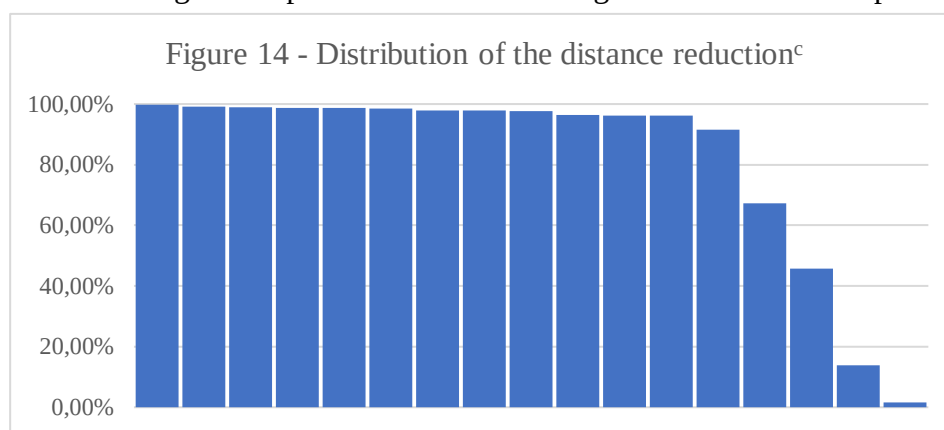


Figure 14 - Distribution of the distance reduction. (c) without Pegatron. Eurofound, 2019 (www.reshoring.eurofound.europa.eu)

2.3.4. Motives to re-locate and distance

Adding the motives to re-locate to the database adds a new perspective to handle the topic. By looking at what the organisations declared to be the reasons for their decision³³, similarities could emerge, and trends could be described. To properly compare the motives, the press releases, and the explanations of the organisations, were read in depth, while the motives, stated by Eurofound were also compared. The goal of this was to make a consistent base with the main motives that Kinkel observed in his 2009, 2012, and 2015 researches. Comparing this to Kinkel's classification, in Figure 15, the results are quite different. The absence of major motives such as *quality*, *capacity utilisation* and *transport costs* could suggest some trends. However, it is more likely that the concerned businesses answer differently to a confidential survey than to a public press release. For example, to suggest that it is for quality reasons, could mean that the organisation claims that the quality was low prior to the re-location process. Furthermore, it is also understandable that companies do not want to develop all of their reasons in a public release, because specific information could be classified (e.g. a major technological improvement, intern coordination problems with the subsidiary, information about the cost structure).

