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The geography of foreign real estate investments

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Summary

Real Estate Industry is a strategic element in urban competitiveness, economic growth and development, as it facilitates the articulation between economic activities, local assets (property/land) and flows of capital. Furthermore, even tough the perception is that it is a local business, with the globalization many of the largest developers and consumers of corporate real estate have become global (Bardhan & Kroll 2007). The foregoing has made the industry acquire a cross-border dynamic and makes the attraction of foreign investment into real estate development a key approach for improving the position of countries and cities in the global economic network.

This work aims to explore the geographical structure and trends of the international Real Estate cluster, and then recognize the correlation of the Foreign Real Estate Investments – FREI– inward flows with competitiveness and real estate market factors of host countries and cities.

The literature review covers the theoretical background of city networks, competitiveness and property market. These concepts try to connect the three main components of the real estate investments: the capital (investment flow), economic activities (corporate users) and the land (physical assets).

The Study has a quantitative approach, with the use of secondary data. The first part of this study has a descriptive outline, comprising the trends of FREI at a global regions scale and the geographic distribution of investment flows at country and city level. The second part has an explanatory approach, using statistical modeling techniques to test the correlation between investments and competitiveness, and moreover to identify the determinants for attracting FREI.

The analysis shows that despite the globalization influence, FREI holds the concept of real estate as "local" business in a broader scale: 62% of the links happen within countries of the same region, evidencing that there are opportunities of complement with the surrounding economies. Likewise, the research demonstrates that the cluster involves primarily economies in second and third stage of development, exposing that the market is still reliant on low-risk assets in a stable environment and that there has not been established an active industry in developing countries.

Additionally, the instability experienced over the last seven years in the sector is evidenced. The 2007 international financial crisis had a deep impact on Foreign Real Estate Investments, corroborating the interdependence between financial market and real estate.

This study demonstrates that location factors related to market size, labor market, financial market and connectivity are essential for attracting inward investments. The results of the model show that a variety of forces rule FREI, evidencing the need of having a comprehensive approach that surpasses the notion of real estate as property and involves other clusters

To conclude, the country and city analyses showed the diverse drivers for MNC at different territorial scales. Without neglecting the usual national purview of the policy framework for attracting FDI, it is important to acknowledge the relevance of local and urban scale in the broader picture of globalization. Beyond the macroeconomic and institutional determinants, the position of the urban nodes in the global networks matters for captivating FREI.

Keywords

Real Estate, FDI, Globalization, World City Networks, Competitiveness, Location Factors

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Abbreviations

IHS	Institute for Housing and Urban Development
FDI	Foreign Direct Investments
MNC	Multinational Corporations
GCI	Global Competitiveness Index
GUCI	Global Urban Competitiveness Index
FREI	Foreign Real Estate Investments
GDP	Gross Domestic Product
GACR	Growth Annual Compound Rate
GaWC	Globalization and World Cities
SPSS	Statistical Package for the Social Sciences
GUCP	Global Urban Competitiveness Project
WDI	World Development Indicators
WEF	World Economic Forum
WB	World Bank
GNI	Gross National Income
IMF	International Monetary Fund
UNCTAD	United Nations Conference on Trade and Development

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Chapter 1: Introduction

1.1Background

"In one estimate made by Ibbotson and Siegen

real estate forms 54.9 % of total world wealth*"*

(Haila 2000, p.1)

Real estate accounts for a considerable participation of the wealth of the world, and plays a fundamental role in the global economy. It is a multifaceted business involving the construction process (planning, development and construction), the transactions (investment and leasing) and the professional services (brokerage, appraisal and management), of real property.

The real estate development and assets provide substantial revenue for governments and yields for individuals and corporations. Besides, the sector increases employment, encourages urban expansion and benefits the financial sector.

The industry had been noticed traditionally as a local business due to the unmovable and geographic specific nature of property. Nevertheless, with the globalization dynamics and cross-border activities, many of the largest developers and consumers of corporate real estate have become global (Bardhan & Kroll 2007). The above, coupled with the vision of considering the property beyond an unproductive capital to a profit center, have raised the international investment opportunities. Consequently, real property investment is becoming progressively transnational oriented, with relatively large amounts of funds flowing in the real estate market around the world city network (Lim et al. 2006).

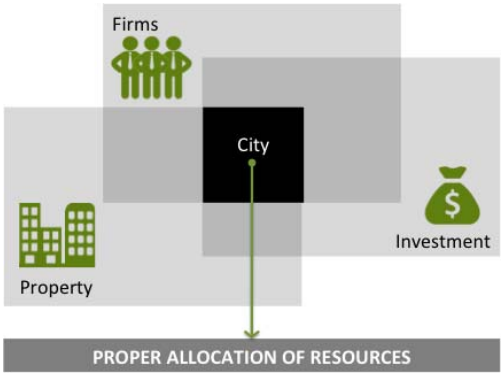

Figure 1 Real Estate Assets as a factor of production

In this global structure, real estate facilitates the articulation between the multinational corporations, the local assets (property/land) and the international flows of capital (See Figure 1). The foregoing implies that the real estate investments cannot be regarded as a stand-alone industry. It is a sector highly dependent on local factors but is affected likewise by the need of firms and the global economic network.

1.2Problem Statement

The real estate property market, assumed as a structure throughout real assets are owned, exploited and transacted, can have a substantial effect on urban competitiveness. It not only impacts the outcome quality of the built environment, but the provision of suitable facilities for hosting other economic activities (D'Arcy & Keogh 1999). Therefore, in modeling and supporting cities competitive advantages, economic growth and development, real estate industry become a fundamental aspect.

However, real estate development is a capital-intensive activity that is sometimes constrained by the availability of local resources. Thus, the attraction FDI into real estate becomes key to accelerate development and strengthen the property market, giving a competitive advantage to cities.

In a raising globalized real estate investment market, what are the factors that influence the location of FDI in the real estate sector to improve city competitiveness?

> *"Real estate is a "buy" based on relative pricing, risk and prospective growth. However, not all property is equal – some countries are more reformed, innovative and productive, and some cities are innately more competitive and attractive than others or the countries they sit in. Therefore, markets are becoming more idiosyncratic and* ***DRIVEN BY THEIR OWN INDIVIDUAL ADVANTAGES****, leading to a more divergent global market"*
>
> International Investment Atlas Summary 2014, Cushman and Wakefield (Hutchings et al. 2014, p. 14)

1.3Research Objectives

The aim of this research is to explore the structure of the Real Estate international investments system and the relationship of the FREI inflows with competitiveness indicators of destination countries and cities. In order to accomplish this target, this study will include descriptive and explanatory methods to provide a landscape of the sector and its interaction with the economic network.

1.3.1 Descriptive Approach

THE GEOGRAPHY OF FOREIGN REAL ESTATE INVESTMENTS

- Analyze the composition of the Foreign Real Estate Investments inflows and outflows in the global network of countries and cities, conducive to understand the characteristics, evolution, trends and patterns of the sector in the regional markets.

1.3.2 Explanatory Approach

FREI FLOWS AND LOCATION FACTORS

- Identify the key competitiveness and real estate market location factors that are determinant to FREI inflows at national and urban scale, which could enhance the growth of the property market and the economic activity of host countries and cities.

1.4Provisional Research Questions

Main Research Question

- **WHAT IS THE GEOGRAPHY OF FOREIGN REAL ESTATE INVESTMENTS WITHIN GLOBAL REGIONS?**

Sub-research Questions:

- What is the relationship between Foreign Real Estate Investment inflows and urban competitiveness?
- Which are the main competitiveness and real estate market factors for attracting FREI?
- What are the business-environment factors that are determinant for increasing FREI at country level?
- What are the urban-spatial factors that are determinant for increasing FREI at city level?

1.5 Significance of the Study

The Real Estate Industry has a direct impact on the quality of the urban space and on the economic performance of a city: the material and permanent nature of property assets gives shape to the city model and provides spaces for hosting economic activities.

Therefore, the analysis of competitiveness and real estate market factors that are significant for attracting Real Estate Investments in the global system becomes relevant. The study will seek to contribute knowledge to improve the position of nodes within the network and, in consequence, offer opportunities to cities of improving the quality of their urban space and their economic dynamic.

This work will complement the existing academic work that has been done on Real Estate location factors, by broadening the scope into a global perspective and including competitiveness indicators, not only real estate market elements. By recognizing the determinants that make countries and cities attractive for the international Real Estate cluster, local governments could improve their place within the system with the conception of programs and policies to invigorate the property market according to their economic capabilities.

1.6 Scope And Limitations

In order to get a broad understanding of the shape of international real estate structure, the analysis of Foreign Real Estate Investments –FREI- flows will take place at three geographic levels: regional, national and urban. The study will explore the geographic composition of the network in the scales stated above, and the connection with location factors for countries and cities. Figure 2 displays the global regions that will be included in the analysis.

However, the main challenge of the applicability of the proposed research strategy is the availability of secondary data related to real estate industry in both at national and regional level, in order to select the location factors that drive this category of investment. It might be difficult to find standardized data from a reliable source that has a representative sample of countries and cities.

The possible contingency for this scenario would be the use of business-environment, governance and economic activity indicators as control variables that are highly linked to real estate market performance. Additionally, the location factors included in the Global Competitiveness Index report published by World Economic Forum could be used as a proxy for real estate market. Such data could fill the gap for specific Real Estate figures as some variables can be equaled to relevant indicators mentioned in the real estate specific literature review.

Figure 2 Geographic Scope: Global perspective and World Regions

Likewise, another limitation could be the size of the available real estate fDi Markets database. As mentioned in the literature review, the difficulty of measuring real estate investment within FDI flows due to its reliance to other productive activities can be a constraint for the analysis. In this case, the knowledge generated in the research might be overly abstract and general to make inferences to particular local contexts, especially for finding insights for specific regions.

Chapter 2: Literature review

This chapter seeks to relate theoretical concepts of city networks, competitiveness and FDI with the globalization dynamics. This general background will guide the grasp of the role of Real Estate Investments in economic growth.

The three principal components of the real estate investments are outlined as the links with the concepts mentioned before. The capital (investment flow) is represented in FDI, the users (economic activities) are the sub-nodes of the global network and the property (physical assets) a local resource influencing competitiveness.

2.1 Cities and Globalization

Cross-border dynamics

Cities are the critical nodes in the globalization dynamic where economic growth process takes place. According to Scott et al. (2001) this dynamic has carried a different representation of space, both social and political, in which the arrangement of city-regions emerges outstandingly. This new rule encompasses a merged geographical extends of business and trade, that array from global to local scopes. The authors highlight four characteristics about this order:

a. Broad cross-national networks
b. Multi-nation alliances
c. Dominance and transformation of national economies
d. Revival of great city-regions forms of economic organization.

Globalization first takes shape in material and economic agglomerations, where the global market competition of Multinational Corporations happens (Scott et al. 2001). They encourage economies of scale, which are enhanced by the presence of firm networks, large labor pools and knowledge spillovers. Therefore, cities and city-regions where these agglomerations of economic activities locate are places of high productive performance and the main source of growth of its domestic economy. These two notions, the MNC networks and the forms in which cities assists the globalization process, will be discussed in the next section.

Conversely, for the purview of this work is relevant to recognize that real estate sector has been susceptible to the globalization trends even when is considered a local business. As claimed by Bardhan & Kroll (2007, p. 10) “the lack of “international trade” in real estate is now being compensated for by increasing cross-border investments, international development projects and multinational real estate ventures.” Consequently, the sector has an active role in the globalization. Real estate investments become a service for firms in the world economy, since it offers increased exposure to markets, access to global capital markets and opportunities to achieve greater geographic diversification, through the allocation of land and property. The role of the property market within the globalization

framework will be also discussed later.

2.2 World City Networks

Position of urban nodes and its links in a global economic structure

The current world economy, derived from globalization, is structured around command and control cities, which coordinate interconnected activities and flows of networks of firms. In this context, urban centers are studied systematically as a World-City Network, which Taylor (2001) describes as an "interlocking network in which relations between cities are constituted by intra-firm flows in the advanced producer service sector of the world economy." (Brown et al. 2010, p. 14). In consideration of this definition, there are three scales of interactions that compose the world city network. First, the network level at the global economy purview; second, the nodal level where the cities connect globally; and finally, the sub-nodal level, constituted by companies leading the world integration process. Regarding the cross-border dynamics mentioned in the previous section, the core function of the interlocked world cities is to drive the emergence of the global business and flows at the network level, by accommodating the firms and corporations at the sub-nodal level (Brown et al. 2010).

This emphasis in the nodal and sub-nodal level of networks is complemented by the work of Beaverstock et al. (2000), who advocate the analysis of the nodes beyond measurements of city and firms characteristics and including the linkages between the nodes. The authors state that world cities are the result of firm's information and economic resources interaction between cities. Their study was the pioneer in showing the different urban relations on a worldwide hierarchy; by presenting the international location strategies of principal advanced producer firms comprehensively, shows a conceptual grid that structures how the world city network links are ordered

Likewise, Turok (2004, p. 1080) states, "city-regions need to be understood as part of wider economic systems, networks and resources flows, rather than self-contained units." The new economy organizes around global systems of investments, organizations and knowledge. The mobile attribute of these assets makes the position of the city within broader international networks more relevant than the links inside urban concentrations. Firms spread throughout the world shape this system, and the dispersion of its offices and subsidiaries describe the integration of countries and regions in the global network. This spread

Complementarily to the World City Networks studies, the Global Cities appears in the literature as the connectors of advanced services, producer centers and markets in a global network. Sassen (2004) locates the appearance of global cities in the context of the strengthening of the sub-national scale of cities and regions as the drivers of economic growth and the increasing of cross-border trade. The author states, "The specific forms assumed by globalization over the last decade have created particular organizational requirements. The emergence of global markets for finance and specialized services, the growth of investment as the major international transaction, all have contributed to the

expansion in command functions and the demand for specialized services of firms." (Sassen 2004, p. 34).

The previous literature cited implies that firms are the main force that impulses the world city network. Therefore FDI, as the cross-border financing mechanism for firms, is a catalyst for the global economic and urban growth.

2.3Foreign Direct Investments

The IMF defines Foreign Direct Investment as an investment made to acquire lasting or long-term interest in enterprises operating outside of the economy of the investor. Along with international trade, FDI is the main driver of the globalization and the world economy since it represents the funding source of Multi National Corporations.

From the perspective of the MNC, the decision for investing abroad comes from the Ownership, Location or Internalization advantages for the firm; the OLI paradigm set by Dunning. The theory refers to the benefits given by the ownership (O) of products or production processes abroad, the location (L) in a foreign country instead of the home country and the market internalization (I), when the company exploits directly foreign activities rather than through trades or networks with other firms (Burger et al. 2012). Likewise, OLI paradigm is complemented by horizontal and vertical FDI patterns that respond to the endogenous structure of MNC. The horizontal pattern arises when the firm produces the same product or service in other country and the vertical when the firm fragments the production processes abroad to reduce costs (Aizenman & Marion 2004).

