

# CHAPTER 18

## CREATING A TYPOLOGY OF INTERNATIONAL ALLIANCES WITH CITY-LEVEL DISTANCE MEASURES

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### ABSTRACT

*This chapter describes how micro-locational factors affect international alliance formation. The authors focus specifically on the role of global cities, which are studied from a distance perspective. The authors argue that distances must be apprehended not at the country level but at the city level. The chapter is an attempt to provide a better understanding of the complex, multilevel factors that interact when firms select an alliance partner in a particular location. The authors take an explorative methodological approach through a configurational analysis of international alliances made by American companies in 2015. The main contribution is the proposition of a typology of micro-locational characteristics to help understand international alliance formation at a city level.*

**Keywords:** International alliance formation; location choice; partner location; micro-locational factor; global cities; distance measures

### INTRODUCTION

International strategic alliances (ISAs) have for decades been an important part of companies' internationalization strategies (Dunning, 1995). At present, they continue to be central strategic tools to access knowledge, resources, markets,

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or network positions (Fatehi & Choi, 2019). Still, it is argued that we have not yet uncovered all the determinants for ISAs formations (Nielsen, 2003, 2007). Until now, we find extensive literature on why and how companies chose to create ISAs (Agarwal, 1994; Brouthers, 2002; Dow & Larimo, 2009; Kogut & Singh, 1988; Zhou & Guillen, 2015). This is mostly done from an entry or governance mode perspective by studying the importance of country differences (Hennart & Slangen, 2015; Hitt, Tihanyi, Miller, & Connelly, 2006). In this context, country differences between the ISAs partners are considered to add complications such as extra coordination and monitoring costs (Beugelsdijk, McCann, & Mudambi, 2010; Cano-Kollmann, Cantwel, Hannigan, Mudambi, & Song, 2016; Tihanyi, Griffith, & Russell, 2005). Despite the rich knowledge about contextual factors in ISAs formation, few contributions have put into question the importance of *where* companies create ISAs according to location characteristics (Engsig, Chiambaretto, & Le Roy, 2018). We thus find that the location of ISAs partners remains under investigated in the ISA literature and which we wish to pursue with the present study.

Putting the location of the ISAs partners at the center of this study, we also question which locations to study and how we should measure their characteristics. We find inspiration in the foreign direct investment (FDI) literature, where location most often is studied in relation to *national* attributes and how these affect the level of investment (Kim & Aguilera, 2015). However, the effect of other types of location types on FDI has also been studied, such as clusters (Majocchi & Presutti, 2009), agglomerations (Crozet, Mayer, & Mucchielli, 2004), regions (Oh & Rugman, 2014; Rugman & Verbeke, 2004) or global cities (Belderbos, Du, & Goerzen, 2017). These subnational location types are recognized as *micro-locations* (Goerzen, Asmussen, & Nielsen, 2013). For this study, we choose global cities as a focal point. We make this choice because of their growing importance in the world economy, as well as due to the lack of research on this topic in the ISA literature. We define micro-location as the specific location of business actors, which has its own independent economic ecosystem separate from the larger context in which it is embedded.

We believe that subnational locational advantages attract companies and convince them to look for an alliance partner in specific places. In this vein, cities are important to study, as they enter more and more into competition to attract different types of investment by proposing subnational locational advantages (Cheng, 2007; Ho, 2000). Global cities (such as London, New York, Tokyo, and Paris) stand out from cities in general as they are distinct from their home country as well as regions and clusters in terms of their interconnectedness and their influence on the world economy (Sassen, 1991, 2012). Global cities are central in the world economy in terms of trade, communication, and infrastructure (Altman, Ghemawat, & Bastian, 2019); and can be seen as magnets for conducting international business (IB) because of the favorable business environment (Asmussen, Nielsen, Weatherall & Lyngemark, 2019). Therefore, we wonder if some cities are more alliance “friendly” than others and if there is a higher concentration of alliances between partners in global cities.

By integrating global cities, we highlight the need for a finer-grained understanding of how locations affect ISAs formation. In doing so, we also question

how we should measure their specific characteristics in order to analyze their impact on ISAs formation. It is stated that when studying locations, one must consider partner characteristics, location characteristics, and the dyadic relationship between the two former (Nielsen, Asmussen, & Weatherall, 2017). We do this firstly by looking at the partner size and their location in a global city (or not). For the dyadic relationship, we rely on various *distances* between the cities. We look to the IB literature, where distances between locations mostly have been done by using the nation-state as unit of analyses (Hutzschenreuter, Kleindienst, & Lange, 2016; Zaheer, Schomaker, & Nachum, 2012). However, it is argued that the different distances between nation-states might be too large a measurement, and that general country measures cannot capture or cover all the internal nuances within a country (Harzing & Pudelko, 2016). For example, one could question if we should use ONE cultural distance to define a country (Shenkar, 2001; Shenkar, Luo, & Yehekel, 2008). Instead, it is stated that global cities have more in common with each other than with their nation-state. We wonder to what extent this is true and if global cities can in fact be detached from their nation-state. Still, measuring the effect of global cities on ISAs formation at a country level does not seem appropriate or precise enough. We uphold these arguments by considering various distance dimensions between global cities – measured at a city level. Using distance measures at a city level allows us to highlight both the importance of micro-locations when understanding ISAs formation; and at the same time to question traditional location (distance) measures. To fulfill this objective, we combine literature and research on ISA formation, IB, and economical geography. Based on the presented arguments we look to answer the following research question: *How can city-level distance measures help us define types of newly formed international alliances?*

As we know little about the importance of micro-locational factors on ISAs formation, we take an explorative approach to generate a typology of ISAs formation based on city-level measures. We do this with a configurational method, which identifies main groups of ISAs determinants according to the theoretical characteristics: partner characteristics; location characteristics, and the dyadic relationship. To do so, we rely on a parametric model, latent class analysis (LCA) (Vermunt & Magidson, 2002). This is a model-based method of configuration, with resemblances to cluster and factor analysis (Short, Payne, & Ketchen, 2008). It is argued that this method is particularly adapted as a first step to understand complex social phenomena as it considers that a sample may consist of several homogenous configurations or clusters which vary from one another (Lazarsfeld & Henry, 1968; Miller, 1996). The configurations can be explained by the existence of several sub-groups which cannot be observed directly and are therefore called latent classes (Vermunt & Magidson, 2002). This allows us to explore the contextual conditions in which ISAs are created and observe where ISAs are created through different proposed ISAs types (classes) identified in our data.