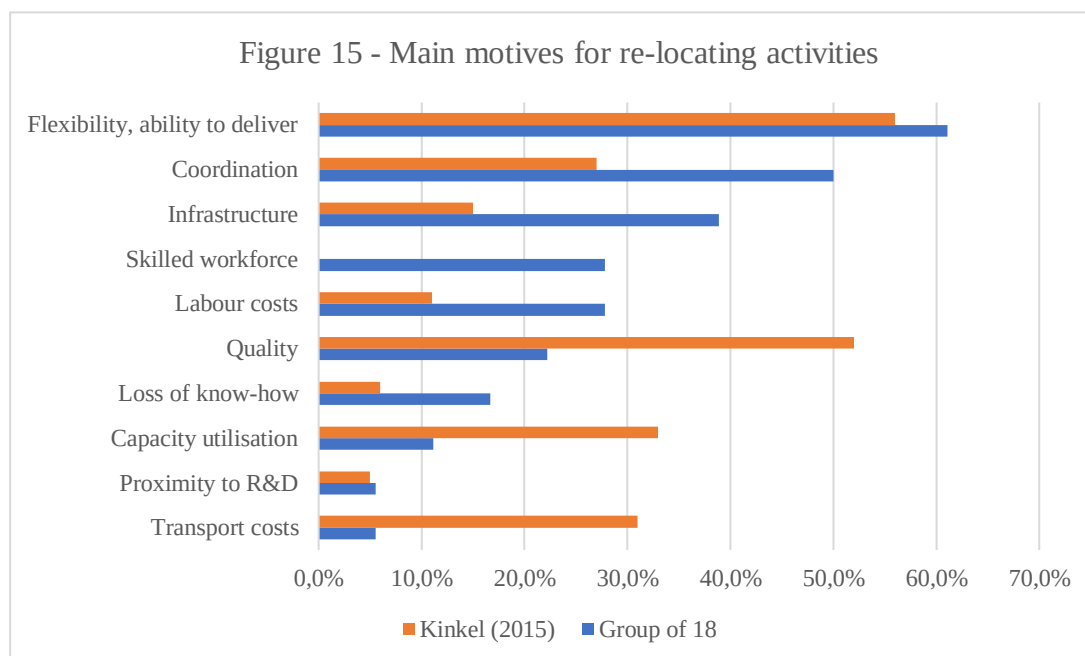


Figure 15 - Main motives for re-locating activities. Source Kinkel (2015) and Eurofound (2019) (reworked)

³³ To talk properly about the reasons they “declared” as motives, is quite complex because no empirical analysis was done on asking directly to the management of those companies. The reasons are often deduced by Eurofound by reading the press releases and other declarations. Please refer to Chapter 1 Methodology for further information.

Comparing the importance of the indicators with the indicators used to describe global trade, some similarities between the cases can be noticed. So is it that companies that gave a *flexibility* or *coordination* motive are more often active in common language sensitive industries. Companies that operate in colonial linked sensitive industries will commonly relocate because of *coordination*, *infrastructure*, *flexibility* and *ability to deliver*, or *labour costs* related motives. Regarding the industries sensitive to the presence of trade agreements, no company was active in such an industry; all were very insensitive to that indicator. For the physical distance indicator, it was the industries claiming a lack of *infrastructure*, *skilled workforce*, and *labour costs gap*, that were the most insensitive to that. The other geographic distance indicator, the common border indicator, no case was active in an industry that was sensitive to that indicator, being all active in insensitive industries. Finally, five motives came back in GDP per capita insensitive industries: *flexibility*, *quality*, *coordination*, *infrastructure*, and *labour costs*.

Those sensitivity table could allow the better comprehension of an internal problem in a company. There are 2 dimensions to look at the table. A first look will allow the reader to see if the majority of the cases is sensitive or insensitive to a specific indicator. The darker a cell is, the more (in)sensitivity it is. A second look gives the reader the most sensitive motives to that specific indicator, ranked from most (in)sensitive to least.

Table 8 - Sensitivity of the motives in relation with the CAGE indicators for the 18 cases		
Indicator	Motive	
	Sensitive	Insensitive
<i>Common language</i>	- Flexibility and ability to deliver - Coordination	
<i>Colonial link</i>	- Coordination - Infrastructure - Labour costs - Flexibility and ability to deliver	
<i>Trade agreement</i>		<i>All motives</i>
<i>Physical distance</i>		- Skilled workforce - Labour costs - Infrastructure

<i>Common border</i>		<i>All motives</i>
<i>GDP per capita</i>		- Flexibility and ability to deliver - Quality - Coordination - Infrastructure - Labour costs

Table 8 - Sensitivity of the motives in relation with the CAGE indicators for the 18 cases

Chapter 3. CONCLUSIONS

Emphasising the different empirical evidences, different conclusions can be drawn, each concerning a specific aspect of the figures pointed out in the researches.

Section 3.1. Re-locating companies

The key figure of the first part of the empirical analysis is without doubt the percentage of companies re-locating in their home country. More than nine cases out of ten concern firms that were active in backshoring, directly confirming the first and second hypotheses. Companies that re-locate in their home country got an inexistent distance between the company country and their reshored country, meaning they are clearly reducing the perceived distance (H1), and choosing the country with the smallest perceived distance (H2). Furthermore, a majority of the cases concern companies in well-connected countries (in Top 20 of the Connectedness Index).