Furthermore, according to the motivation of the firms, Dunning differentiates between four types of foreign investment (Wall et al. 2011): Market-seeking FDI, determined by the access to local or regional markets; Efficiency-seeking FDI, encouraged by lower cost structures; Resource-seeking FDI, driven by the availability of natural resources; and Strategic-asset-seeking FDI, related to the firm´s necessity for specific knowledge and skills

Besides these firm characteristics and strategies that influence the location of FDI, there are destination country factors that are relevant for attracting FDI. A paper commissioned by UNCTAD divides the main determinants of inward FDI into categories related to: general policy factors (privatisation, legal stability), FDI policies (incentives, investments treaties) and macroeconomic factors (infrastructure, market size, growth). The latter becomes the most important aspect since it shapes the fundamentals of cost-competitiveness (Velde 2006). Other papers suggest that taxes, exchange rates, institutions, trade protection, likewise can give a comparative advantage for attracting FDI (Blonigen 2005; Bénassy-Quéré et al. 2007).

From the perspective of the host countries and cities, the role of FDI in triggering development is debated in the literature. In theory, FDI has a positive effect on the development of the host economy by providing a source of capital, technologies and knowledge. However, spillovers to local firms are not automatic (Velde 2006), and several

country-specific factors, types and sectors of investment could condition the growth impact of FDI. Following this statement, it is expected that more competitive environments benefit more from FDI since they encourage a better allocation of resources. Complementing the factors mentioned earlier; the competitiveness indicators become fundamental in attracting FDI.

In the case of FDI in the real estate sector (like other services), the additional financial capital, the provision of services and technology, the introduction of additional competition and the employment generation could promote the host country's development (Fereidouni & Masron 2013). Although the most important aspect in which Foreign Real Estate Investment can raise economic growth is by increasing the resources for developing the property market, which constitutes a factor of production for economic activities. This argument is discussed further in the next section

2.4Urban Competitiveness

Local factors

As outlined previously, globalization and city networks dynamics has created larger connected markets through international trade, advanced services and foreign direct investment, which have enlarged the pursuit for productivity as an essential aspect for subsistence of the urban economies. In this context, diverse entities (nations, regions, firms) to guarantee durable and sustainable prosperity are searching for foundations of competitive advantages. These are significant attributes that, with a focused process, can be established and enhanced. Thus competitiveness, as stated by Porter (1992, p.40) "is a function of dynamic progressiveness, innovation and an ability to change and improve."

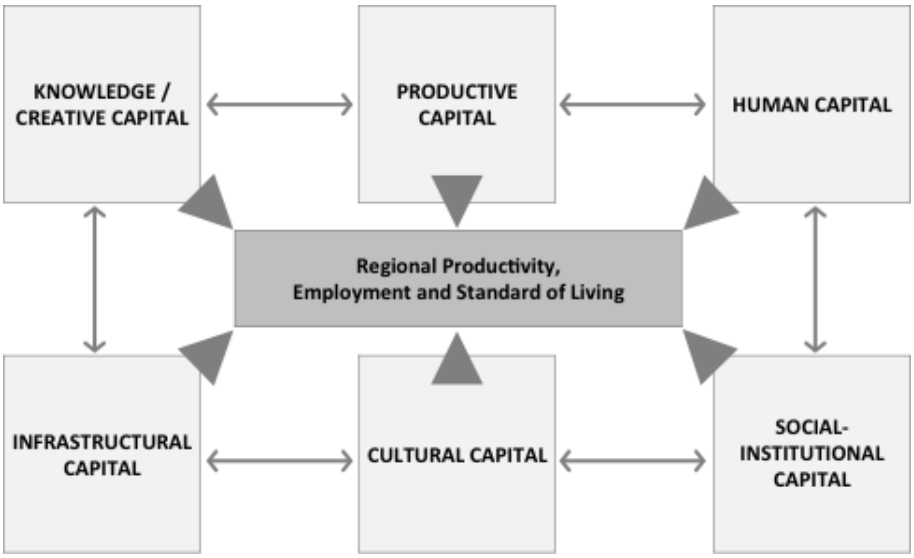

Figure 3 Bases of regional competitive advantage (Kitson et al. 2004)

However, productivity individually is a narrow measure of competitiveness or competitive advantage. Beyond rigid gauges, it should include social and economic aspects of the territory. In the case of regions, competitiveness could be understood as a process in which urban centers use its local assets and regional externalities for contesting with others to reach positive outcomes (Kitson et al. 2004). As shown in figure 3, the central purpose of pursuing competitive advantages is the provision of good quality of life for its inhabitants, the delivery of proper employment and the enhance of regional productivity through the good performance of the firms.

Following the same idea, a work by Turok (2004, p.1070) suggests that competitiveness is an "indication of the drivers and dynamics of economic success," rather than a final situation. It involves the correlation and dependency of three main factors of economic growth: trade (sell in international markets), productivity (value and efficiency in production) and use of indigenous assets (tangible and intangible resources). Thus, as a physical resource, the property market has a leading role in the competitiveness of the urban economy. Regions face a challenge in maintaining an adequate supply of physical assets in order to gain competitiveness and resilience, implying that the availability of ample property market is still critical for its success (Turok 2004).

Complementarily, real estate industry needs to be reactive and adaptable to fulfill the variable requirements of the firms over time that will result in a competitive advantage (D'Arcy & Keogh 1999). The subject is if the supply of real estate assets is a reason or a consequence of economic performance. Cities could use the development of corporate spaces as a local policy tool for encouraging commercial activity, but unregulated market can have negative long-term consequences for the health of the economy. Overbuilding and indiscriminate international flows of investment might detonate real estate leading to a crisis if they do not match the different industries condition of the city.

2.4.1 Measurements of Competitiveness

The regional competitiveness measure is an approach that allows comparing the performance and efficiency of the nodes within the world network, in an effort of assessing urban economies' strength and potential. The measurement of competitiveness according to Parkinson et al. (2006, p. 41) should be an instrument to enhance "the ability to continually upgrade the business environment, the skill base, and the physical, social and cultural infrastructure." Thus, cities can "achieve high rates of growth, productivity, high employment, high wages, high gross domestic product per capita, and low levels of inequality and social exclusion."

Diverse theoretical frameworks in the literature outline the dimensions of the concept. In a paper for the East Midlands Development Agency, Martin (2005) recommends from diverse theoretical frameworks, a list of 'key determinants' of regions competitive advantage including:

a. Productive capital, the region's inherited economic and business structure, including the degree and type of specialization
b. Human capital, labor force skills and qualifications across the region
c. Region's creative capital, knowledge, innovation and entrepreneurship
d. Infrastructural capital, both hard and soft, public and private
e. Socio-institutional capital, extent, depth, and orientation of business networks and associations, workplace traditions, public organizations, and so forth.
f. Cultural capital, range and quality of cultural facilities and assets

Focusing on a urban scale, a working paper of The Future Cities Institute (Wojtarowicz 2013) aims to identify dimensions for the competitive position of cities and to select appropriate indicators or categories of indicators. Table 1 displays the key categories of indicators that the paper highlights.

CATEGORY OF INDICATORS	Examples of corresponding indicators
ECONOMIC PERFORMANCE	• GDP, GDP per capita • Real GDP growth rate • Regional market integration, …
FINANCIAL FLOWS	• Financial services network (banking, insurance, securities) • Breadth and depth of financial cluster • Derivate / commodities contracts traded, …
LEGAL AND POLITICAL FRAMEWORK / INSTITUTIONAL EFFECTIVENESS	• General state of political landscape (electoral process, rule of law) • Ease of doing business (taxation, ease of dealing with licenses, registering property, ease of starting a business...), …
HUMAN CAPITAL	• Educational performance (quality of public and private education and universities, number of residents with university degree, …) • Knowledge, creation capacity (patent applications, journal publications, MBA programs), …
GLOBAL APPEAL AS BUSINESS AND POLITICAL CENTRE	• HQs of global corporations, number of think tanks, IOs • International conferences hosted • Flow of passengers and goods through ports and airports, …
SOCIAL AND CULTURAL CHARACTER	• Freedom of expression and human rights • Openness and diversity • Cultural vibrancy (museums, restaurants, concerts, book fairs), …

Table 1 Categories of indicators in indexes with a focus on city competitiveness, (Wojtarowicz 2013)

The relevance of this theoretical framework for this research is to comprehend how these drivers, within a regional or urban background, are assumed to develop and connect, and not just undertake what key determinants are critical. Intending to match this statement, this study considerate the indicators and rankings of The Global Competitiveness Report and The Global Urban Competitiveness. Prepared at country and city level correspondingly, both reports have a comprehensive purview that acknowledges the diverse approaches to competitiveness performance mentioned in the literature

2.4.1.1 The Global Competitiveness Index

The Global Competitiveness Index, included in the 2013–2014 GCR report, is drawn from the definition of competitiveness as a "set of institution, policies, and factors that determine the level of productivity of a country." (Schwab 2013, p.55). 12 pillars comprise the Index, grouped in three sub-indexes that contribute to identify the strategic variables for the different stages of economic development (See Figure 4). The GCI aims to be comprehensive and capture the microeconomic and macroeconomic foundations of national competitiveness.

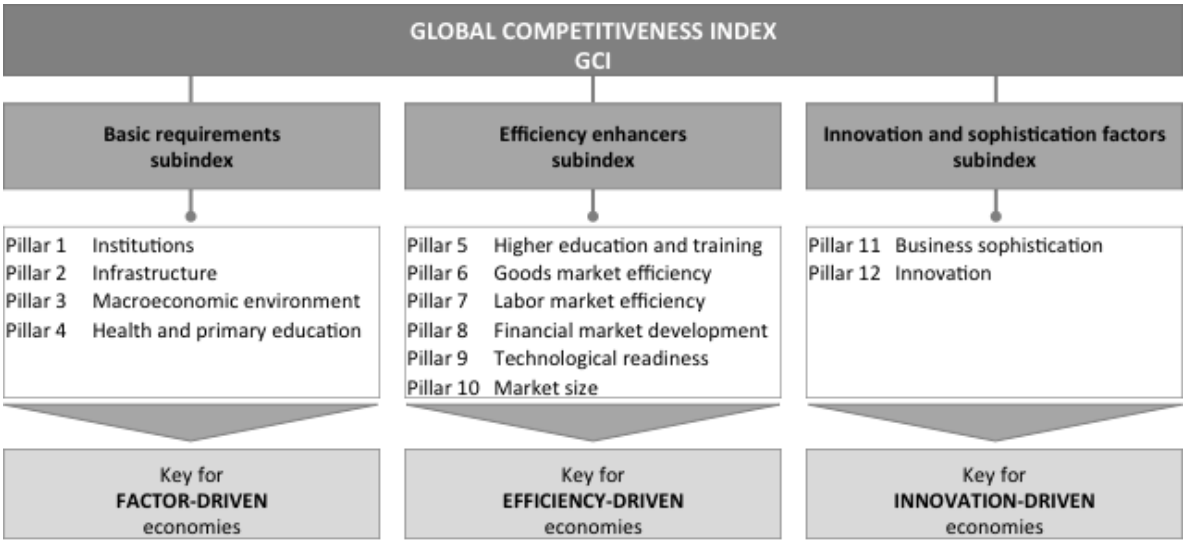

Figure 4 The Global Competitiveness Index framework (Schwab 2013)

The Report recognizes competitiveness as reliant on the stage of development of each country. The classification is subject to the country wages, and the dependence of the economy on mineral resource. The countries in the first stage of development are factor-driven economies that compete based on their factors endowments, mainly labor and natural resources. The competitive advantage at this level is based on low wages and the price of basic products and commodities. The second stage of development is efficiency-driven, where countries rely on their productivity capability to balance higher wages. To be competitive, they need to develop more efficient processes and increase the quality of products and services, without affecting the costs. Finally, the third stage of development is innovation-driven, related with countries with the highest wages. They maintain competitiveness level by producing new and unique goods using sophisticated production processes.

It should be noted that the GCI score weights the sub-indexes according to the classification of each country, although the indicator level (the most disaggregated variables) and the pillar level are weighted irrespective of it.

2.4.1.2 The Global Urban Competitiveness Index

The Global Urban Competitiveness Report explains urban competitiveness as the city's ability to appeal and use resources, control and dominate the market that allows the creation of more wealth and the provision of welfare for its inhabitants (Ni 2012). In the light of the definition, there are two conceptual frameworks in the form of input and output that shape the Global Urban Competitiveness Index

From the output perspective, urban competitiveness is the ability to create value, which is revealed in the extent, efficiency and growth pace of value creation. Therefore, the index includes measures of market share, economic growth, density and efficiency, technological innovation and decision-making capacity. Table 2 shows output indicators and its implications for the index.

Indicator	Implications of the Index
GDP	A city's products and service market share
GDP per capita	A city's development level and residents' welfare level
GDP per square kilometer	Degree of economic aggregation
GDP growth rate	Economic vitality
Labor productivity	Economic efficiency
Employment rate	Macro economic performance and residents' welfare level
Ratio of nominal exchange rate to real exchange rate	Advantage in the price of commodities and services
Number of international patent applications	Ability of scientific and technological innovation
Multinational Corporation Score	Economic decision-making and controlling ability

Table 2 Indicators of Urban Competitiveness Index output framework (Ni 2012)

The input perspective recognizes that individuals organized by firms generate wealth or value. The GUCI input framework is formed by a rational combination of urban enterprise operational elements systems with industrial systems (See Figure 5). Under the two frameworks, the GUCI model attempts to consider the issues affecting competitiveness including entity and environment, supply and demand, stock and incremental factors, short-term and long-term factors, static and dynamic factors, input and output factors, as well as software and hardware.

Figure 5 Input framework of Urban Competitiveness (Ni 2012)

2.5Property Market and Real Estate Investments

The industry perspective

Real Property is a legal concept that encompasses any immovable property or division of land that has been legitimately outlined and the improvements that have been added to it by human efforts. The term deals with the rights and responsibilities of landowners, including the transfer and creation of those rights (Geltner et al. 2007). There are physical and legal characteristics of the property and the real estate market process, which have a direct influence on the competitive advantages of a city.