Through the empirical configurations, we identify five types of international alliances for which locational characteristics and firm specifics differ, and which are differently distance sensitive. Our findings furthermore confirm the relevance of measuring distances at a city level. Based on the empirical results we propose

a typology to help answer our research question and thereby better understand ISAs formation at a city level. In doing so, we illustrate and emphasize the multi-aspects to take into consideration when understanding ISAs formation.

The chapter is organized as follows: First, we look at the location choice and FDI theory for inspiration on where companies chose to place their international activities. This leads us to a empirical multilevel typology proposed by [Nielsen et al. \(2017\)](#) which identifies factors that affect location choice. We combine the typology with knowledge from the ISAs and IB literature as well as with knowledge of location characteristics found in the global city literature. We also include research from the distance literature in order to identify the dyadic relationship between location and partner characteristics. Then we use the LCA method where we identify international alliance “classes” in our data. After having presented the results we reinterpret them theoretical, which allow us to propose a typology of ISAs formation measured at a city level. The chapter is ended by presenting the limits and perspectives.

## THEORETICAL FRAMEWORK AND TYPOLOGY

### *The Importance of Location*

We firstly look for inspiration in the FDI literature, done by both economic and IB scholars (for overviews, see [Nielsen et al., 2017](#) and [Kim & Aguilera, 2015](#)). These research streams have a long tradition of putting the location at the center of research, which we do not to the same extent find developed in the ISAs literature. Traditionally, FDI studies find that the location choice is based on either trade cost-minimizing components ([Coase, 1937](#)), on the calculation of behavioral (managerial) uncertainty ([Johanson & Vahlne, 1977](#)) or spatial determination ([Krugman, 1979](#)). Studies for example show that the geographic proximity is found to determine the level of FDI between countries ([Kleinert & Toubal, 2007](#); [Leamer & Storper, 2001](#)). With the help of economical measurements such as the Gravity model, research shows that too much distance, in terms of geographic and economic measures, between countries deflate the level of FDI ([Head & Mayer, 2013](#)). Other location-specific aspects such as the political and cultural situations are found to complement the spatial dimensions and make companies prefer to invest in closer locations ([Blanc-Brude, Cookson, Piesse, & Strange, 2014](#); [Meyer, Stanley, & Vandenberg, 2011](#)). In this vein, it is furthermore found that FDI tends to cluster in restricted geographic areas such as regions, agglomeration, or cities ([Crozet et al., 2004](#); [Porter, 2001](#)).

In order to bring clearness to the wide contributions on FDI location, it is suggested to divide FDI determinants into multilevel characteristics: (1) the location characteristics such as the importance of certain industries or products measured as for example market size in a given country, (2) the parent firm characteristics such as size, reputation and experience, and (3) the relationship or fit between the parent firm and the destination often measured in different types of distance ([Nielsen et al., 2017](#)). Even though it can be discussed to what extent ISAs, in general, can be identified as FDI in terms of invested resources, equity agreements

(such as joint ventures) are traditionally categorized as FDI (Owen & Yawson, 2013; Raff, Ryan, & Stähler, 2009). We furthermore argue that ISAs and FDI share the same challenges and risk, and rewards, when deciding upon a specific location. In the following, we thus apply the three identified characteristics presented above in an ISAs formation context. We argue that it will help us to highlight the importance of global cities and distance measures.

### *ISAs Predictors*

In the following, we reframe the above-mentioned FDI reflections on location specifics into an ISAs formation setting.

#### *Location Characteristics*

There seems to be a consensus in the ISAs literature that regional, national, and subnational institutions set out the business environment of a given location such as constraints or possibilities for foreign companies (Kostova & Zaheer, 1999; Meschi, Phan, & Wassmer, 2016; Reus & Ritchie, 2004). The local parameters can both be linked to extra cost of doing business in order to protect local actors; or lower cost in order to attract foreign investment by offering advantageous business environment (Chiambaretto, 2015; Meschi & Riccio, 2008). Despite contributions at the national or market level, specific locations of the alliance partners remain little studied in the ISAs formation literature and is called for by scholars (Beamish & Lupton, 2016).

In order to fill this gap, we look toward literature on micro-locations which have been particular studied from a MNE (multinational enterprise) perspective (Asmussen et al., 2019; Lorenzen & Mudambi, 2012; Rugman & Verbeke, 2004). The rise of advantageous business environment can be traced back to Marshall's agglomeration theory (1925), Jacobs' economic urbanization theory (1970), as well as to clusters (Porter, 1998). Such locations generate increased turnover across industries and various actors and give rise to an attractive diversified urbanized zone for investors or companies looking for business partners, that is, alliance partners. These theoretical approaches are closely related to global city theory. The importance of global cities in the world economy is a research field which has received attention from a variety of disciplines such as economics, geography, sociology, and urbanism (Hamnett, 1994; Scott, 2012; Sennett, 2007) but which only recently has seen a growing popularity in strategic management (Asmussen et al., 2019; Belderbos et al., 2017; Goerzen et al., 2013).

Global cities are not characterized by their size but by a high density of financial activity and advanced producer services and management (Sassen, 2012). The characteristics such as economic services, skilled population, and a global infrastructure make it easy to conduct business in these places. They are given by an enhanced mobility of capital throughout the world and are more or less free from geographic determination. They thus attract economic flows at a global scale and create a powerful network of interconnected global cities where economic activity concentrates and flows easily between these locations thanks to the global

infrastructure. The local government is found to participate little in the development of these economic hubs (Brown et al., 2010). It is explained that these cities have more in common with each other than they have with their nation-state (Belderbos & Heijltjes, 2005), even though it can be questioned whether global cities can be taken out of their national/country context (Belderbos et al., 2017). Although research has looked into the function of global cities and what ties them together across a global world in terms of heterogeneous characteristics (Wall & van der Knapp, 2011); they have rarely been investigated in an alliance context.