Still regarding the nationality of the businesses, the proportion of very connected countries among the backshoring cases is an important factor. The ease some countries could have to connect with others could help them to have a bigger propensity not to re-locate in their home country. They will care less about the future distance and the impact of a nil distance will dampen the more their country is well ranked, and thus, well connected.

Other aspect of the database can also be described with a bigger share of the backshoring cases being small businesses (< 50 employees), while the cases concerning nearshoring were about bigger industries. This can be explained by the absence of international presence in those smaller businesses while the probability of bigger businesses to already have an abroad - but close – subsidiary is bigger. Internal business distance may thus play a role in the re-location decision. However, out of the proportion of large-sized companies among the

sample, a strong majority of them still preferred to re-locate in their home country rather than in another one.

Section 3.2. Group of 18, not backshoring companies

The more in-depth analysis of the 18 non-backshoring cases gave another group of interesting results.

- (1) Firstly, the industry specific distance had a bigger importance than the global distance. This data can be the result of a form of lesser impact of the distance factor for specific industries that can increase the propensity to re-locate. Industries that are more impacted by the distance factor will be completely absent among those 18 cases.
- (2) Secondly, global tendencies among the cases have been underlined, where the concerned cases were mostly present in specific distance sensitive or unsensitive industries. Businesses' sensitivity or unsensitivity for specific indicators impacts their propensity to re-locate. Common traits among industries allow them to decide if the re-location decision is supported by the Cage framework (H4).
- (3) Thirdly, the idea that businesses active in distance sensitive industries, that did not notice it when offshoring, and that had more reasons to re-locate, is absent. Businesses that re-locate do not have common traits about the sensitivity of their industry, as pointed out in the previous paragraph (H4).
- (4) Fourthly, Europe's atypical geography and diplomacy, that is characterised by a lot of important economies close to each other with a lot of historical, religious, cultural, administrative backgrounds, and nowadays strong diplomatic links, facilitate nearshoring and backshoring. Between certain states, Cairncross claim that distance is dead is almost proven; however, it still exists.

Section 3.3. Industry specific Profiles

Table 9 - Profile of the surveyed companies by category and type of re-location			
		Home country re-location	Other country re-location
	Specifications		
Global traits	Size	All sizes, more common among large companies	Mainly large companies
	Industry	Mainly manufacturing	Mainly manufacturing
	Company country	Good representation of the European economy	Few English and Italian companies Good representation of Switzerland, Denmark, and Germany
	Offshored to	Many Asian countries	Overrepresentation of China
	Reshored to	Mainly home country, no remark	European countries with a low income per capita are popular.
Connectedness	Ranking home country	Stable repartition between Top 10, 20, and outside of them	Overrepresentation of the Top 10 and Top 20
	Ranking offshore country	Bad ranking, very little connectedness	The overrepresentation of China influences the rankings
	Re-location country	/	Very connected country. Not more connected than home country.
	Remarks	/	Countries with a good connectedness tend to have more opportunities to re-locate in another country
Cage distance		/	Industry specific distances are smaller than the trade average

Table 9 - Profile of the surveyed companies by category and type of re-location

Section 3.4. Verifications of the hypotheses

As quick reminder, the different research questions and their hypotheses will be repeated hereafter.

Research question 1 (RQ1) - *Do companies that re-locate, reduce the perceived distance (Cage distance) between the re-located activity and the home country?*

Hypothesis 1 (H1) – Ghemawat already pointed out that distance still matters in international business (Ghemawat, 2011). Considering the dimensions of the Cage framework and the nature of the firms re-locating, the probability is high that firms reduce their perceived distance. Furthermore, the Cage framework, measuring the similarities between the countries, will strongly reduce the distance between European with similar backgrounds such as the European countries.

Research Question 2 (RQ2) - *Do companies re-locate in the country with the smallest perceived distance (Cage distance)?*

Hypothesis 2 (H2) – Errors in the appreciation of “hidden” aspect of the location decision have already been proved by Pisano & Shih (2009), where countries would overestimate the cost benefits from a relocation (see Part I, Chapter 2). A part of the distance between two countries is also “hidden”, and a misrepresentation of the distance could also appear during the re-location process. However, the presence of an already existing plant or subsidiary in a country will strongly impact the re-locating decision and the distance a firm has with that country.