Primarily, the main level wherein the Real Property influences urban competitiveness is given by the very own nature of it. It is a compound of products and services representing a combination of characteristics due to its physical features. First, property is geographic bounded and ordinarily fixed, what provides heterogeneous attributes to each unit and in consequence affects the quality of the built environment. Second, the development of real property produces urban externalities (planning, design, infrastructure, taxes). Lastly, the availability of real estate space has a direct impact on the performance of urban economic activity. The latter is the most relevant aspect for this research, as property represents a direct role into the supply and demand processes of the city economy. As argued by D´Arcy and Keogh (1999, p. 918) "The agglomeration economies depends on a physical agglomeration of suitable buildings and it is clear that a supportively built environment might either be cause or effect in this process", accordingly the dynamic process of providing proper real estate has implications in the functioning of urban economic activities.

The above is due to the fact that the property supply process has a failure in reacting immediately to varying economic environments, which reflects the time-scale of the

construction projects and the permanency of buildings. This supply process, or real estate property market, is the system that brings buyers and sellers together, by allowing the modification and addition to real property stock (D'Arcy & Keogh 1998). It gives an organized structure for those who participate in the development, investment or use of property. As a result, the property market is characterized by a constant imbalance between supply and demand, leading to cycles of surplus and lack of spaces. The problem remains in the mismatch between economic conditions, which drive new development, and the stock of property, which allows the location of new economic activities.

Therefore, the property market is concurrently an organization of productive physical area and investment assets. On one side are the buildings (physical area), which embrace the user viewpoint and refer to the right of use of land and built space. On the other side are the assets, referring to the investor perspective and consist primarily of the ownership and the expectations to future cash flows (DiPasquale & Wheaton 1992). According to these assertions, real estate space and assets constitute a factor of production, as the need for space translates into occupational requirement for productive activities, finally resulting in rents for the use of that area for the investors (Lizieri & Pain 2014). These two dependent and complementary components, along with the developing and management professional services, encompass the real estate sector.

Furthermore, the legal frame also conditions the system. Even though it is not the scope of this research, it is important to acknowledge that the legal structure of ownership, usage and development of property, as well as the planning control and urban policies can either facilitate or constrain the conditions for economic growth of the city. The limitations of tenure legislation and planning regulation can lead to a divergence between rights and interests of both users and investors.

These limitations, along with the difficulty of gauging real estate investment within FDI flows due to its dependency and its nature as a factor of production to other industries, can be a constraint for the analysis.

2.5.1 Factors influencing real estate market

Determinants of FREI

Given the importance of stock of property for urban competitiveness, and consequently the growing global competition for the attraction of FREI to leverage its development, the identification of factors that influence the real estate market are essential. The literature on real estate investments distinguishes three categories of external factors that influence the market: economic, financial and institutional framework, besides the endogenous variables of property.

First, the demand for space is impacted by changes in employment, production or demographics. Therefore, real estate performance is highly correlated to GDP and GDP growth (DiPasquale & Wheaton 1992; Goetzmann & Rouwenhorst 2000).

Second, due to the large amount of debt and equity that is required for supporting property development, the firms rely on the local financial system to fund their investments (Ramasamy & Yeung 2010). The availability of credit, interest rates, lending rates and banking system soundness affects the magnitude of the real estate market.

Third, the government and its institutional framework play a key role in creating incentives and policies that influences the real estate market and the articulation with the global network. In diverse sectors and territories, property rights, governance structures, control schemes and exchange rules define the legal and institutional infrastructure that shapes and organizes the overall level of "interactive capacity" of economic and political actors in the real estate markets (Gotham 2006).

Finally, the factors related to real property, as stated D'Arcy & Keogh (1998), impact the competitive position of the city. The property market value data, related to the demand (rents) and the supply (yields), conditions the location choice of users and owners of space. Nevertheless, these measurements of the market are ambiguous. High or low prices can mean failure or a competitive opportunity (D'Arcy & Keogh 1998), and then they require to be assessed in the scope of each urban area. Additionally, there is a constraint in accessing full and complete information about transactions and prices due to the decentralised nature of the property market.

2.6Foreign Real Estate Investments –FREI– and Urban Competitiveness

The first part of this chapter illustrates how globalization and the World City Network make imperative the pursuit of competitiveness for the sustainable growth of the economies.

Thus, the theory revised suggests that real estate can hold a strategic position in this quest. The sector contributes to the overall competitiveness of countries and cities by supplying property as a factor of production for firms and the economy as a whole, and by triggering growth as an independent economic activity. Due to its competence as a direct and indirect contributor to competitiveness, the industry fills a fundamental role in the economy. Real estate is both a cause and a consequence of economic growth.

However, real estate development is a capital-intensive activity that is sometimes constrained by the availability of local resources. Therefore, the attraction of Foreign Real Estate Investments is a strategy for the strengthening and growth of the sector and a fundamental aspect in articulating capital flows between world cities (Lizieri & Pain 2014). It will not only facilitate the investments in the local property market but will benefit the business activity with knowledge and technological spillovers. real estate investments giving shape to the system.

2.7Conceptual Framework

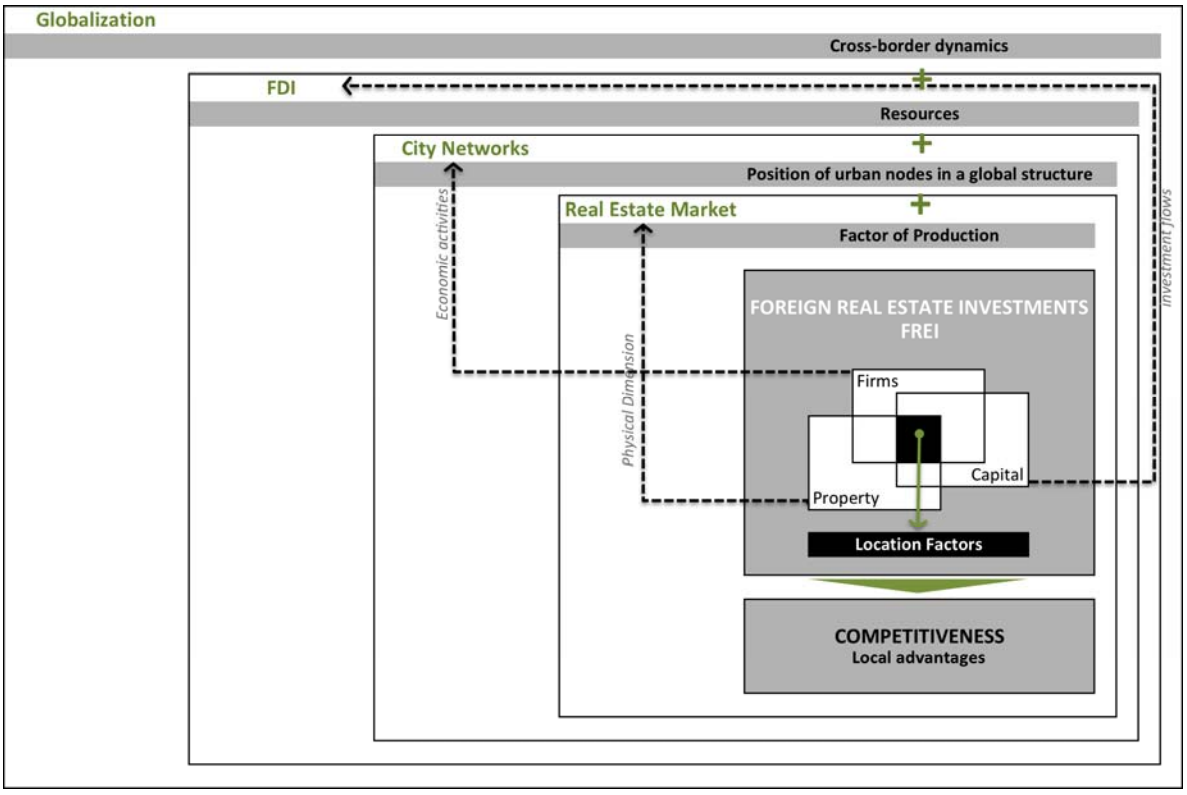

Figure 6 Conceptual Framework

The globalization, as the integration and interaction of markets, trade and investment, is represented by an arrangement of cross-borders investments and city-networks where the economic competition of firms takes place. In this setting, the use of local factors for competing with other regions is critical for achieving sustainable economic growth. The property market is a key feature, since it is an essential input into the production activities of the firms.

The conceptual framework sketched in Figure 6 illustrates the individual concepts hierarchically: globalization, FDI, city networks and property market mentioned and indicates that its articulation will improve the competitiveness of cities. The connection of the real estate market with international flows of capital (FDI), or Foreign Real Estate Investments FREI, will increase the stock of property that will attract more firms strengthening its position the world city network.

Therefore, the identification of location factors that contribute to the attraction of FREI flows is essential for improving urban competitiveness. As mentioned in the literature review, the injections of financial resources to the real estate market will not only expand the stock of property; but will also influence the quality of the built environment

This background also sets the scope for the analysis of the geographical distribution of FREI inflows and outflows. Beyond the local perception of the real estate business, due to the intrinsically localized and immobile nature of the property, is relevant to understand the nodes and the links that compose the network at a global scale and its potential to trigger economic activities.

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Chapter 3: Research Design and Methods

3.1Revised research questions

Main Research Question

- **WHAT IS THE GEOGRAPHY OF FOREIGN REAL ESTATE INVESTMENTS WITHIN GLOBAL REGIONS?**

Sub-research Questions:

- What is the relationship between Foreign Real Estate Investment inflows and urban competitiveness?
- Which are the main competitiveness and real estate market factors for attracting FREI?
- What are the business-environment factors that are determinant for increasing FREI at country level?
- What are the urban-spatial factors that are determinant for increasing FREI at city level?

According to the objectives and the questions proposed for this thesis, the investigation will be grounded on a quantitative approach and the use of secondary data. The first part of this study will have a descriptive outline, intending to find answers for whom, where, when and why is investing. The second part of this study will focus on the relationship between Foreign Real Estate Investment -FREI- inflows and urban competitiveness indicators, both at country and city scale. The aim of this explanatory part of the research is to recognize how and why these two variables relate (See Figure 7).

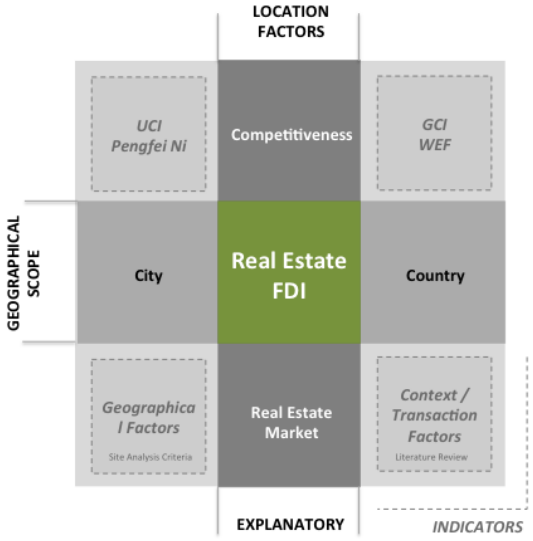


Figure 7 Structure of the analysis

3.2 Operationalization: variables and indicators

(See Table 6)

3.2.1 Dependent Variable Y – Foreign Real Estate Investments FREI

The dependent variable (Y) to analyze represents the number of Real Estate Foreign Direct Investment greenfield projects in each country. It includes foreign investments that generate new professional services and employment opportunities; and capital investment in new physical projects or the enlargement of an existing asset. The first part of the study will analyze both inflows and outflows, in order to draw a perspective of the network. The second part will focus only in inflows, since they have an impact on the economic performance of the host countries and cities.

The selected data is accessible through fDi Markets, an online database provided by Financial Times, which tracks cross-border greenfield investments. The greenfield projects that are covered include new investments and expansions, but not mergers, acquisitions or joint ventures (Burger et al. 2012). It contains 41 economic sectors in 186 countries around the world, which allows studying international real estate investment trends including source and destination from global to urban level for the last ten years. Table 3 portrays the available data for the Real Estate sector category (Financial Times 2014).

It is important to clarify that although the database includes investment values, about 60% of them are undetermined and therefore are calculated by Financial Times. The use in the analyzes of a large number of estimated data would mean that the results is disturbed and can be misleading. For this reason, the research makes use of the number of inward and outward as trustworthy analysis unit (Wall et al. 2012).

Table 3 Dependent variable

Foreign Real Estate Investment - FREI	
Variable	**Number of Investments**
Source	**fDi Markets**
Number of Investments	3.347
World Regions	7
Countries	126
Cities	1353
Years	2006-2012 (7)

3.2.2 Independent Variables X

(See annex 1 for the full list of variables and sources)

3.2.2.1 Competitiveness factors

The indicators included in the competitiveness reports mentioned in the theory review will support the analysis of location factors influencing the choices of MNC to invest in Real Estate sector in a given place.

3.2.2.1.1 Global Competitiveness Index – GCI

The World Economic Forum develops and publishes the Index annually in the Global Competitiveness Report. The Index measures the ability of the countries to provide high levels of quality of life to its inhabitants according to the use given to its available resources. It comprises the factors that facilitate or drive productivity of each nation for reaching sustainable economic prosperity.

The index includes a set of 144 variables, which are grouped in 12 pillars of competitiveness and three levels three sub-indexes in an effort to acknowledge the different phases of development of countries. The Global Competitiveness Report is available since 1979, and for the 2013 – 2014 version assesses 148 economies (World Economic Forum 2014).

3.2.2.1.2 Urban Competitiveness Index – UCI

In order to compare the competitiveness among cities, UCI encompasses urban value as a standard measurement. The enterprises in the region and the system they constitute, by linking to each other, determine the city value. The analysis incorporates six economic measurements: scale, efficiency, growth, quality, exterior effect and density. The output of the assessment is the Urban Comprehensive Competitiveness Index, which envisions three systems of indicators: production, industry and factor environment, for a total of 55 variables. The latest report available, published in 2013 with the results for the years 2011-2012, includes a sample of 500 cities from 5 continents and all states of development (Ni 2012). (See Table 4).

Table 4 Competitiveness Variables

CONCEPT	SCALE	VARIABLES		Source	Year
COMPETITIVENESS	NATIONAL	Global Competitiveness Index - GCI	Institutions	World Economic Forum	2006-2012
			Infrastructure		
			Macroeconomic environment		
			Health and primary education		
			Higher education and training		

			Goods market efficiency		
			Labor market efficiency		
			Financial market development		
			Technological readiness		
			Market size		
			Business sophistication		
			Innovation		
	URBAN	*Global Urban Competitiveness Report*	*Enterprise Quality*	*Pengfei Ni*	*2011*
			Human Resource		
			Hard Environment		
			Soft Environment		
			Living Environment		
			Global Connectivity		

3.2.2.2 Real Estate Market Factors

Real Estate dedicated data is limited, highly disperse and with restricted access. As mentioned in the literature, the industry remains highly local, and the local attributes of the assets define the market. However, with the aim of having a consistent overview of the theory found in the literature review, a few property market factors are taken from NUMBEO. Available online since 2009, it is a crowd-sourced global database of reported consumer prices. Despite de local attributes that rule the property market, the methodology used for collect the data allows comparisons between countries and cities, and shows the evolution of the indicators over time.