### *Firm Characteristics*

As well as location factors, other variables may explain why a particular alliance partner is considered attractive. In the literature, the possession of different types of resources, tangible and intangible, are found important for alliance formation (Chung, Singh, & Lee, 2000, Garette & Dussauge, 2016). For that reason, the size and international experience of the company are found essential. Research shows that bigger companies, for example, MNEs create more international alliances than smaller companies do (ASAP; OBSAP). This is due to the fact that they have more resources (in terms of financial capital, managerial skills, and network) and by their very nature as international competitive where they look to be globally present (Zaheer & Hernandez, 2011). Bigger companies are often also more productive which is known to be linked to a higher level of FDI (Antras & Helpman, 2004) and are furtherly found to be more attracted to do business in global cities than in other cities (Asmussen et al., 2019; Wall & van der Knapp, 2011). The company experience is often linked to age of the company and the older the company the more experience it is expected to have with given markets (Goerzen et al., 2013; Hennart, 1991). The literature has highlighted that the international experience with a certain market enables the companies to gain skills and capabilities, which is a way of reducing the external uncertainty (Christoffersen, 2013; Johanson & Vahlne, 1977). Experience can also be seen as repeated alliances between the same partners, which are found to perform better than ISAs between unknown partners (Goerzen, 2007). This is due to the build level of trust and confidentiality during the continuous collaboration (Gulati, 1998).

### *The Dual Relationship Between the Firm and the Destination: The Importance of Distance*

Concerning characteristics of the location–partner dyadic this can be identified as different types of distances between the partners. Despite a rich number of existing distance types identified in the IB literature (Hutzschenreuter et al., 2016), we find that the most treated ones in the ISAs literature are the ones regrouped in Ghemawat's CAGE Distance Framework: Cultural, Administrative, Geographic and Economic distance (2001). Distances have been richly studied in the ISAs formation literature, but mostly from an entry mode or governance mode perspective. It is found that the distances are associated with higher transaction costs, often measured in terms of extra managerial implications (Cano-Kollmann et al., 2016).

**Table 1.** Levels of ISA Predictors.

Level	Definition	Theoretical Roots	Example from the ISAs Literature
Location level: global city	Characteristics of the cities in which the partners are based	Agglomerations, clusters, and global cities in FDI and IB literature	–
Firm level	Characteristics of the firms creating the ISAs	Internationalization strategies by MNEs	MNEs international span and the importance of international experience
Location–firm dyadic level	Characteristics of the distances between the partners’ cities	Distance theory in IB literature	CAGE distance dimensions between ISAs partners affect the entry mode choice

The general assumption is that the further away a country is from a home country, the more complicated it is to create ISAs between the two partners according to different distances (Engsig et al., 2018; Mayrhofer, 2004; Moalla, 2015). Relevant studies show that risk and costs of engaging with a certain partner, affect the governance choice as well as the level of investment in the ISAs (Choi & Contractor, 2016; Globerman & Nielsen, 2007; Hennart & Zeng, 2002; Oxley, 1999).

When working with the distances, critics raise concerns about how we measure them. Distances are in general measured at a country level in the IB literature (Harzing & Pudelko, 2016). However, as other scholars before us, we argue that this level may not be the most adapted one (Tung & Verbeke, 2010; Zaheer et al., 2012) – especially when looking at global cities. It can be discussed if intra-country differences might be as important as inter-country ones, and if a country for example could be defined by several types of cultures or geographic distances (Mayer & Zignago, 2011). It is argued that the different distances between nation-states might be too large a measurement, and that existing distance measures at a country level cannot capture or cover all the internal nuances (Shenkar, 2012).

For the reasons mentioned here, we wish to measure distances between the ISAs partners at a city level in order to take into account the specificities of global cities. We find it necessary as global cities are known to be detached from their local context and from geographic determinations (Brown et al., 2010). They instead share the same city profile given by a particular global setting and might not to be concerned by country differences. We thus choose to focalize on the four distance dimensions used in the CAGE Distance Framework at a city level.

We sum up our three levels of location comprehension in Table 1. Instead of FDI predictors, as done by Nielsen et al. (2017), we list the above-mentioned ISA predictors.

## METHODS

### Research Design

As we know little about the importance of global cities in ISAs formation we take on an explorative approach. We combine the theoretical identified characteristics



with an empirical configuration where we aim at identifying and describing alliance situations or types based on our theoretical approach. In order to do so, we use the LCA. This method identifies subtypes of related cases which are considered unobservable (therefore named “latent classes”) with a maximum likelihood algorithm from categorical data (Hagenaars & McCutcheon, 2002). This estimates the probability of cases belonging to certain groups. It is done by identifying the smallest number of related cases which can constitute a relationship between the “manifest” and observable variables. The model first creates a baseline model for one single latent class. If the identified class does not fit data well, the model will continue to add latent classes until a model fit is achieved. The model fit is estimated by the log-likelihood criteria, which for the LCA model is given by the Bayesian information criterion (BIC) (Vermunt & Magidson, 2002). The model selection is complemented by the adequate fit indicated by the  $p$ -value and the fewest number of parameters used.

The LCA will give us an indication of which theoretically identified ISAs determinants are the most significant in the data. This is a method that is used within other strategic management disciplines such as entrepreneurship (Khefil, 2016) but is less used within the ISAs literature (Ebers & Oerlemans, 2016). It remains an explorative approach and a first step in understanding how micro-locations affect ISAs formation. Based on the theoretical typology we have chosen to focus on 10 variables which are explained below.

### *Data*

We firstly extracted data from the SDC (Securities Data Company) Platinum database on alliances created in 2015. After we removed all alliances without an American partner, as well as alliances with more than two partners and with missing information. This compiled a database of 164 international alliances (consisting of 71% joint ventures and 29% non-equity agreements), made by American firms in 2015. Several other sources were used to compliment the data, notably in order to bring the variables to a city level.