Research Question 3 (RQ3) - *Do industries that are less sensitive to distance, re-locate less?*

Each industry has its own perception of distance, being strongly or weakly sensitive to distance. Ghemawat talked about it in his *Laws of Globalization* (2017), explaining that for example that the book industry is very sensitive to the presence of a common language (through the multiplier of distance).

Research Question 4 (RQ4) - *Do the specific dimensions of the CAGE distance framework have an impact on a specific motive for re-locating?*

Hypothesis 4 (H4) – Because this question partially depends on RQ3, the hypothesis of this question partially relies on the verification of the previous hypothesis. If a

dependency exists between “highly” sensitive industries and re-location, then it could be explained by a Cage-dimension. If no dependency exists, no dimension could explain this.

Out of the different parts of the conclusion, two out of the four hypotheses can be verified, while two remains only partially answered. The two verified hypotheses are H1 and H2, with the observation that the majority of the cases concerns companies returning to their home country, implicitly making the distance to disappear.

In a second time, applying those hypotheses on the other 18 cases, a clear reduction of perceived distance jumped out, this reduction often being very significant (H1). However, H2 was mostly unverified, organisations not choosing the closest country as destination as mentioned in that hypothesis, but, nevertheless, choosing a relatively close country. This could be explained by the presence of unmeasured distance reduction at a macro level, but that could be described at a micro level, and often embodied by the presence of an existing plant, subsidiary, or known supplier in the chosen country. The last two hypotheses had a stronger link with the 18 cases and were verified on those cases. While for H3, it was verified that the industries had no propensity to be rather sensitive or insensitive for those cases, the results are not distinct and, therefore, a general reliable classification has proven to be impossible. For H4, the lack of varieties among the motives present did not allow a complete and reliable analysis, however, common trends have been spotted among a couple of those motives.

Part III: Discussion

The fact that distance matters in international trade is not new, however, the fact that it still matters that much, is interesting. Many entrepreneurs, that made the important decision to continue an activity in a closer country, supported their sayings by mentioning the flexibility factor as main motive. This flexibility is continuously under strong pressure by keeping certain part of an activity at several thousands of kilometres from the home country. This can be for many reasons such as the coordination costs, the loss in information quality and quantity, but what came back the majority of the time was the distance with the customers. In nowadays economy, the customer is used to order what he wants and to personalise it as he wishes (The Economist, 2019). Furthermore, a worldwide trend of governments promoting local products on one side for environmental reasons, but also for economic reasons, pushes global companies to become more local, or *glocal* (Bonchoux, 2020).

Distance will continue to matter in the future economy and in the future of the location decision of companies. The world where any organisation would choose arbitrarily where it settles, produces, makes researches, and others, will not happen any time soon. Distance will always be a cost for companies (i.e. financial or time consuming), but in certain circumstances, that costs will be lower than the profit and relocation will occur. Furthermore, the location decision takes place mostly among medium or large sized organisations while it does not appear for small and micro sized organisations that represent the big majority of businesses. Those smaller businesses often go further using their small and local structure as a differentiation point with MNOs. Even if this paper showed some premises of existing links between location decision and distance, an important blur remains. This part will discuss the different limitations that should be considered while reading the results.

Section 3.5. Limitations

Although the empirical analysis has been done to incorporate all the different aspects of the current economy, some aspects of the day-to-day life have been set aside. In a first time, the database has some breaches such as the scope, the quantity of firms or the period of time of the survey. In a second time, the frameworks used to analyse the database has also its defaults mainly because the concept of distance is a very broad concept and several scholars already tried the difficult task of putting a figure on that concept (e.g. Kogut and Singh, 1988). Even if this approach uses the newest and most relevant frameworks, some gaps still exist. And in a

last time, the methodology used from the combination of the data and the frameworks can still possess some lacks. Even if the author tried to minimise those disparities, it is still important to mention the existence of those – possible – differences there may exist between this analysis and the real international business world.