Regarding the business-environment indicators at country level, the indicators provided in the World Development Indicators will be used to meet the economic and financial categories. WDI is a database compiled by World Bank from officially recognized international sources. It presents the most current and accurate global development data available. The institutional framework indicators were taken from World Bank, The Heritage Foundation and Transparency International. These sources put an effort with a high level of recognition.

For the urban scale spatial characteristics, the indicators will be drawn from The Economist Intelligent Unit Livability Report and the Lincoln Institute Atlas of Urban Expansion. (See Table 5).

Table 5 Real Estate Market Variables

CONCEPT	SCALE	VARIABLES		Source	Year
REAL ESTATE MARKET	NATIONAL Business Environment	Property Market	Prices, rents and affordability	Numbeo	2009-2012
		Economic	GDP, GDP per Capita and PPP	World Bank - WDI	2006-2012
			Exports - Imports		
			Unemployment		
		Financial	Banking sector, Interest rates	World Bank - WDI	2006-2012
			Stock and Capital Market		
		Institutional Framework	Ease of Doing Business	World Bank	2006-2012
			Dimensions of Governance	World Bank	2006-2012
			Economic Freedom	The Heritage Foundation	2006-2012
			Corruption Perception Index	Transparency	2006-2012

				International	
	URBAN Spatial Characteristics	Property Market	Prices, rents and affordability	Numbeo	2012
		Geographical	*Atlas of Urban Expansion*	*Lincoln Institute*	*2002*
			Urban Character	*Own Research*	*2014*
		Quality of Urban Space	*Quality of Life*	*Numbeo*	*2012*
			Liveability	*Economist Intelligence Unit*	*2012*
			Hotspots - City Competitiveness	*EIU - City Bank*	*2012*
			Innovation Index	*2Think*	*2012*

3.3Research strategy

In order to accomplish the objectives outlined for this study, the descriptive research will precede the explanatory research. The descriptive approach will use the numerical and categorical data provided in the fDi Markets database to describe the current status of the FREI network. This method provides systematic evidence about the phenomenon and allows the comparison of different subgroups (regions, zones, years)

For the explanatory research, correlation and linear regression model will be employed as a single research strategy. This non-experimental approach, using only numerical information, first will help determine the degree of interdependency (correlation) among the dependent variable (FREI inflows) and the independent ones (Competitiveness indicators). Afterwards, linear regression model will help rationalize the influence of changes of the independent variables on the dependent variable. Therefore, this methodology will assist in testing the assumption that a positive performance of competitiveness indicators (x variables) influences FREI inflows (y variable).

Considering that the scope of this research is a global city network, modeling as choice of strategy for the research is appropriate to the extent that allows the analysis of large volumes of existing quantitative data. It also will make possible to gather information from different organizations and sources, checking its correspondence in applicable issues, to support the research. As a result, the use of existing statistical and specific data will be used empirically to gauge the Foreign Real Estate Investments cluster in destination countries and cities, and the implications of it in urban competitiveness.

3.4Data collection methods

Research: Descriptive and Explanatory
Method: Quantitative approach and secondary data analysis

According to the preliminary research questions and the global scope of the thesis proposal, secondary data analysis fits the objective of the investigation as it provides access to high quality and internationally comparable datasets, unreachable otherwise. This method admits

the study of the changes, trends and dynamics in real estate investments for both cross-country and time-series dimension.

The selection of the data is consistent to the indicators cited in the literature review, and the reputation of the referred sources guarantees the quality and the consistency of the data. Even in different circumstances, International institutes have produced these datasets in a consistent way over time and have employed methodologies that make the data comparable across economies.

For all the datasets, excluding fDi Markets, the information is publicly and freely available online or printed. For the information of fDi Markets, the access is possible through a subscription that the Erasmus University holds.

The major challenge in using these existing datasets is the sample composition, as all the sources make use of a different universe and scales. The processing of raw data will include the selection of countries and cities included in the competitiveness report. Also, the database will need to be normalized between them to allow comparisons, since the data is contained in different tables. The objective is to merge the relevant indicators in a logical order in a single database to reduce redundancy of data

3.5Validity and reliability

The validity of the study is guaranteed by using data tested to be accurate and relevant in previous studies in measuring the trends and growth of the concepts mentioned in the research questions. In the case of reliability, it is ensured by the selection of recognized and credible sources.

The Financial Times Ltd, a global business news, data and analysis organization, produces fDi Markets, a central bank of information on the globalization of business. The data is collected on real time as announced by the companies and goes through a rigorous quality control process, before being published, guarantying the quality and accuracy of the information (Financial Times 2014)

The World Economic Forum – WEF is an independent international organization that publishes annually The Global Competitiveness Report. The Report draws statistical data from international bodies (such as the World Bank, the International Monetary Fund – IMF, the United Nations Educational, Scientific and Cultural Organization – UNESCO, and the World Health Organization – WHO), and national governmental sources. In addition, when data sources are scarce or nonexistent, the WEF leads its own Executive Opinion Survey, which is the largest poll of its kind, capturing the insight of more than 13,000 executives into critical drivers of their respective countries' development (Schwab 2013).

Dr. Ni Pengfei, Director of the Center for City and Competitiveness, part of the Chinese Academy of Social Sciences (CASS), edited the empirical study The Global Urban Competitiveness Report, about the competitiveness of 500 cities around the world. The member list of issue group includes academic advisors, authors and contributors widely recognized on issues related to urban competitiveness (Ni 2012). Additionally, the

members of the academic committee of the publication are part of The Global Urban Competitiveness Project (GUCP). The project, founded in 2005, is an initiative that aims to gather specialists and experts interested in urban competitiveness, to conduct research (Global Urban Competitiveness Project 2014).

3.6Data analysis techniques

3.6.1 Descriptive Analysis

Trend Analysis – FREI growth

- Dataset: fDi Markets
- Software: Excel

Network Analysis – FREI inflows and outflows

- Dataset: fDi Markets
- Software: Excel

Geographic Analysis – Spatial Distribution of FREI inflows and outflows

- Dataset: fDi Markets
- Software: GIS

3.6.2 Explanatory Analysis

3.6.2.1 Country Level

Multiple Regression Analysis – Relationship between FREI inflows and independent variables

- Datasets: fDi Markets, GCI, competitiveness pillars and indicators, Real Estate Market Factors
  (See annex 1 for the full list of sources and indicators)
- Type of data: Time series
- Software: SPSS

The regression model will pool data for seven years, regarding the period between 2006 and 2012; using Pooled OLS method.

In total 19 regressions will be run, testing first the multicollinearity of independent "X" variables performing VIF (Variance Inflation Factor) tests ≤10 and then analyzing the p values in order to estimate the significant indicators. The first regression analysis will use GCI as a singular predictor for FREI inflows. In the second analysis, the twelve pillars that compose GCI will be used to predict "Y". Afterwards, 12 separate regressions are going to be performed using the sub-indicators of each of the pillars as predictors. Correspondingly, four separate regressions will be conducted with the sub-indicators of the categories chosen to represent Real Estate Market Factors: property market, economic, financial and institutional framework. Lastly, a concluding regression will merge the significant results of the GCI and Real Estate Market Factors sub-indicators.

3.6.2.2 City Level

Multiple Regression Analysis – Relationship between FREI inflows and independent variables

- Datasets: fDi Markets, GUCI, urban competitiveness dimensions and indicators, Real Estate Market Factors
  (See annex 1 for the full list of sources and indicators)
- Type of data: Cross-Sectional
- Software: SPSS

Due to the restricted availability of indicators that measure geographical aspects and quality of urban life of the cities, the city analysis is limited to cross-sectional data without considering changes over time. Therefore, the model will only regard 2011 data.

In total, the analysis process will comprise 12 regressions. For each one of them, as performed in the country level, the multicollinear independent variables will be excluded by performing VIF (Variance Inflation Factor) tests ≤10. Then, with the remaining indicators, the p values will be examined in order to estimate the significant ones.

In the first regression GUCI will act as a unique predictor for FREI inflows and in the second, the seven dimensions that constitute it will be used to predict "Y". Afterwards, nine independent regressions will be performed in which the sets of sub-indicators, related to the seven dimensions and the two urban spatial factor groups, will be predictors. At last, with the significant results of the sub-indicators, the final model will be performed.

Table 6 Operationalization

RESEARCH QUESTION		CONCEPT	SCALE	VARIABLES	
Descriptive	• WHAT IS THE GEOGRAPHY OF FOREIGN REAL ESTATE INVESTMENTS WITHIN GLOBAL REGIONS?	**GLOBALIZATION** / **NETWORKS**	World Regions / Countries / Cities	Foreign Real Estate Investments - FREI	FDI Volume/Number:Inflows, outflows, type of investments
Explanatory	What is the relationship between Foreign Real Estate Investment inflows and urban competitiveness? Which are the main competitiveness factors for attracting FREI?	**COMPETITIVENESS**	NATIONAL	Global Competitiveness Index - GCI	Institutions
					Infrastructure
					Macroeconomic environment
					Health and primary education
					Higher education and training
					Goods market efficiency
					Labor market efficiency
					Financial market development
					Technological readiness
					Market size
					Business sophistication
					Innovation
			URBAN	*Global Urban Competitiveness Report*	*Enterprise Quality*
					Human Resource
					Hard Environment
					Soft Environment
					Living Environment
					Global Connectivity
	Which are the main real estate market factors for attracting FREI? What are the business environment factors that are determinant for increasing FREI at country level? What are the urban spatial factors that are determinant for increasing FREI at city level?	**REAL ESTATE MARKET**	NATIONAL Business Environment	Property Market	Prices, rents and affordability
				Economic	GDP, GDP per Capita and PPP
					Exports – Imports, Unemployment
				Financial	Interest rates and Banking Sector
					Stock and Capital Markets
				Institutional Framework	Ease of Doing Business
					Dimensions of Governance
					Economic Freedom
					Corruption Perception Index
			URBAN *Spatial Characteristics*	Property Market	Prices, rents and affordability
				Geographical	*Atlas of Urban Expansion*
					Urban Character
				Quality of Urban Space	*Quality of Life*
					Livability
					Hotspots - City Competitiveness
					Innovation Index

Chapter 4: Research Findings

The subsequent sections show the results of both descriptive and explanatory analysis conducted in order to answer the proposed research questions.

In relation to the descriptive approach, the first part (Section 4.1.1 – 4.1.5) comprises the location, growth and industry activities trends for the Foreign Real Estate Investments at a global regions scale. The second part (Section 4.2) covers the geographic analysis at the country and city scale of the FREI network.

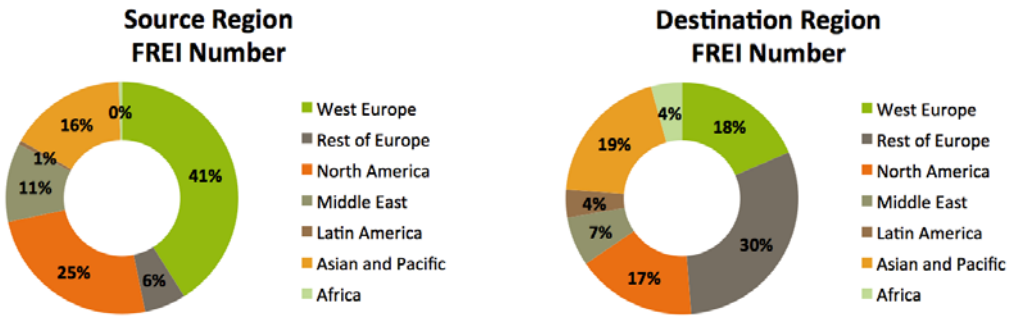
The explanatory approach is divided into Country (Section 4.3.1) and City (Section 4.3.2) level. Both sections analyze the relationship between the FREI counts (dependent variable) and the competitiveness and real estate market factors (independent variables).

4.1The Geography of Foreign Real Estate Investments: Trend Analysis

4.1.1 FREI World regions trends

According to the FDI Markets data, the total number of Real Estate investments worldwide accounted for 3,347 projects for the period between 2006 and 2012 (7 years). It represents home and hosts nodes of 123 countries and 1,142 cities for the seven world regions (Africa, Asian and Pacific, Latin America, Middle East, North America, Rest of Europe and West Europe).

Chart 1 Composition of Foreign Real Estate Investment number by world regions



Source: Own elaboration based on FDI Markets Database

The European regions lead the inward and outward flows, with West Europe as main source region directing 41% of the projects and Rest of Europe as main destination with 30%. However, North America stands out as the strongest player in the system, considering

that the zone only accounts for two countries (United States and Canada) it engages 23% of the inflows and 17% of the outflows. Concerning the emergent markets, Middle East and Asian and Pacific are distinguished by having a significant participation as source areas with 11% and 18% of the number of investments respectively. Furthermore; Africa and Latin America have still relatively low participation as source and destination regions (less than 4% in both cases), considering the market size. (See Chart 1)

Table 7 World Regions Foreign Real Estate Investments linkages

% of World FREI Number	Destination Region							
Source Region	Africa	Asian and Pacific	Latin America	Middle East	North America	Rest of Europe	West Europe	Total FREI Source Region
Africa	*0%*	0%	0%	0%	0%	0%	0%	**0%**
Asian and Pacific	0%	*10%*	0%	2%	1%	1%	2%	**16%**
Latin America	0%	0%	*1%*	0%	0%	0%	0%	**1%**
Middle East	2%	1%	0%	*3%*	0%	3%	1%	**11%**
North America	0%	4%	1%	1%	*13%*	3%	4%	**25%**
Rest of Europe	0%	0%	0%	0%	0%	*5%*	*1%*	**6%**
West Europe	2%	4%	2%	1%	3%	*20%*	*10%*	**41%**
Total FREI Destination Region	**4%**	**19%**	**4%**	**7%**	**17%**	**30%**	**18%**	**100%**

Total FREI within countries of same region	*62%*

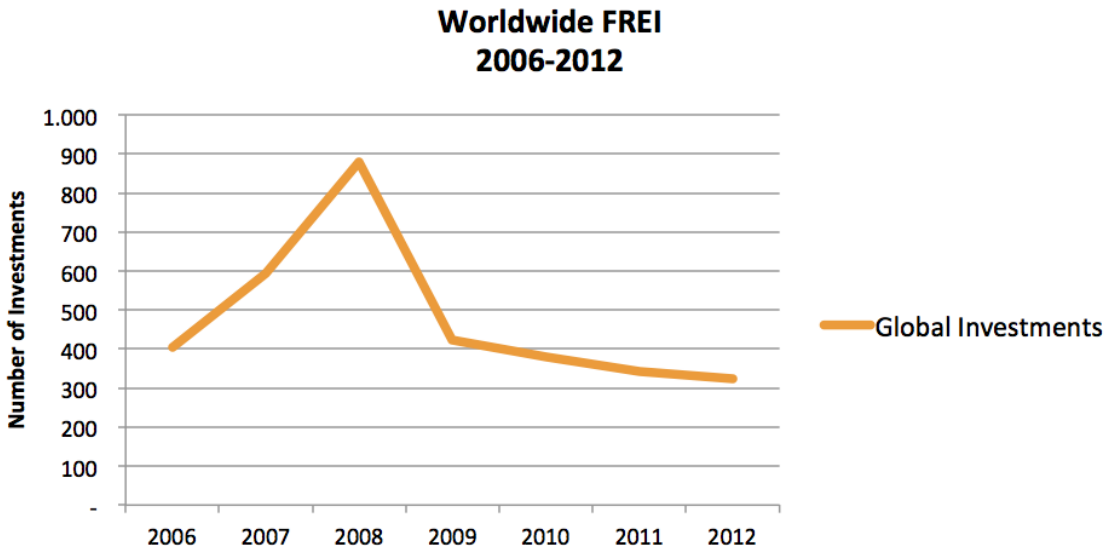
Source: Own elaboration based on FDI Markets Database

Regarding the analysis of the links of source and destination, the flows within countries of the same region represent 62% of the total (See Table 7). This figure supports the statement that the Real Estate Industry is primarily a local business, acknowledging the unmovable nature of the assets involved in the transactions. Europe (West and Rest) attracts 36% of the total flows of the network, which confers it the character as the most important cluster for the sector.