Choosing one focal country, the USA, allows us to more easily understand the effect of distances because we have one starting point. We can hence more easily grasp the distance measures as well as show that firms from different cities in the USA are affected by different factors in ISAs formations. We chose the USA as our focal country as it is the biggest economy in the world and American companies have the highest level of FDI as well as create the most ISAs on a world basis (Goerzen, 2007). It is equally found that a limited number of countries are responsible for the majority of economic flow and international transactions on a world basis, led by the USA as the most prominent actor (Sassen, 1991). Accordingly, when applying the Global City Index (as we do in the following) proposed by Goerzen et al. (2013), it is clear that the USA has the most cities ranked as global cities compared to other countries. For these simple reasons, we argue that it is worth being studied by scholars.

Furthermore, when we look at the descriptive statistics of the American partners and their location, it becomes obviously that it is necessary to study ISAs



formation at a city level. We have 95 American cities represented in the database. When looking closer at which cities have the largest number of ISAs, we see that 13 cities have the highest density of ISAs (between 20 and 3 created ISAs in 2015). They account for 68 of the 164 ISAs in our base. Out of the 13 cities, 7 are listed in the Global City Index (see Appendices A and B for precisions). There thus seems to be a clear effect of ISAs partners based in global cities – but also of non-global cities.

### *Operationalization and Variable Presentation*

We use the three levels found in the theoretical approach to define the variables.

In order to measure location characteristics, we have classified the cities of each partner according to the Global City Index proposed by Goerzen et al. (2013). The index is an up-date of Beaverstock, Smith, and Taylor's (1999) selection of global cities, which is based on Sassen's (1991) idea of "global capacity." The authors divide world cities into four categories: Group  $\alpha$  contains the 10 *most* global cities in the world, group  $\beta$  consists of the 10 *second* most global cities; group  $\delta$  consists of the 35 *third* most global cities, and group  $\gamma$  consists of 67 "potential" global cities. In total, the index classifies 122 cities. We have included a group 0 in our analysis in order to classify the cities which are not found in the index (see Appendices A and B for precisions).

Secondly, we use a descriptive firm variable: the size of the partnering companies. From previous studies, it is shown that bigger companies have more resources as well as experience which often ease their international activity. They therefore more often engage in international alliances (OBSAB). We have divided the size variable into five categories: (1) micro enterprises (<10 employees); (2) small enterprises (<50); (3) medium-sized enterprises (<250); (4) intermediate-sized enterprise (<4,999); (5) large enterprises (>5,000) (INSEE).

To measure the dyadic relationship between partner and location characteristics we have chosen to use the distances between the cities of the alliance partners found in the CAGE Distance Framework (Ghemawat, 2001), and which we measure at a city level:

### *Cultural Distance*

Cultural distance is identified through the under/over-representation of cultural artifacts from the non-American country in the focal American city compared to the rest of the USA. Sassen (1991) explains that the global cities are characterized by a diversity of minorities (which represents more than half of all resident workers in some global cities) and which creates a "new" cosmopolitan culture. We find it interesting to test the cultural composition of each city by using foreign restaurants as it is an indicator of the presence of the foreign partner's culture in the American partner's city. We do this with the use of the website TripAdvisor. For instance, to measure the cultural distance for an ISA between a Chicago firm and a firm from Tijuana in Mexico, we look at the percentage of Mexican restaurants in Chicago and we compare this city-level percentage with the national-level

percentage of Mexican restaurants in the entire USA. If the percentage is higher in Chicago than in the rest of the USA, it means that Chicago is culturally closer to Tijuana than the average American city. We thus assess the cultural distance as the (multiplicative) inverse of this proximity and we measure the cultural distance using the following formula ( $i$  being the American city and  $j$  being the foreign one):

$$\begin{aligned} CultDistance(i, j) &= \frac{1}{Proximity(i, j)} \\ &= \frac{\% \text{ of city } j\text{'s country restaurants in the USA}}{\% \text{ of city } j\text{'s country restaurants in the city } i} \end{aligned}$$

#### *Administrative Distance*

Research explains that global cities are centers for financial activity where economic activity concentrates and flows easily between these locations thanks to the global infrastructure (Belderbos et al., 2017). This can be translated into a density of competitiveness at a city level. We created the administrative distance variable according to the think tank Z/Yen Group's *Global Financial Centres Index* (CFCI), which is one of the rare existing databases at a city level. The CFCI rates "financial centers" at a city level calculated by a "factor assessment model." It is thus a composite measure created by combining instrumental factors defined by third parts (such as the World Bank, The Economist Intelligence Unit, the OECD, and the United Nations) with answers from an online questionnaire filled out by identified "financial centers" in cities worldwide. The model both rates and ranks the competitiveness of the world's leading financial centers at a city level. In order to create the variable, we looked at the CFCI rating score for each partnering city. We created a zero category for the cities in our database that do not figure in the index. Afterwards, we subtracted the rating scores.

#### *Geographic Distance*

This is measured as kilometers between the actual cities of the partners and thus between specific locations. This is an often-met criticism of country measures when addressing the question of geographic distance because research forgets to take the size of the countries into consideration (Mayer & Zignago, 2011). We do this with the use of the website *Distance From To* which calculates the distance between cities in kilometers for flying air distance.

#### *Economic Distance*

Lastly, the economical distance is identified as the GDP per capita in each partnering city. We find this measure interesting as it illustrates the difference between national- and city-level measures. For example, the difference in GDP per capita of Shanghai compared to the general GDP per capital of China. This can be due to the fact, that global cities attract a well-educated and wealthy population because of the many international companies in the cities (Taylor, Derudder, Faulconbridge, Hoyler, & Ni, 2014). At the same time, the cities also have a high

**Table 2.** Variable Presentation.

Theoretical Variables	Operationalized Variables	Name of Variables	Value
Company level			
Company size	Size company A	SizeA	>0
	Size company B	SizeB	
Location level			
Global City Index	Global index company A	IndexA	0-4
	Global index company B	IndexB	
Location-firm dyadic			
Cultural distance	The number of restaurants of the non-American partner's nationality in the American partner city	Cult_dist	>0
Administrative distance	Difference in rating on the Z/Yen Group's Global Financial Centres Index	Adm_dist	>0
Geographic distance	The number of kilometers between the cities	Geo_dist	>0
Economic distance	Difference in GDP per capita between the cities (US\$)	Eco_dist	>0

level of poverty because of illegal immigrants and a low-educated workforce which are attracted by the demand and need of services for the well-educated population (Sassen, 2002). For these reasons, we find it relevant to test for the impact of living standards in the cities. We find the data in Statista and in reports made by the Brookings Institution and afterwards, we subtract the numbers.