3.5.1. Regarding the database

Using a database from the European Commission seems to be the best option because of the neutrality and quality of the information. There are few conflicts of interest using such a database and the organisation has no interests of putting some information aside. However, some limitations should still be considered mainly because of the methodology used to collect the data. The first one is the *time period*, where it only covers three years. It is easily imaginable that a longer time period would be better and would cover more important trends that will not be covered by a smaller period. Nevertheless, it is important to note that this period do not cover any major economic event that could bias the results³⁴. This short time period also influences the *quantity of cases* identified. With 250 cases, trends can be influenced and what could appear as global tendency may not be that important. The database is far from the 1,500 cases Kinkel was able to identify in his different surveys (2009, 2012, 2015). A last observation about the methodology would be the fact that they only focused on press releases and thus on media coverage. That means that if there was no media coverage about a re-location, the case would not be integrated to the database. Big re-locations will thus be easily added in the database while smaller companies doing a re-location will see their probability of being reported diminished. The chance that smaller re-location cases that have not been reported is thus considerable.

Regarding the data base, another factor concerning its collection should be kept in mind, namely the fact that the report has been done by a consortium of Italian university. Even though they are mentioning the fact that they tried to cover all the European Union, the assumption of a bias because of the locality of this consortium should not be put aside. The event that they overlooked some cases because of the Italian influence they had, is to be kept in mind (i.e. the focus on specific industries that have an important impact in the Italian economy, but a lesser importance on the European one).

³⁴ We can imagine that a period covering a recession will have lot more re-location cases in order to protect the home economy.

3.5.2. *Regarding the frameworks*

The two frameworks used to analyse the empirical data (i.e. CAGE framework and DHL Global Connectedness Index) were both developed by Pankaj Ghemawat, or with his help. Even though he is considered by many, as being one of the best regarding Globalisation and International Business, and more specifically, the relation of distance; the fact that this paper uses two frameworks developed by the same person can play a role in the angle this paper decided to use to tackle the topic. Furthermore, as well as for Kogut and Singh's formula to measure distance and Schwartz' framework to represent it, Ghemawat's CAGE framework and DHL Connectedness Index are not able to represent the concept of distance exactly, and therefore received similar critics. The existence of *institutional voids* is one of those critics. It was introduced by Carpenter and Dunung (2012) and refers to the absence of key specialised intermediaries in – emerging – markets, that could facilitate international business.

Beside the existing critics about the frameworks themselves, another major limit to the analysis of this report that have been made using them, is the absence of a time related variable. For the DHL Connectedness Index, it is a relative new concept that has been introduced in 2011; because of that an analysis of the variations between the offshored date and the reshored one is impossible. This is because the offshoring date are often prior to the creation of the Index, and because the data available from Eurofound is not complete about the offshoring date (only 13 cases matched both criteria). Variation in the rankings over time would have been a great trump to this research. It would have added a new, greater dimension to the work.

3.5.3. *Regarding the methodology*

For the methodology used during the paper, major limitations occurred. The most notable one is without doubt the little number of cases not concerning backshoring. The main objective of the research was to point the possible relation between distance and re-location decision out. However, even if the absence of distance in backshoring cases was known, the proportion of cases concerning backshoring was clearly underestimated. Because of this, only common trends based on percentages and similarities, could be expressed, while a deeper analysis with the expression of clear correlations based on linear regressions was impossible. This mix of quantitative and qualitative is a clear limit to the global quality of the research, neither type could have been done completely, allowing gaps to remain; and allowing the absence of global conclusions with strong reliability.