Moreover, the countries of the northern hemisphere dominate the network. The inward and outward flows from those countries represent 97% of the total investments. This assertion is discussed below (Section 4.1.5)

4.1.2 FREI growth trends

Chart 2 2006-2012 Worldwide Foreign Real Estate Investments number



Source: Own elaboration based on FDI Markets Database

Table 8 2006-2012 World Worldwide Foreign Real Estate Investments Annual Growth

Worldwide FREI	2006	2007	2008	2009	2010	2011	2012	GACGR 2006-2012
Global Investments	404	594	880	422	381	343	323	3.347
Annual Growth Rate	81%	47%	48%	-52%	*-10%*	*-10%*	*-6%*	*-4%*

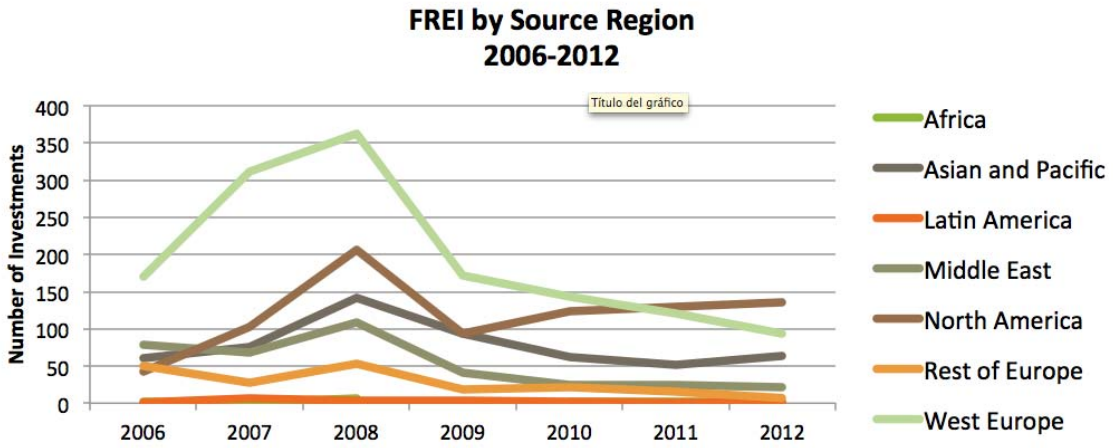
Source: Own elaboration based on FDI Markets Database

Over the last seven years the market has experienced a volatile performance, moving from steady positive growth from 2006 and reaching a peak in 2008, to a dip in the investments in 2009, as seen in chart 2. The crisis, which was attributed to the subprime crisis in the United States, had a fast global spread especially in the real estate housing business. Throughout this period, the Foreign Real Estate sector experienced the effects of the global economic downturn, with a decline of -52% in the number of projects (See Table 8). Even though four years have passed since the fall, there is still a negative consequence on the market that has not yet returned to pre-crisis figures.

4.1.2.1 Growth of FREI outflows

Regarding the trends in source regions (See Chart 3), in 2012 North America became the dominant source zone for investments, surpassing the dominance that West Europe held in the last nine years. North America is correspondingly the region with the best performance over the time series, doubling the number of investments of 2006 in 2012.

Chart 3 2006-2012 Foreign Real Estate Investments number by source regions



Source: Own elaboration based on FDI Markets Database

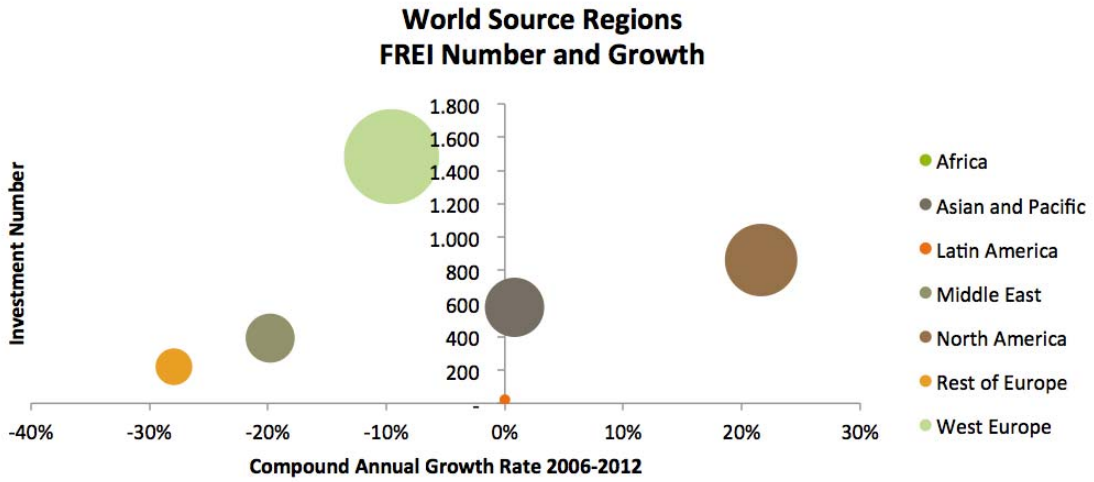
Table 9 2006-2012 Source Regions Foreign Real Estate Investments annual growth

Annual Growth Rate FREI by Source Region	2006	2007	2008	2009	2010	2011	2012	CAGR 2006-2012
Africa	0%	*-50%*	500%	*-100%*	0%	0%	0%	*0%*
Asian and Pacific	100%	27%	87%	*-35%*	*-33%*	*-18%*	24%	1%
Latin America	0%	600%	*-57%*	33%	*-50%*	*-50%*	0%	0%
Middle East	172%	*-14%*	59%	*-62%*	*-39%*	-4%	*-13%*	*-20%*
North America	50%	145%	100%	*-54%*	32%	4%	5%	22%
Rest of Europe	79%	*-44%*	89%	*-66%*	22%	*-32%*	*-53%*	*-28%*
West Europe	57%	83%	16%	*-52%*	*-16%*	*-16%*	*-23%*	*-10%*
Total Annual Growth Rate	**81%**	**47%**	**48%**	***-52%***	***-10%***	***-10%***	***-6%***	***-4%***

Source: Own elaboration based on FDI Markets Database

Furthermore, Latin America and Africa are the most volatile markets, with the highest and the lowest growth rates, due in part to their low participation in source flows. The Latin region was the only that increased its outflows during the crisis of 2009; all the other zones were affected similarly. Asian and Pacific and North America, with growth rates of 1% and 22% correspondingly, are the only regions that are showing recovery as investment sources meanwhile the rest have still negative figures (See Table 9).

Chart 4 2006-212 World source regions total Foreign Real Estate Investment number and growth



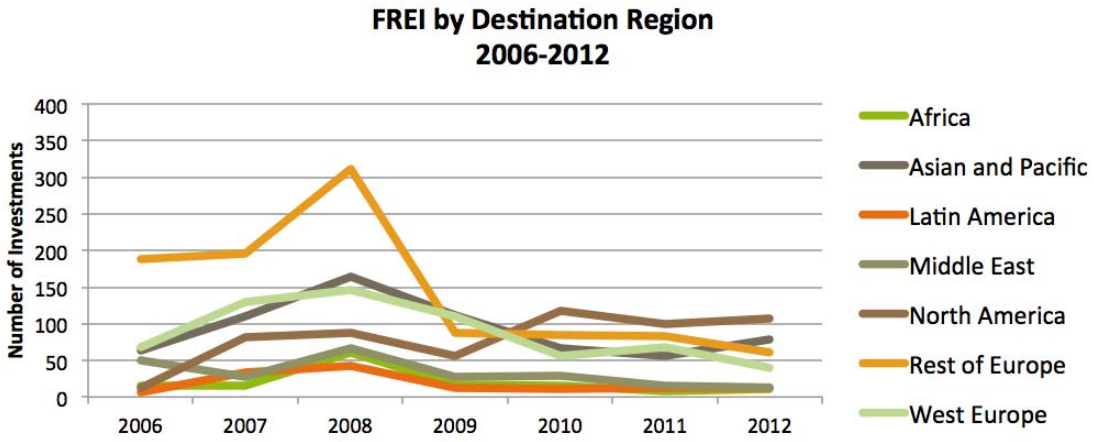
The bubble size represents the number of investments

Source: Own elaboration based on FDI Markets Database

Even though the size of West Europe outflows, North America stands out as the market with best performance in growth rates (See Chart 4). This positive outcome, added to the leadership won in investments source mentioned before, makes it the region with better prospects for both size and rates despite the effects of the crisis that are still manifesting.

4.1.2.2 Growth of FREI inflows

Chart 5 2006-2012 Foreign Real Estate Investments number by destination regions



Source: Own elaboration based on FDI Markets Database

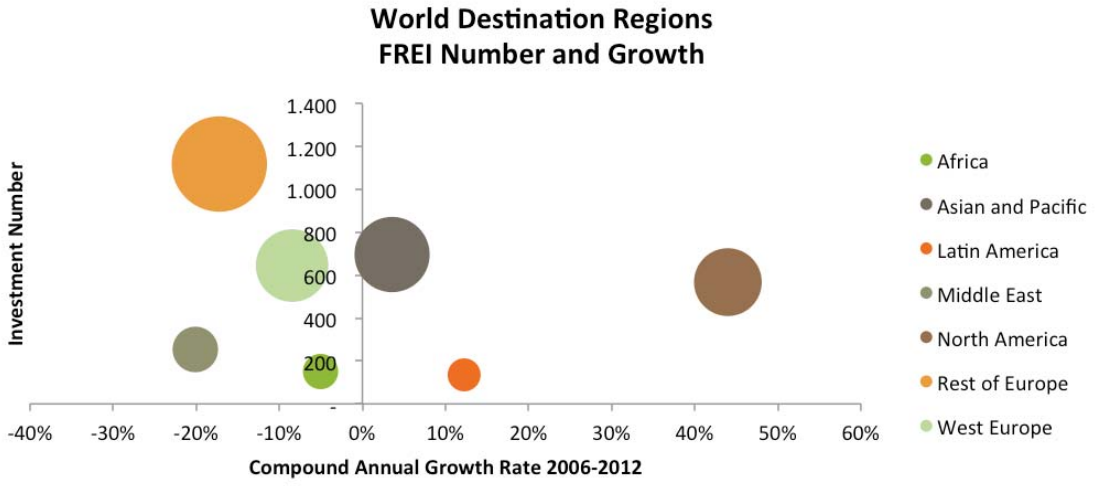
Table 10 2006-2012 Destination regions Foreign Real Estate Investments annual growth

Annual Growth Rate FREI by Destination Region	2006	2007	2008	2009	2010	2011	2012	CAGR 2006-2012
Africa	67%	7%	281%	-72%	-6%	-50%	38%	-5%
Asian and Pacific	39%	72%	49%	-32%	-40%	-16%	41%	4%
Latin America	100%	450%	30%	-70%	-15%	18%	-8%	12%
Middle East	100%	-44%	136%	-58%	4%	-45%	-19%	-20%
North America	100%	575%	9%	-36%	109%	-15%	8%	44%
Rest of Europe	0%	4%	59%	-72%	-2%	-2%	-27%	-17%
West Europe	0%	91%	13%	-25%	0%	21%	-41%	-8%
Total Annual Growth Rate	**81%**	**47%**	**48%**	**-52%**	**-10%**	**-10%**	**-6%**	**-4%**

Source: Own elaboration based on FDI Markets Database

Although overall Europe tends still to dominate de market, Rest of Europe was severely affected region by the global economic downturn, with a decrease of -17% of the number of FREI inflows. The effects for the region are still evident; the last three years North America displaced Rest of Europe as the foremost investment destination. North America is also the only region that has achieved an increased investment dynamics exceeding the growing trends of the pre-crisis period (See Chart 5). Regarding the secondary markets, Asian and Pacific and Africa rose in the last year with growth rates above 35% in both cases during the 2012. In contrast, Latin America and Middle East show negative growth numbers in the past year. The two trends of secondary markets show a disparity and forecast a new composition of the landscape investment for years to come (See Table 10).