All the variables are summarized in Table 2.

## FINDINGS

### Creating Classes

The aim of the LCA method is to group the empirical observations into a limited number of mutual exclusive and homogenous groups (classes) through a set of clustering variables. The appropriate number of classes can be found by comparing the goodness-of-fit of several models (with an increasing number of classes). For this study, we use the BIC, in order to compare the fit of competing LCA models (Lanza, Collins, Lemmon, & Schafer, 2007). As shown in Table 3, we find that the five-class model fits the data best as indicated by the smallest BIC value.

**Table 3.** Model Selection.

Model	Obs ll (null)	ll (model)	df	AIC	BIC
c2	164	-1,792.407	25	3,634.814	3,712.311
c3	164	-1,632.639	34	3,333.279	3,438.674
c4	164	-1,574.945	43	3,235.891	3,369.185
c5	164	-1,536.411	52	3,176.822	3,338.015
c6	164	-1,518.96	61	3,159.919	3,349.011

Note: Entropy value: 0.96104801.

AIC: Akaike information criterion; BIC: Bayesian information criterion.

**Table 4.** Latent Class Marginal Probabilities.

	Margin	Std. Err.	[95% Confidence Interval]	
C				
1	0.1209996	0.0266956	0.0776337	0.1837634
2	0.2639763	0.0372751	0.1975904	0.3431286
3	0.1811456	0.0333045	0.1246986	0.2556807
4	0.4071519	0.0393977	0.3327763	0.4860415
5	0.0267265	0.013223	0.0100375	0.0692232

The entropy value at 0.96 indicates that there is a good separation of classes. This indicates that five independent types of ISAs are identified in the data with different partner and location characteristics.

When looking at the probabilities of being in each class, we can see from looking at the margins in [Table 4](#) that 12% of the population in our database is explained in Class 1, 26% in Class 2, 18% in Class 3, 40% in Class 4 and 2% in Class 5.

Hereafter, we investigate the marginal means of the observed variables, which will tell us how each variable performs in the identified class. The findings are presented in [Fig. 1](#). As the variables have different scales, we standardized the variables in order to avoid giving more emphasis to variables that have higher variances. We, therefore, find a mean value at zero. The interpretation of the marginal means is made by looking if they have a negative or positive value compared to zero. A marginal mean above zero will indicate a large type of distance, company, or position on the Global City Index. Oppositely, a mean below zero indicates a small type of distance, company, or a non-global city.

#### *Interpretation of the Classes*

We explain the five classes identified in [Fig. 1](#) in the following:

- *Class 1:* The location of Firm A seems to be a little more important (a higher score) and has a relatively high position on the Global City Index compared to Firm B. Both Firm A and B are lower than the mean in terms of size which indicates rather small companies. This alliance type has a high administrative and cultural distance and low geographic and economic distances between the partnering companies compared to the mean.
- *Class 2:* In the second class, both firms have mean values under zero when looking at the Global City Index. Firm A tends to be a big company; Firm B is a mean size company. We identify an alliance type where there is a high cultural and geographic distance associated with a low administrative and economic distance between the partners.
- *Class 3:* In the third class, we find an alliance type where both firms are above the mean value when looking at the Global City Index. However, the location of Firm B seems to be a little more important (a higher score) than Firm A. Both Firms A and B are lower than the mean in terms of size which indicates small companies, especially concerning Firm A. There is high cultural distance

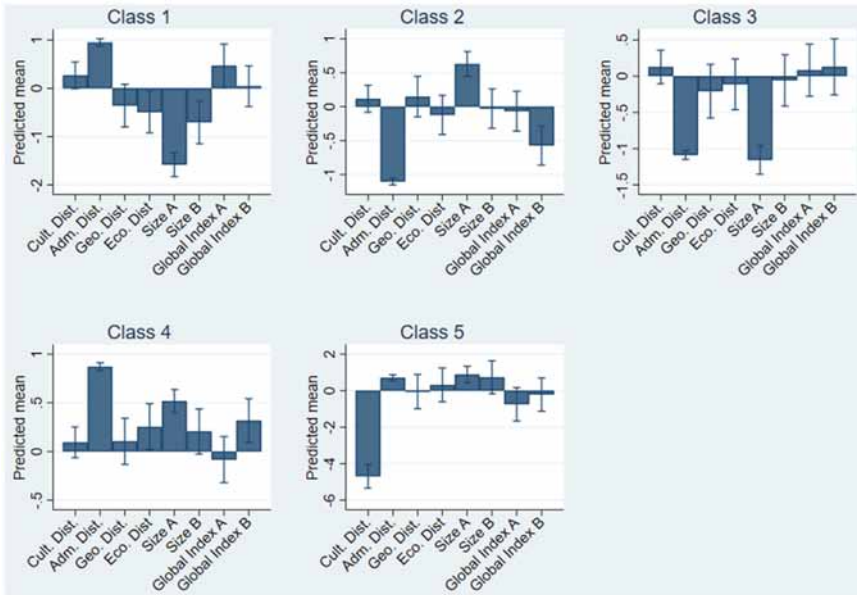


Fig. 1. Predicted Means of the Five Identified Classes at the City Level.

but a low administrative, geographic, and economic distance between the partnering companies compared to the mean.

- **Class 4:** In the fourth class, the location of Firm B, the non-American partner, has a relatively high position on the Global City Index contrary to Firm A which is under the mean value on the city index. Firm A tends to be a big company, Firm B has a mean size. We identify an alliance type where all the distances are positive and above the mean value between the partners.
- **Class 5:** In the fifth class, we find an alliance type where both firms are beneath the mean value concerning the Global City Index. Both Firm A and B are above the mean in terms of size which indicates big companies. There is a relatively high administrative and economic distance but a low cultural and geographic distance between the partners.