Section 3.6. Relevancies

3.6.1. *Scientific relevance*

The scientific relevancies of the research are various. Firstly, it is a completion of the location decision described by different scholars over the last century (e.g. Aharoni, Ellram). With scholars relating the decreasing importance of that decision, supported by others claiming the death of distance, it was a topic that needed to be tackled under a different angle. Furthermore, the increasing popularity of re-location initiatives taken because of government incentives, and the popularity of the topic also needed an academic analysis of the phenomenon. Secondly, it was a pioneering research, combining the concept of distance and the re-locating phenomenon; and this paper showed or supported three claims. In a first time, that the concept of distance, despite being common and easily to understand, has changed a lot over the last centuries. This implies that several decision makers may still have an outdated vision of the concept and will therefore focus on only a couple of dimensions of it. In a second time, the hype of the ‘made in effect’ and re-locations continue to grow and even if several papers already discussed the topic (e.g. Ettenson et al., 1988), the probability that businesses will follow the mood, is high; and thus the probability that businesses oversee possible risks or uncertainties will see its occurrence also increase. Lastly, the difficulty to link two separate concepts and simple concepts that are re-location and distance.

3.6.2. *Business relevance*

This paper’s business relevance occurs at different stages. Because of the micro and macro aspect of the research, businessmen, entrepreneurs, and senior partners can use it for their own benefit, as well as national and supranational organisations that want to have a better insight on re-location or on distance in their region.

Even if the role and importance of distance in this context has not been well described because of the different factors mentioned in the other parts of this paper, numerous similarities between the cases have been highlighted. Businesses with similar needs, industries, or issues to the cases, may find a solution in re-locating to a specific country reducing that distance. As was shown previously, the concerned industries have common traits in specific distance indicators. Businesses in other industries, but with similar distance issues and active in similar industries, or industries with similar sensitivity, may base their location decision on those ones. And may decide not to re-locate knowing that no other business with similar factors has done it before.

Furthermore, analysts may be able to predict re-location movements and the quality of those. Spotting specific issues in organisations and/or distance sensitivity may help them predicting needed relocations and re-locations. Forecasting those movements or the need to make them, could be very useful to predict business opportunities or threats.

Beside people from the business world, government may show interest in knowing their performance in international business and in the re-location decision. The ability of attracting companies to re-locate or locate in its region holds various benefits with it. Specific countries, mainly East- and Central-Europe, were able to develop their infrastructure to have the image of a reliable alternative for very popular offshoring destinations such as China or South-East Asia. Even if some indicators of the Cage framework cannot be modified, relying on intangible aspects, others are more flexible and can be adapted.

Section 3.7. Future researches

Despite being an unusual way to handle the re-location topic, and therefore being a sort of pioneer on the subject, this paper has shown numerous limitations that strongly impacts the quality of the results it would have been able to highlight.

The literature showed a distinct gap in its cover about the distance concept and the re-location decision, and more particularly to the motives of the latter. Firstly, a stronger database through an anonymous survey will have a better reliability because of the non-public aspect of the methodology. Press releases and newspapers can be easily manipulated to avoid stating the truth, because sometimes it hurts. A repetition of the analysis of distance on a secondary database could add a lot of quantitative results to the topic.

Furthermore, the presence of two-sided movements of re-locations (in Germany, for every third company offshoring, there is one that backshores (Kinkel, 2018), shows that organisations still do not know what the best location is for them. A qualitative research with an in-depth analysis of the re-location journey of company could be very interesting to see all the different levels at which distance could play a role.

AFTERWORD

Isabelle Méjeun's declaration that re-location was a false good idea is not true. The problem is that we cannot simply say that re-location is a good or bad idea. Yes, it is a bad idea, if politicians decide to encourage re-location in the aftermath of the Covid-19 situation as a reaction to the disastrous effects it had. Because by doing so, global economy will make several steps backwards and the centuries of international negotiations would be annihilated. On the other hand, countries cannot 100 percent rely on foreign supply for specific goods, especially if their relationship with that country is not strong.

Furthermore, the role of distance in international business is still substantial and it impacts an organisation's daily decisions. Businesses cannot ignore that factor yet and those who tried to ignore it when going for an international expansion, suffered a lot because of their disregard.

This topic still has a lot of room for improvement because both concepts, re-location and distance, are not completely grasped by scholars and are still studied. I would be pleased to know that I helped someone to better understand the topic or that for others, I awoke their curiosity on the topic.

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