Chart 6 2006-212 World destination regions total Foreign Real Estate Investment number and growth



The bubble size represents the number of investments

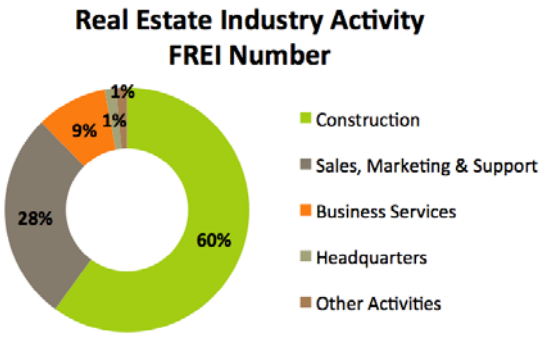
Source: Own elaboration based on FDI Markets Database

To conclude, and alike the source regions trends, North America has become the best performing region, in terms of growth rates and Rest of Europe that is the top market, has

been laying behind with a negative rate, as well as West Europe. In reference to the developing markets, Middle East and Latin America showed a positive outcome in the period for FREI inflows growth, even tough the number of projects is still incipient in the latter. Africa, in contrast, had a negative performance (See Chart 6)

4.1.3 FREI By economic activity

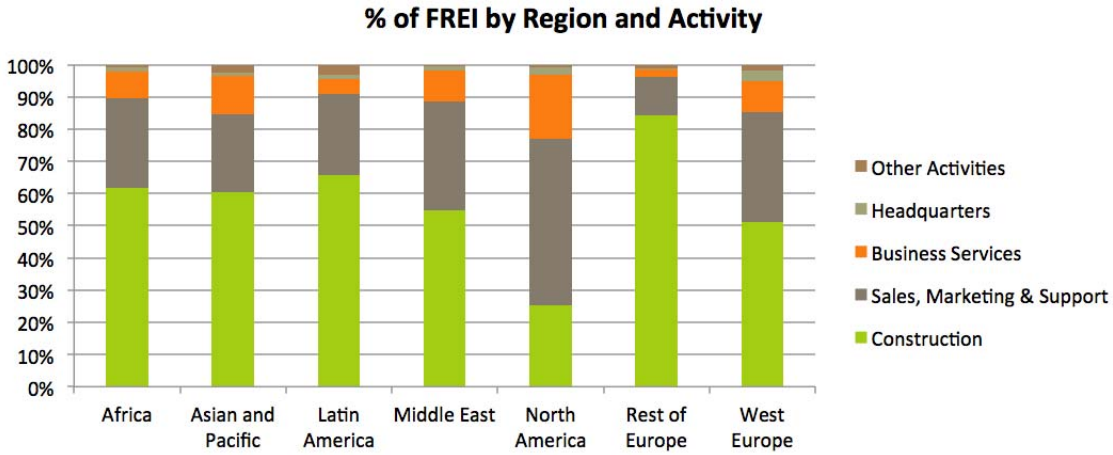
Chart 7 Foreign Real Estate Investment number share by industry activities



Source: Own elaboration based on FDI Markets Database

Within the breakdown of Real Estate Cluster provided by FDI Markets (See Chart 7), the strongest economic activity is Construction with 60% of the share, followed by Sales and Marketing and Business Services, with 28% and 9% thus. The other activities, including the investment in Head Quarters, are not widely representative accounting for less than 1% of the total each.

Chart 8 Foreign Real Estate Investment number share by industry activities and regions



Source: Own elaboration based on FDI Markets Database

Regarding the composition of Real Estate economic activities by regions (See Chart 8), the performance of the different regions is reasonably equivalent to the total, with Construction activities as the dominant segment. However, North America has a different behavior, it is the only region that has a major participation of Sales, Marketing and Support and a higher share of Business Services, which displays the region as a control center for Commercial Real Estate instead of an active property market.

Table 11 2006-2012 Foreign Real Estate Investment annual growth by industry activities

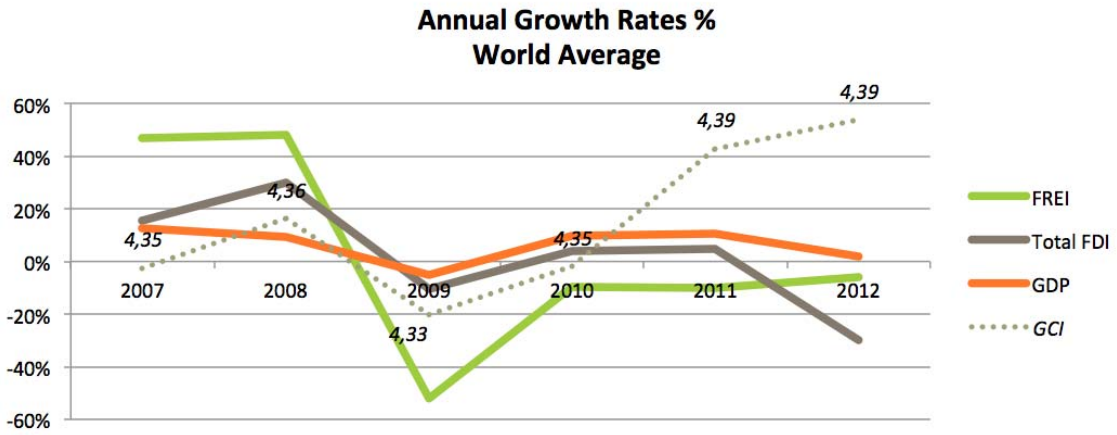
Annual Growth Rate FREI by Industry Activity	World Destination Region							Total Industry Activity
	2006	2007	2008	2009	2010	2011	2012	
Construction	76%	40%	64%	-56%	-32%	-17%	-10%	**-11%**
Sales, Marketing & Support	75%	71%	42%	-50%	42%	-10%	-12%	**5%**
Business Services	24%	167%	-30%	-5%	27%	11%	21%	**20%**
Headquarters	400%	-50%	180%	-43%	-75%	100%	50%	**-8%**
Other Activities	425%	-38%	-54%	-67%	0%	50%	-33%	**-35%**

Source: Own elaboration based on FDI Markets Database

The Construction activities and Headquarters show the biggest impact of the crisis and are still manifesting a negative performance. Sales, Marketing and Support, likewise Business Services, seem to have signs of recovery (See Table 11). These trends show that the commercial and corporate real estate sector is performing better than housing since the latter is a large portion of the development activities.

4.1.4 Growth main indicators vs. FREI

Chart 9 2007-2012 FREI, FDI, GDP and GCI annual growth rates



Source: Own elaboration based on FDI Markets and WDI Databases

GDP growth is a gauge of the state of the economy (Bouchouicha & Ftiti 2012) used to analyze the economic performance of a nation. The Foreign Real Estate sector showed to be highly sensitive to that performance in the previous years (See Chart 10). The financial shocks and economic fluctuations impact the growth rate for the cluster, experiencing highest peaks and dips than GDP and FDI. In a crisis context, the year 2009 witness a sharp decline in the number of projects in all world regions due to a fall in property prices which makes the market less appealing and hazardous for international investors.

Additionally, even when the trend of the Global Competitiveness Index was following the dynamics of GDP and FDI growth, in the last two years GCI has improved although the FREI markets have not shown signs of recovery.

The growth rates of the main indicators by regions are included in Annex 2.

4.1.5 North – South performance

For this section, the analysis was made considering the classification of the world countries in terms of development. The order corresponds to the geographical division of north and south hemispheres (with few exceptions, such as Singapore, Australia and New Zealand), where the first hosts the developed countries and the latter hosts the developing countries.

Table 12 North and South hemisphere Foreign Real Estate Investment number share

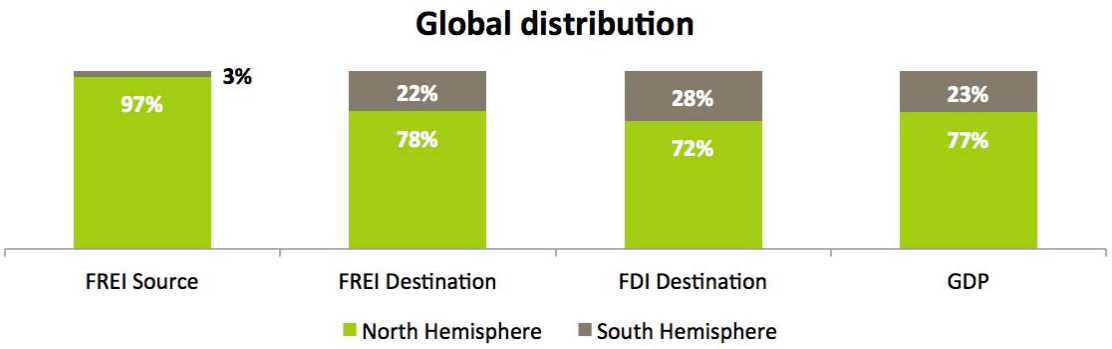
Source FREI	Destination FREI		Global FREI Outflows
	North Hemisphere	South Hemisphere	
North Hemisphere	76%	21%	**97%**
South Hemisphere	1%	2%	**3%**
Global FREI Inflows	**78%**	**22%**	**100%**

Source: Own elaboration based on FDI Markets Database

From the total number of Foreign Real Estate Investment flows, 97% was originated in the north and only 3% in the south. In contrast, as receiver the south has a larger share, with 22% of the inflows, even though it is still relatively small amount. 78% of the investments had north as a target.

The network is dominated clearly by the north, and the south plays a role of receiver barely. The investments (inflows and outflows) involving the north account for 98% of the total. This figure includes 1% of investments originated in the south and leaves only 2% of the total flows within the region (See Table 12).

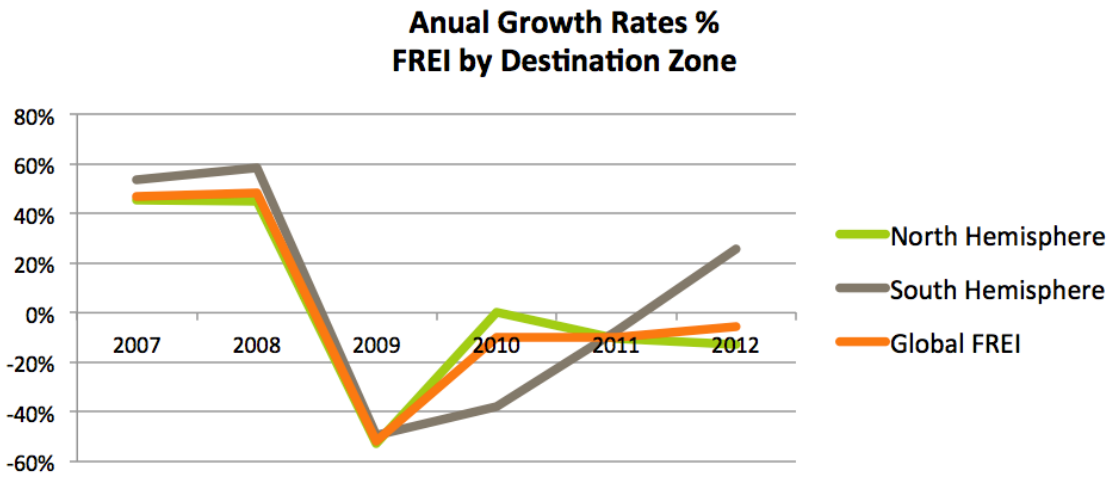
Chart 10 2007.2012 FREI, FDI, GDP and GCI total North and South share



Source: Own elaboration based on FDI Markets and WDI databases

FREI inflows have similarly the same distribution than total FDI and GDP, ratifying what was mention above that Real Estate cluster is highly related to the global economic trends. Nevertheless there is still a bit of room for the south as FREI receiver if comparing with FDI, in which the participation in overall inflows is six points higher (See Chart 11).

Chart 11 2007-2012 Foreign Real Estate Investments North and South growth



Source: Own elaboration based on FDI Markets Database

The annual rates (See Chart 12), evidence that the growth of investments was showing the same tendency in both parts of the world before the crisis stroked in 2009, and had an equivalent negative impact during that year. However, in the last years the growth rate in the south performed better than the north, even if it has still a minor share of the inflows. The developed countries are still having negative number post-crisis (-6%) while the developing are showing signs of recovery (43%), even though they have not reached the pre-crisis volume of investments.

In conclusion, and taking into account the general pattern that most of the investments take place in countries of the same region mention in the previous section, the south has opportunities of improving its position in the network by increasing its south-south links.

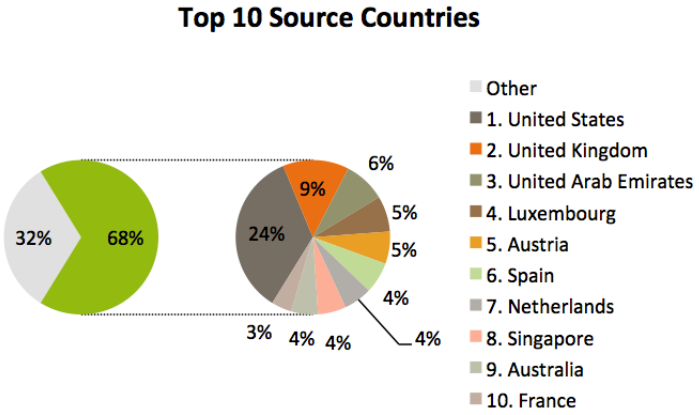
4.2 Geographical location of FREI inflows and outflows

The previous section, world regions trend analysis, showed that the financial crisis had a deep impact on the Foreign Real Estate Investments flows. Also, showed how the North Hemisphere, with an extensive participation of North America in both inflows and outflows, rules the investment dynamics. Complementarily, with the purpose of gaining greater detail about the geography of the network, the following section will emphasize the geographic distribution at country and city level.

4.2.1 Country Scale

From the 126 countries that FDI Markets registered with Real Estate cluster transactions for the period between 2006 and 2012, 123 performed as destination and only 67 (53% of the observations) did as origin. The figure indicates roughly that merely 60% of the world is part of the network. Furthermore, 85% of the countries that compose of the overall FDI network are involved in the Real Estate cluster, exposing opportunities of growth in new markets.

Chart 12 2006-2012 Top 10 source countries share in total Foreign Real Estate Investment number



Source: Own elaboration based on FDI Markets Database

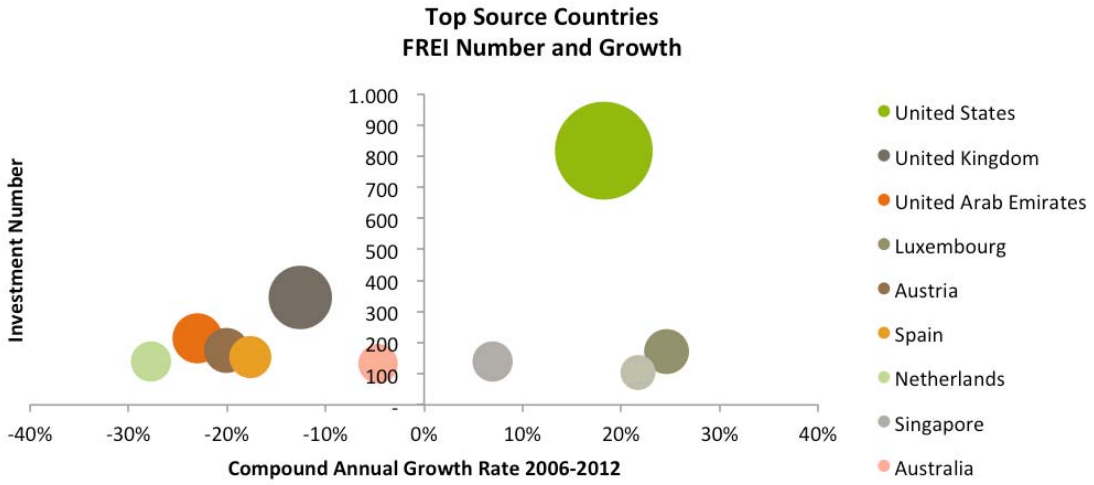
The investments are highly concentrated in few countries for both inflows and outflows. In the case of outward flows, only 16 countries (13%) accounts for the 80% of the

investments. In the inward flows, 15 countries (22%) received the same proportion of the investments (See Chart 13).