## DISCUSSION

### *Reinterpretation of the Empirical Configuration Across the Theoretical Typology*

The empirical findings confirm the multilevel approach when studying the importance of micro-locations on ISAs formation. In fact, it seems like there is not one way to understand this matter which depends on the partner and location characteristics and the dyadic between these. The empirical configuration identified five groups which explain the ISAs formation differently. We translate the five groups into five theoretical settings or alliances types, which constitutes

our typology, and through which we can understand ISAs formation from a city perspective. We will reinterpret and discuss these five types across the theoretical contributions in the following.

#### *Alliance Type 1: Small Partners in Global Cities*

In this setting, the partners are both located in global cities. The American partner, Firm A, seems to be placed in a city that is ranked higher on the Global City Index, than Firm B. The fact that both partners are placed in global cities indicates the advantages of the network between powerful global cities and an attracting business environment (Wall & van der Knaap, 2011) which could increase the chances of finding an alliance partner.

We also find that the partnering companies are rather small. This indicates that for this type, the firms look for ISAs partners similar to themselves in terms of partner and location characteristics. One explanation could be that small companies a priori have low international experience and the fact of looking for a similar partner minimizes the cognitive costs (Goerzen, 2018).

That both rather small partners are based in global cities could be explained by the spill-over effect which is associated with clusters (Porter, 1998) and which is related to theories on global cities (Goerzen et al., 2013). Global cities are seen as favorable business environment with a high density of economic activity from which a variety of actors in different sectors and at different levels benefit (Sassen, 2012). For these reasons small companies also easily benefit from this atmosphere even though historically MNEs/big companies are most often found to regroup in global cities (Belderbos et al., 2017).

It is interesting that there are large cultural and administrative distances between the global cities of the partners, and little geographic and economic distance. Global cities are known to resemble in terms of economic activity, international population, and global interconnectedness, and thus be detached from their nation-states. The results could indicate that country characteristics cannot always be deleted and that global cities continue to be rooted in a national context where the particular development/history of the country matters (Altman et al., 2019). Alliance Type 1 could be the example of ISAs between an American partner based in Los Angeles and a Japanese partner based in Tokyo. The cities share the status of global cities (Beaverstock et al., 1999) but are known to be very different in terms of cultural diversity and industrial development (Sassen, 1991). At the same time, there is little economic distance; and less geographic distance compared to other American cities, such as New York. Lastly, it is interesting to reflect upon whether small companies feel the distances more as an obstacle than MNEs, which by function and definition are global.

#### *Alliance Type 2: Non-Global Partners*

For this setting, the partnering firms are not placed in global cities. This is not surprising as not all ISAs are made between companies located in global cities. The company size of Firm A (the American one) is much bigger than the one of the non-American partner.

It is interesting that cultural and geographic distances come (moderately) into play. Especially considering that the location of the partners in non-global cities. This indicates that these firms look for partners in distant cities anchored in different cultures. It is explained that these two types of distances often correlate (Ghemawat, 2016) – as the cultural distance naturally grows the further away we physically seek an ISAs partner. Furthermore, there is little administrative and economic distance found.

This alliance type could for example represent the case of a big American company on the East coast which creates an ISA with a European company (a medium-sized one), and where both the cultural and geographic distances are moderately present. For example, as both partners are based in non-global cities they could easily lack global interconnected infrastructure of transport, such as direct flights (Sassen, 2002). At the same time, the administrative and economic distances are small between two such settings. The administrative distance perspective must be linked to national agreements, such as the Transatlantic Trade and Investment Partnership (TTIP), even though it is measured at a city level. Lastly, the alliance type could also be the case where the industry or sector determines the location of the company, as not all types of industry (for example bulky production industries) is fitted for a global city setting (Goerzen et al., 2013) and furthermore is difficult to transport (Ghemawat, 2007).

### *Alliance Type 3: Global Integrated but Cultural Distant Partners*

As with Alliance Type 1, we find that the partners are both located in global cities and both are small companies, especially the American partner. Again we find that the lack of size and experience (resources) do not seem to scare away the small companies from a global city setting. On the contrary, the context of a favorable business environment in and between the global cities seems to be accessible and benefit all types of companies. As with Alliance Type 1, we find that firms look for ISAs partners similar to themselves in terms of partner and location characteristics. This could be due to the potential smaller cognitive costs (Goerzen, 2018).

Contrary to Alliance Type 1, we see that the most distance types are small with exception of the cultural one. This indicates that the partner's global cities resemble. This is in line with the literature which states that global cities have more in common with each other than they have with their nation-state (Belderbos & Heijltjes, 2005). The fact that global cities are relatively similar along the distance measures could indicate that the particular context of the global cities erases or "paralyzes" distance measures which normally could be challenging for the international collaboration (Belderbos et al., 2017). It is however interesting that the cultural distance remains large despite the fact that the cities are physically and economically close. This suggests that the cultural distance is the hardest to align between the global cities and maybe we cannot take the global cities out of their local context (Asmussen et al., 2019).

Alliance Type 3 could be the example of ISAs between an American partner in any given global city and a Canadian partner based in Toronto. These partners are



especially administrative close, but also geographic and economic close. However, they are more culturally different than commonly assumed, for example, when looking at the different spoken languages. This would be even more illustrative with a Canadian French-speaking partner in Quebec but the city does not figure on the Global Index list. The same can be found when looking at the restaurant measures, which we implicated, and where “national” Canadian specialties (such as the Poutine) maybe play a bigger role than assumed.

#### *Alliance Type 4: Big Distant Partners*

In this alliance type, only the non-American partner is based in a global city; and both partners are big companies. The empirical results do not allow us to say anything about the direction of the ISAs, so we cannot say if American companies look for these characteristics when searching for ISAs partners in a non-global city. Or the other way around: It seems like it takes a foreign partner of a certain “caliber” in terms of size, experience, and location in order to attract/look for an American alliance partner (Hennart, 1991).

It is particularly interesting that the CAGE distances all are found to be moderate or large (the administrative) within this alliance type. This is contrary to the statements about how the financial flow between the global cities is more or less free from geographic determination and that the local government participates little in the development of these centers (Brown et al., 2010). These arguments should contrary eliminate the effect of certain distances. When this is not the case for this type of alliance it makes us question to what extent the direction of the alliance matters (Altman et al., 2019). We wonder if the non-American partner, for example, in a developing country, encounter more obstacles from the various types of distances when creating an ISA with an American partner, than the other way around. Our results do not allow us to say anything about this matter. As with Alliance Type 2, one could question the importance of the industry of the partners. Some industries do not need to or cannot be globally integrated and are more or less distance sensible (Ghemawat, 2007).