Taking into account the top 10 source countries, they reached 68% of the total outflows. This rank is thoroughly dominated by the north hemisphere. United States stands out in the first place as a single country with almost a quarter of the total outflows. Following the general trend mention in the previous section, the countries of West Europe (6 out of 10) accounted for a third of the outward movements, with United Kingdom leading with 9% of the investments. Even though Middle East did not denote a strong position in the regional analysis, United Arab Emirates ranks in the third place (6% of FREI number). Asian and Pacific region is represented by Singapore and Australia.

None of the countries of Rest of Europe or the developing world is present in the source nations Top 10. Though, India is the first country to emerge in the rank in the 18th position, and Hungary leads the Rest of Europe region in the 23rd place. Furthermore, Latin America and Africa consistently with the regional analysis hold a weak position in the country breakdown. Chile and South Africa hold the positions 40th and 45th respectively. Annex 2 includes the detail

Chart 13 2006-212 Top source countries total Foreign Real Estate Investment number and growth

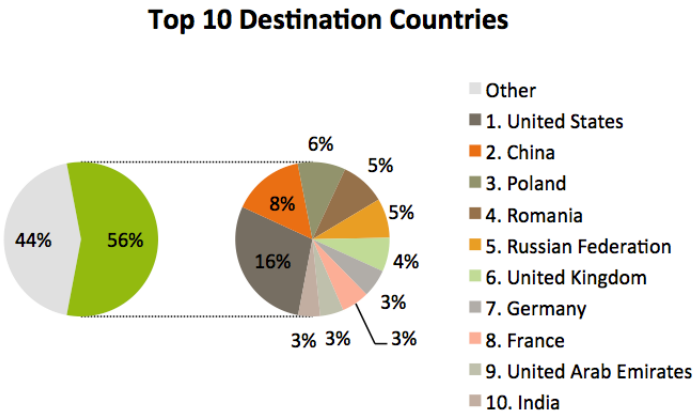


The bubble size represents the number of investments

Source: Own elaboration based on FDI Markets Database

In relation with the growth trends during the analyzed period, only 4 out of the 10 countries showed a good rate despite the 2009 crisis, meaning that the leading nations did not cope better with the effects afterwards (See Chart 14). Luxembourg is the country that has performed better with an average rate of 25%, followed by United States and Singapore, with 18% and 7% correspondingly. Considering the amount of flows leaving the United States the growth is remarkable, demonstrating prospectively can hold the leading position in the coming years. In contrast, United Kingdom, which holds the second place in originating flows, seems to be stagnated.

Chart 14 2006-2012 Top 10 destination countries share in total Foreign Real Estate Investment number



Source: Own elaboration based on FDI Markets Database

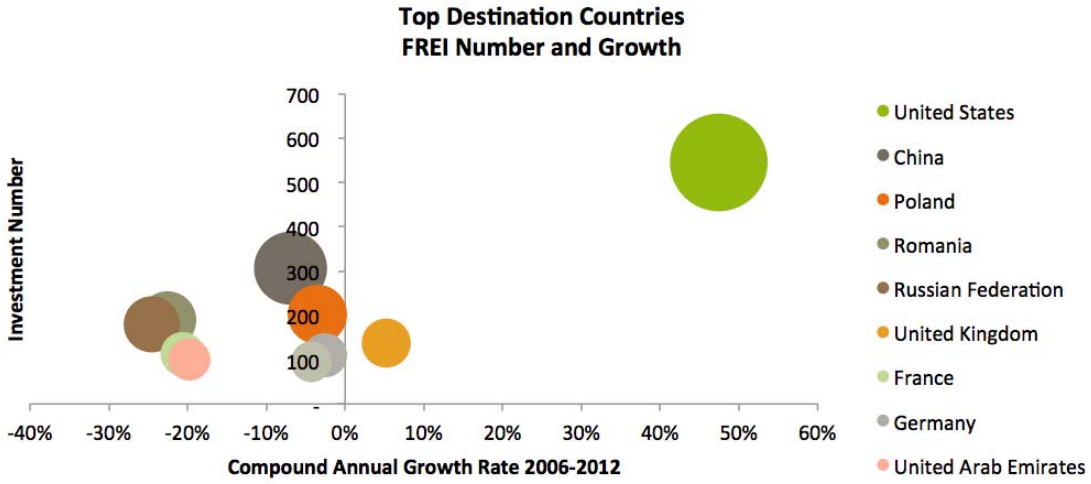
About the top 10 destination countries, they report of having received 56% of the investments. The north mainly rules the destination rank with 48% flows, but unlike the source countries composition, there is presence of southern countries, with China in the second place and India in the 10th position, which can be explained due to the market size of both economies (See Chart 15).

Furthermore, the host nations ranking is leaded again by United States (16%), but even if it has a minor share than as origin country still counts as a significant portion. Moreover, consequent with the regional analysis, Poland, Romania and Russian Federation, representing Rest of Europe, are next in the ranking holding the third, fourth and fifth place correspondingly. The positions are consistent with the size of their economies, the top five GDP of the region includes the three of them. Similarly, the biggest economies of West Europe: United Kingdom, Germany and France, are next in the rank with 10% of the share. However, that the Rest of Europe had surpassed the West evidences that the network is moving towards less mature markets. Finally, United Arab Emirates also appears as a receiver of investments with 6%.

Again African and Latin countries are absent from the privileged positions, although both regions performed better than origin. Morocco and Brazil were the countries that attracted most investments, holding the 22nd and 23rd places.

This composition shows that even though the network still has a significant dominance of developed countries, emerging markets as the BRIC countries have featuring roles. The market size and the level of maturity of the market, which still has not reached levels of saturation of property development, are the main drivers for this performance.

Chart 15 2006-212 Top destination countries total Foreign Real Estate Investment number and growth



The bubble size represents the number of investments

Source: Own elaboration based on FDI Markets Database

Respect to the growth of the main target countries, only United States had an outstanding performance with a 48% rate, ratifying its prominent role in the network. United Kingdom was the other single country that had a positive growth; however the remaining eight had a decrease in the investments, showing that they are still suffering the effects of the crisis (See Chart 16).

Figure 8 Foreign Real Estate Investment country linkages

The figure included all home and host countries, but only displays links over five investments. The thickness of the lines represents the number of investments, meanwhile the full dots represent the host countries and hollowed dots the home. Source: Own elaboration based on FDI Markets Database using ArcGIS

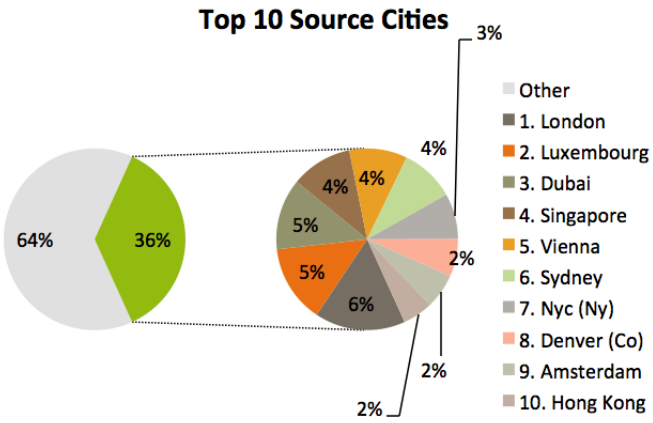
The map (See figure 8) shows the supremacy of the United States as a single country in the network and Europe (West and Rest) as the biggest cluster. As mentioned before, Brazil, Russia, India and China highlight in the distribution of investment flows and constitute a second range in the system. Middle east and Asian Pacific appear as the emerging regions, unlike Latin American (except Brazil) and African countries that are not well linked in the structure.

4.2.2 City Scale

The urban level of FREI included transactions in 1.353 cities, of which only 214 had flows in both directions (16%). The majority of them, 928 cities, performed exclusively as hosts (69%), and the remaining 211 were only home of investments. Although, even if the number of cities seems large, 86% of the cities accounted for less than five investments in the 7-year period, accounting for 44% of the flows. It can be concluded that they participated as casual nodes and do not hold a dynamic position in the network.

When performing for urban scale the same concentration analysis than the previous section, the source cities composition shows a higher concentration of flows, only 86 cities (6% of the total) made 80% of the outflows. On the other side, host cities have a higher dispersion, 33% of the cities represent the 80% of the inflows. The proportion evidences the control of the network in a few metropolises.

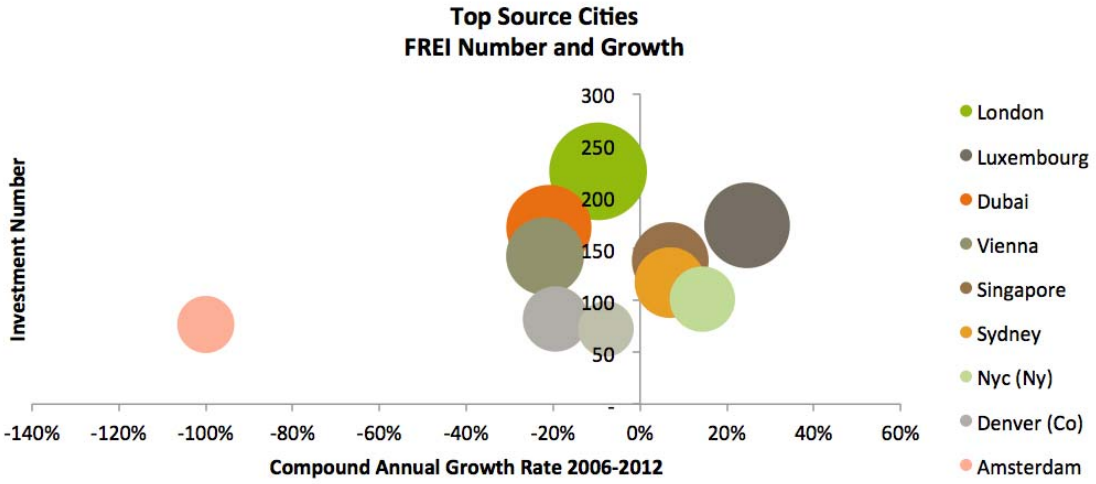
Chart 16 2006-2012 Top 10 source cities share in total Foreign Real Estate Investment number



Source: Own elaboration based on FDI Markets Database

The top 10 home cities originate 36% of the flows (See Chart 17). The presence of global cities characterizes the leading positions, evidencing that the real estate cluster obeys to the structure of core nodes that control and dominate the capital. The literature backs up this statement, London, Singapore, New York and Hong Kong ranking first, fourth, seventh and 10th position, are the most important international financial centers for the investment (Beaverstock et al. 2011). Complementarily, the second and third cities, Luxembourg and Dubai, are likewise the most prosperous cities of their region. See Annex 2 for the city rank of each region.

Chart 17 2006-212 Top source cities total Foreign Real Estate Investment number and growth

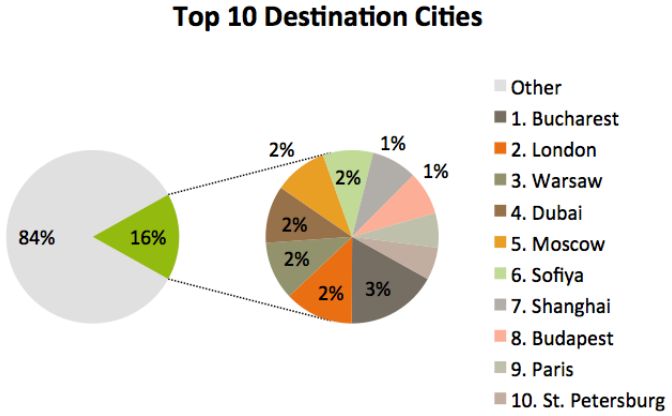


The bubble size represents the number of investments

Source: Own elaboration based on FDI Markets Database

Furthermore, the growth rate is mixed within the sample, the outcome does not seem to follows patterns of size, conurbation or location. Only four cities had a positive result in the period, which evidence that the urban scale is not more resilient than the national. Luxembourg had the highest growth rate with 25%, and Amsterdam the lowest with -100% (See Chart 18).