This alliance type could be illustrated by an ISA between an American MNE based in a global city and a Chinese EMNE (emerging market multinational enterprise), based in for example Shenzhen, which is not considered a global city on the Global City Index. In such a case, there would be a large administrative distance between the partners, as well as a moderate culture, geographic, and economic distance. Again, it could be interesting to integrate the objective of the alliance in order to know more about the direction and investigate if these distances are large because of upstream or downstream activities (Nielsen & Gudergan, 2012; Pangarkar & Klein, 2001).

#### *Alliance Type 5: Non-Global and Experienced Partners*

The last type of alliance is made between partners placed in non-global cities; and between relatively big companies. Oppositely to Alliance Type 2, where the partners also were placed in non-global cities, there is a relative large administrative

and economic distance between the partners but little cultural and geographic distance. It is actually the only alliance type found where the cultural distance is found to be small (or not present). We find this interesting as the partners are placed in non-global cities which contradict our assumption about how global cities cannot be taken out of their context. It could also indicate that big companies benefit from their international experience and resources when creating an international alliance which makes it easier to bridge the cultural differences (Johanson & Vahlne, 1977) even though they are not placed in global cities. The experience may come from continuous alliances with the same foreign partner or market (Goerzen, 2007). The non-global and little cultural distance setting could also be due to the industries or the objectives of the ISAs, where manufacturing alliances are known to be less distance sensitive, than for example R&D alliances (Choi & Yeniyurt, 2015).

This alliance type could illustrate the ISAs (in production) made by an American and a Mexican partner and where the cultural distance is little because of the countries long mutual history and geographic proximity. In such an example, the country differences affect the city distance measures. Moreover, it could be an example of an American partner looking for foreign firms to develop complementarities in specific manufacturing industries. In such cases, the economic distances between the cities of American and the Mexican partner would provide lower production costs and the activities would typically be placed outside global cities (Goerzen et al., 2013).

Based on our results, our proposed typology looks as follows (Table 5).

The typology shows that there are clear differences between the five identified alliance types, and that the choice of alliance partner is made on various combinations of firm and location characteristics; and the dyadic relationship

**Table 5.** Typology of International Alliances with City-level Distance Measures.

	Type 1 <i>Small partners in global cities</i>	Type 2 <i>Non-global partners</i>	Type 3 <i>Global integrated – but cultural distant partners</i>	Type 4 <i>Big distant partners</i>	Type 5 <i>Non- global and experienced partners</i>
Firm characteristics	Very small/ Very small	Very large/ Average	Very small/ Average	Very large/ Large	Large/ Large
• Size domestic firm					
• Size foreign firm					
City characteristics	Global/ Average	Average/ Peripheral	Global/Global	Average/ Global	Peripheral/ Average
• American city					
• Foreign city					
Dyadic relationship characteristics	Large/Large/ Small/	Average/Small/ Average/	Average/Small/ Small/	Average/ Large/	Small/ Average/
• Cultural dist.	Small	Average	Average	Average/	Average/
• Administrative dist.				Large	Average
• Geographic dist.					
• Economic dist.					

characteristics between the two, measured at a city level. We have found that micro-locations are important to understand ISAs formations. When put at the center of our study, it gives a complex and multilevel explication of how and when location and firm factors interact to make a particular partner in a particular location more attractive when creating ISAs. This study remains explorative and is a first step in understanding the importance of global cities in ISAs formation and should be supplemented by other analyses in future research in order to understand the impact of micro-locations more fully.

### *Contributions to the Existing Literature*

With this chapter, we contribute to the understanding of ISAs formation determinants by stressing the importance of looking at the specific location of the partners. Our explorative study indicated that we need to take a multilevel approach both theoretically and empirically when studying this. The answer to our research question is thus not simple, as we have seen that the micro-locational factors affect companies differently according to their size, location in a global city or not, and the measured distances between them.

Our findings contribute to the literature on ISAs formation and IB in several ways. On one hand, we find global cities to be important when studying where companies create ISAs. This confirms the need to add the partner locations into studies of ISAs determinants (Beamish & Lupton, 2016). The importance of location has been widely studied in the FDI literature but has to a large extent been ignored by the ISA literature. Our results indicate that global cities indeed seem alliance “friendly” for many types of companies and tend to have a high intensity of ISAs. The spill-over effect from the economic flow, cosmopolitan environment, and global interconnectedness (Sassen, 2012) thus benefits various types of actors and not just MNE’s (Asmussen et al., 2019; Belderbos et al., 2017; Goerzen et al., 2013).

We equally contribute to the global city theory by showing that it also applies to ISAs formation. This study extends the knowledge of global cities by showing that despite a similar business environment and interconnectivity, one cannot deny the existence and importance of different distances between global cities when studying ISAs formation. We thus find that global cities are not free from local determinism, which is also indicated by Sassen (2016). This is contrary to other authors who find that distance effects disappear due to the global interconnectedness (Belderbos et al., 2017).

In this vein, our study highlights that there is a world of business outside the network of global cities which do not depend on the same characteristics and which cannot be left out when investigating ISAs formation. We mentioned above that ISAs made between non-global partners could be linked to the industry/sector where certain productions of for example bulky products typically would be situated in the less urban areas and would be difficult to transport (importance of geographic distance) (Ghemawat, 2007). This perspective is linked to the resources which are shared in the alliance and thus the type of alliance created

(Choi & Contractor, 2016; Choi & Yeniyurt, 2015). Research has, for example, found that MNE's production-driven activities seem to be placed outside global cities, whereas sales and service activities are placed in the global cities (Goerzen et al., 2013).

Lastly, we contribute to the IB discussion on how we should measure distances and we join the debate about the relevance of the nation-state as level of analysis (Harzing & Pudelko, 2016; Krugman, 1991; Shenkar, 2001; Zaheer et al., 2012). We chose to measure distances at a city level as we found this more evident when studying micro-locations such as global cities. In our study, potential distance measures at a country level would not have captured the particularity of global cities. This study emphasizes the need to revise the "traditional" distance measures in IB when studying location.

### *Managerial Implications*

Despite implications from research, it can be a difficult task for managers to identify which location factors to use when creating international alliances. Our study may inform, prepare, and guide managers about the importance and specificity of global cities. The results should guide them on *where* to look and advise them on what to expect of challenges or advantages from the local setting. Hopefully, our findings may ease the search of the next ISA partner.

### *Limits, Perspectives, and Concluding Remarks*

Our study has several limits both theoretically and methodologically. First of all, it remains explorative and can only give us assumptions or guidelines of where to look deeper into ISAs formation and the importance of micro-locational factors. Theoretically, we have looked only at a handful of main determinants identified in the ISA and IB literature. As mentioned in the discussion, other factors may very well affect this matter, such as industry and sector of the partners. In this context, one should also include the direction of the alliances created. Inward versus outward alliances may have different determinants (Welch & Luostarinen, 1993), depending on the city (and country) of the partners. Lastly, by including these aspects it could be interesting to see if one of the identified alliance types in our typology performs better than the others.

Methodologically, we chose one focal country, the USA, which affects our results. We saw that local context seems to have a certain effect on some ISAs and we could therefore question the reliability of our results when investigating companies based in global cities in other contexts (Geringer, 1991; Nielsen, 2007). Another methodological limit is how we measure the different types of distances at a city level and the creation of variables. There are multiple ways of defining distances at a city level and as it is a rather unexploited measure, these have still to be "standardized." Further, we created our variables from various secondary data and one might question if they are comparable and if these are the best measures. There is in fact a need for consistent and comparable data at an international level when working with city measures which makes research highly difficult (Alizadeh, 2017).

To conclude, our study has provided us with a wider understanding of ISAs formation determinants. Through a typology, we have described how research needs to approach this complex question from a multilevel perspective. Particularly the importance of micro-locational factors, such as global cities, needs to be included. Accordingly, the distance measures should be adapted and adjusted to a city level. We look forward to pursuing these results in future research integrating the above-mentioned perspectives and remarks.

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## APPENDIX A: GLOBAL CITY INDEX

- inspired by Goerzen et al. (2013) & Beaverstock et al. (1999)

$\alpha$	$\beta$	$\gamma$	$\delta$
London	San Francisco	Amsterdam	Auckland
New York	Sydney	Boston	Dublin
Paris	Toronto	Caracas	Helsinki
Tokyo	Zürich	Dallas	Luxembourg
Chicago	Brussels	Düsseldorf	Lyon
Frankfurt	Madrid	Geneva	Mumbai
Hong Kong	Mexico City	Houston	New Delhi
Los Angeles	Sao Paolo	Jakarta	Philadelphia
Milan	Moscow	Johannesburg	Rio de Janeiro
Singapore	Seoul	Melbourne	Tel Aviv
		Osaka	Vienna
		Prague	Abu Dhabi
		Santiago	Almety
		Taipei	Athens
		Washington	Birmingham
		Bangkok	Bogotá
		Beijing	Bratislava
		Rome	Brisbane
		Stockholm	Bucharest
		Warsaw	Cairo
		Atlanta	Cleveland
		Barcelona	Cologne
		Berlin	Detroit
		Buenos Aires	Dubai
		Budapest	Ho Chi Minh City
		Copenhagen	Kiev
		Hamburg	Lima
		Istanbul	Lisbon
		Kuala Lumpur	Manchester
		Manila	Montevideo
		Miami	Oslo
		Minneapolis	Rotterdam
		Montreal	Riyadh
		Munich	Seattle
		Shanghai	Stuttgart
			The Hague
			Vancouver
			Adelaide
			Antwerp
			Arhus
			Baltimore
			Bangalore
			Bologna
			Brasilia
			Calgary
			Cape Town
			Colombo
			Columbus

Dresden  
Edinburgh  
Genoa  
Glasgow  
Gothenburg  
Guangzhou  
Hanoi  
Kansas City  
Leeds  
Lille  
Marseille  
Richmond  
St Petersburg  
Tashkent  
Tehran  
Tijuana  
Turin  
Utrecht  
Wellington

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**APPENDIX B: NUMBER OF INTERNATIONAL ALLIANCES PER AMERICAN CITY**

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New York*	20
Houston***	15
Los Angeles*	5
San Jose	4
Atlanta***	3
Chicago*	3
Englewood	3
Hartford	3
Irving	3
Miami***	3
San Francisco**	3
St Louis	3
Austin	2
Billerica	2
Carlsbad	2
Cincinnati	2
Denver	2
Fairfield	2
Greenwich	2
Mountain View	2
Redmond	2
San Diego	2
Santa Clara	2
Silver Spring	2
Waupun	2
Ann Arbor	1
Arlington	1
Armonk	1
Barberton	1
Battle Creek	1
Beverly Hills	1
Birmingham	1
Boston***	1
Broomfield	1
Burbank	1
Cedar Rapids	1
Concord	1
Corning	1
Covington	1
Culver City	1
Custer	1
Elko	1
Ewing	1
Gaithersburg	1
Greenwood Village	1
Indianapolis	1
Irvine	1
Jersey City	1
Johns Creek	1

Las Vegas	1
Laurel	1
Lawrence	1
Lawrenceville	1
Livermore	1
Malden	1
Marlborough	1
Melbourne	1
Menlo Park	1
Midland	1
Milwaukee	1
Minnetonka	1
Miramar	1
Mission Viejo	1
Montvale	1
Nashville	1
Newark	1
Newport Beach	1
Norcross	1
Norristown	1
Overland Park	1
Palo Alto	1
Pittsburgh	1
Reston	1
Richardson	1
Richmond***	1
Ridgefield Park	1
Rockville	1
Rockwell	1
Rolling Meadows	1
San Marcos	1
Santa Barbara	1
Sarasota	1
Scottsdale	1
Sherwood	1
Southfield	1
Springfield	1
St Petersburg	1
Toledo	1
Tulsa	1
Waltham	1
Washington***	1
Watertown	1
Westlake	1
Westminster	1
Wood Dale	1

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\*/\*\*/\*\*\*/\*\*\*\* = position in the Global City Index (Appendix A).