Chart 18 Top 10 destination cities share in total Foreign Real Estate Investment number



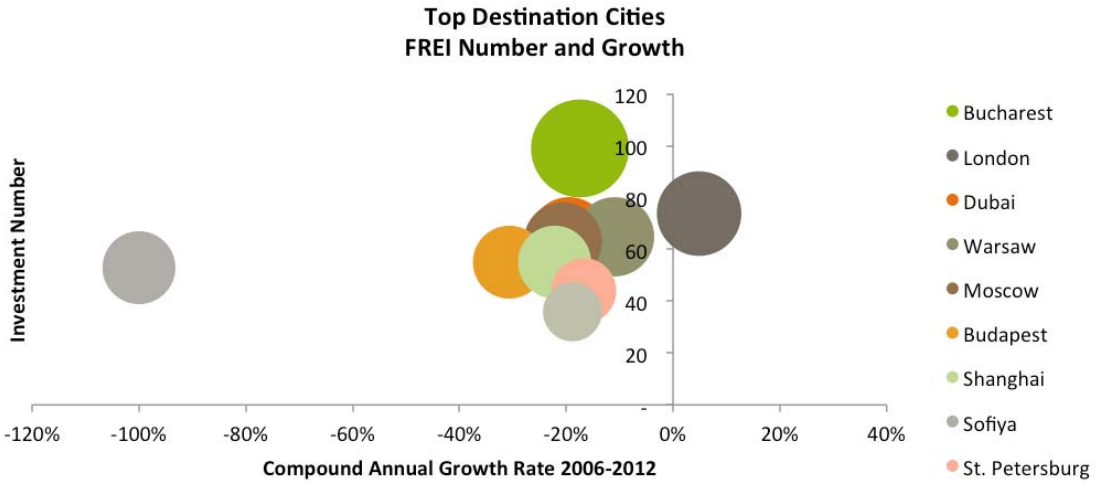
Source: Own elaboration based on FDI Markets Database

In respect to host cities, the top 10 is not that representative as home cities but it illustrates the dynamic of the cluster with 16% of the inflows. Even though London and Dubai are still in the rank, it is no longer dominated by the global potencies. The cities from Rest of Europe, Warsaw, Moscow, Sofia, Budapest and Saint Petersburg emerge as the most attractive places in the FREI network with a share of 10% of the flows (See Chart 19). In a

paper about Real Estate markets in Central European cities, Keivani et al. (2001, p.1) explain the phenomenon:

> *"Several factors have helped to shape the post-socialist cities of central Europe since the end of the 1980s. These include political transformation, economic change, restitution, privatisation, price liberalisation and decentralisation of local government. It is argued that local government administrative and planning structures have been ill prepared in meeting the requirements of international investment capital in a co-ordinated and effective manner. Institutional constraints has promoted an organic form of urban development primarily determined through the international demand for, and supply of, commercial and retail space"*

Chart 19 2006-212 Top destination cities total Foreign Real Estate Investment number and growth



The bubble size represents the number of investments

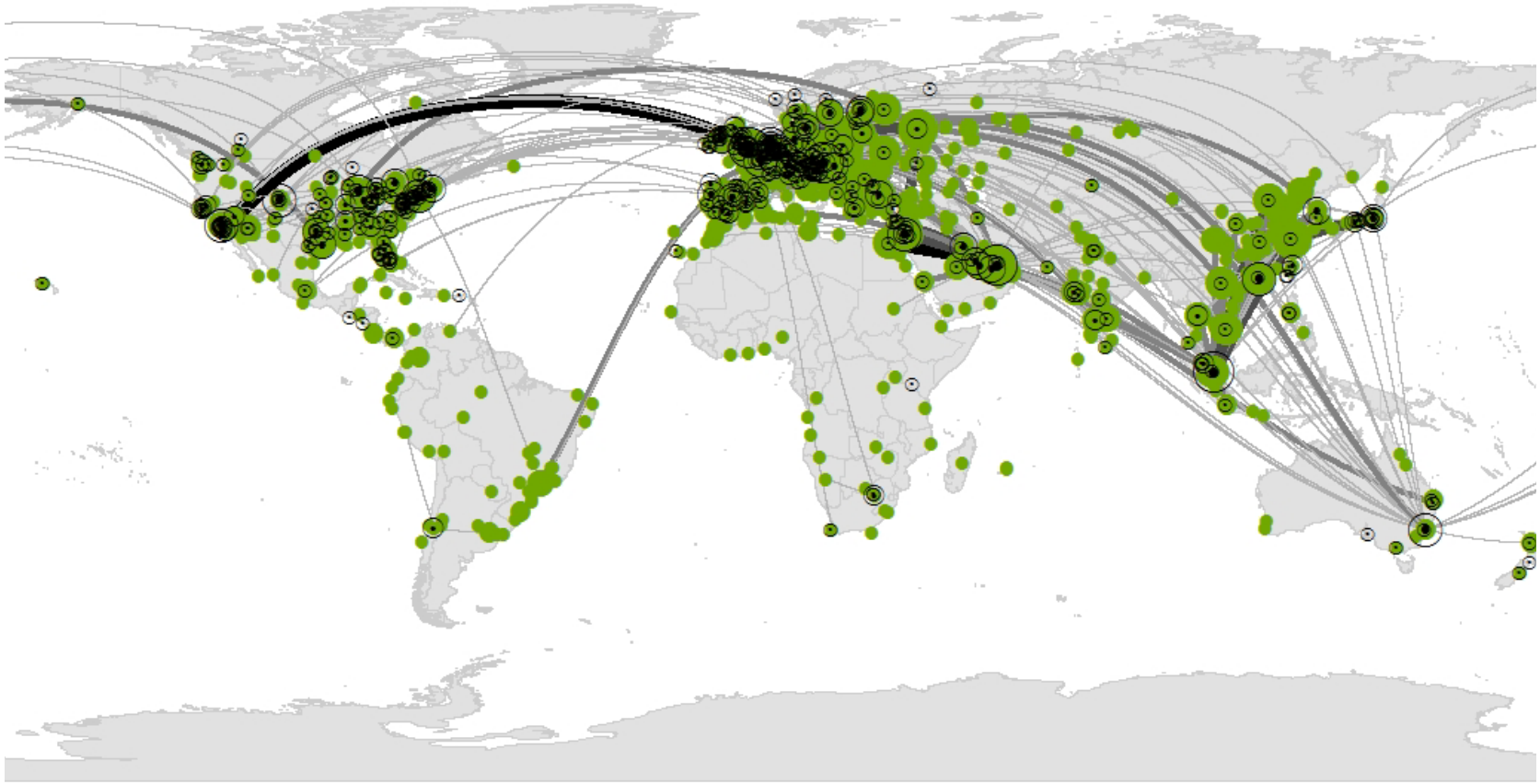
Source: Own elaboration based on FDI Markets Database

In respect to the growth trends, London was the only city in the top 10 destinations that had a real increase in the investment flows, but barely reached 5%. The remaining 9 performed poorly; this may mean that the investors try to diversify and seek for other targets during a crisis period (See Chart 20).

The case of Bucharest, which occupies the first position, should be highlighted. In the post-communist era, the Romanian capital became one of the leading East Europe business hubs, backed by numerous real estate developments for dwelling and commercial properties (Nae & Turnock 2011). However, since 2002, the city has experienced a dramatic increase in property prices, reaching values comparable to London, which led it to have highest house price to income ratio in the world (NUMBEO data). Along with this condition, coupled with low-interest rates in the country, surges the risk of a property bubble. The circumstances of Bucharest evidence that the stimulus to real estate investments must be

complemented with financial market appropriate policies. The argument will be discussed in detail in the explanatory part (Section 4.3.1.1)

Figure 9 Foreign Real Estate Investment city linkages



The figure included all home and host cities, but only displays links over five investments. The thickness of the lines represents the number of investments, meanwhile the full dots represent the host cities and hollowed dots the home. Source: Own elaboration based on FDI Markets Database using ArcGIS

The map (See Figure 9) illustrates the three main clusters of cities: United States east coast, Europe and the Pacific area. However at the urban level, the strongest links are between Vienna and Bucharest (not legible at this scale), Las Vegas (US) and London, and Dubai and Cairo. Singapore and Sydney stand out as having a strong position but with more scattered linkages. See Annex 2 for the regional city maps.

4.3 Explanatory Analysis: Foreign Real Estate Investments, Competitiveness and Real Estate Market Factors

This section uses an explanatory approach and quantitative secondary data technique, with the aim of identifying the factors that are relevant for attracting Foreign Real Estate Investments at country and city level.

4.3.1 National Scale

For the country level analysis, linear multiple regression models were set taking data for the 7-year period (2006-2012), intending to forecast FREI flows. The equations were estimated in SPSS by applying the pooled OLS method. For future research, there is recommended to employ more advanced techniques such as fixed effects and random effects to ensure more accurate results.

The sample included 109 countries out of the 123 that attracted FREI flows to match the countries listed in the Global Competitiveness Index. The frequency of the data is annual and ranges from 2006 to 2012. However, not all the countries registered investments for the seven years series, in which case it was assumed as a missing value. Three equations are reported with the findings that address the research questions for country level.

4.3.1.1 Country FREI and Global Competitiveness Index - GCI

Table 13 Regression analysis of FREI and Competitiveness at country level (Pooled data 2006-2012)

	(1) FREI number of investments
FREI number of investments	
GCI Global Competitiveness Index	4,058***
	(1,041)
Constant	-11,07*
	(4,739)
Observations	464
R^2	0,033
Adjusted R^2	0,031

Standard errors in parentheses	
** p < 0.05, ** p < 0.01, *** p < 0.001*	

Source: Own elaboration based on FDI Markets Database using SPSS

In the first analysis, using the Global Competitiveness Index as a single predictor for FREI inflows, the results for the model show a positive significant relationship. The GCI shows a moderate effect, although it does not predict extensively FREI number according to the R-squared value (See Table 13).

4.3.1.2 Country FREI and 12 pillars of competitiveness

Table 14 Regression analysis of FREI and Competitiveness Pillars at country level (Pooled data 2006-2012)

	(1) FREI number of investments
FREI number of investments	
7th pillar: Labor market efficiency	1,994*
	(0,975)
10th pillar: Market size	5,85***
	(0,524)
Constant	-27,194***
	(4,627)
Observations	464
R^2	0,238
Adjusted R^2	0,234
Standard errors in parentheses	
** p < 0.05, ** p < 0.01, *** p < 0.001*	

Source: Own elaboration based on FDI Markets Database using SPSS

Once ran the twelve pillars of Competitiveness, only two location factors, Labor Market Efficiency and Market Size, arose to have a significant relationship with FREI. These two

pillars are key for efficiency-driven economies, related to countries in the second stage of development (See Table 14).

These results are consistent with the theory review. The 10th pillar Market Size, which encompasses four sub-indicators: domestic and foreign market size, GDP and exports, is backed in the literature as a fundamental aspect influencing FDI. The argument of market access as the firm's primary motivation (Bognanno et al. 2005) is reinforced in the real estate sector. The real estate investments abroad are almost exclusively market-seeking oriented due to the unmovable quality of the assets. The previous section of this study also evidences the relevance of this location factor. The geographic distribution of flows showed that the dominant economies of each region are the ones attracting more FREI.

About the seventh pillar, Labor Market Efficiency, according to World Economic Forum (2013) it represents a flexible market that has the ability to allocate workers to the most effective use in the economy and offers strong incentives for employees. These two employment trends are drivers to space demand, in the sense that efficient markets lead to more dynamic economic activities.

4.3.1.3 Country FREI, Competitiveness Indicators and Real Estate Market Factors

Table 15 Regression analysis of FREI and location factors at country level (Pooled data 2006-2012)

	(1) FREI number of investments
FREI number of investments	
Pay and productivity	2,91*
	(1,317)
Affordability Index	2,654***
	(0,761)
GDP (current US$)	4,94E-12***
	(0)
Domestic credit provided by financial sector (% of GDP)	-0,025*
	(0,011)
Constant	1,997***
	(4,245)
Observations	464
R^2	0,807

Adjusted R²	0,801

Standard errors in parentheses

** p < 0.05, ** p < 0.01, *** p < 0.001*

Source: Own elaboration based on FDI Markets Database using SPSS

After analyzing the 162 sub-indicators, in 12 models corresponding to the pillars of competitiveness and four models corresponding to Real Estate Market, a final regression was performed in which four variables proved to be significant in predicting FREI inflows. These final predictors correspond to the GCI seventh pillar, property market, and economic and financial factors, one of each (See Table 15). The following sections comprise the considerations for each of these variables.

However, even tough there was expected positive results about the business and governance indicators included in the institutional framework indicators, none of them indicated being significant for FREI.

4.3.1.3.1 Significant Competitiveness Indicators

7th Pillar: Labor Market Efficiency - PAY AND PRODUCTIVITY

Consequently with the findings of the second regression model described before, the final regression analysis validates a correlation of investment inflows and a variable of the Labor Market Efficiency. The results suggest that there is more attraction of FREI in countries where the relation between Pay and Productivity is strong. This statement evidences the preference of MNC for locating in highly productive countries with equilibrium in wages (Eicher & Kalaitzidakis 1997)

This inclination of firms has an impact on the property market, by stimulating the demand of commercial and housing assets. For the first type of assets, more companies mean more need of commercial space to allocate their economic activities. For the second, related to employees, higher wages improve the affordability to acquire housing.

Even though the 10th pillar: Market Size showed significance, none of its sub-indicators was present in the final regression model. However, the GDP measured in volume (US Dollars) that was part of the economic factors that could influence the real estate market, appeared to be significant and is discussed below.

4.3.1.3.2 Significant Real Estate Market Factors

Property Market - AFFORDABILITY INDEX

The affordability index is related exclusively to the housing market and even though the primary focus of this research is commercial real estate investments; due to the size of the

domestic markets, the housing industry can attract international property developers and foreign capital.

The Affordability Index, as a property market indicator, is a quantitative measure that offers some understanding on the balance between real estate property prices, population incomes and interest rates. It attempts to measure the ability of a family earning the median income to purchase a median-priced house, representing the ratio between the disposable income and the expense on a mortgage loan (NUMBEO 2014). Therefore, this variable can increase the FREI inflows as a good affordability stimulates the demand of housing.

However, this is a fragile condition that requires a balance with the financial market. The increase in the demand of assets tends to increase property prices, which combined with an encouraged lending activity will carry a high risk of the formation of a real estate bubble.

Economic - GDP

Consequently with the literature and the 12 pillars model, the regression results confirm that market size is an important feature that influences the real estate market by showing a correlation between FREI and GDP of the destination country.

The Gross Domestic Product reflects the economic status of a country, as it is a representation of the size and strength of its economy. Hence, in countries with a higher GDP there is a more dynamic property market, since an extensive cumulative economic activity drives the demand for commercial space. In addition, a large GDP comes along with activities of the service sector (including retail, headquarters, technical and professional services) that provide opportunities of investments in commercial assets and offer investors a portfolio diversification alternative in solid markets.

Nevertheless, in this statement there is path dependence as mentioned in the literature review: the increase in commercial real estate production causes a growth in real GDP by definition. Real Estate plays an integral role in world economies; it is an important driver of growth not only for its contribution to GDP but because it fosters economic activities.

Financial - DOMESTIC CREDIT PROVIDED BY THE BANKING SECTOR

The indicator is a measure of banking sector depth and financial sector development in terms of size. In relation with the topic of this research, the banking industry is the single most important funding source for the real estate sector, according to Zhu (2003, p.16):

> *"Bank lending is the primary source of real estate funding; not surprisingly, there are close connections between real estate prices and bank credit. On the one hand, sharp falls in property prices can lead to a large-scale deterioration in asset quality and in the profitability of the banking industry, particularly for those banks that are deeply involved in property or property-related lending businesses. They also undermine the value of bank capital, reducing the banks' lending capacity. On the other hand, banks' lending attitude has important implications for property prices. Bank credit to property buyers and constructors may change the balance between the demand and the supply side and cause property prices to fluctuate."*

Consequently, the results of the model reveal a significant relationship between Domestic Credit Provided by the banking sector and FREI. However, the relation appears to be negative, but with represented in a minor coefficient (B = -0.025*) that is subtle to changes.

The indicator is a reveals a sensitive issue for the international investors decision-making process. The real estate assets are financed in the local market since the global capital availability is restricted due to the foreign exchange and country risk (interest rate). Moreover, the liquidity of the collateral defines also the source of capital, as the same asset backs the loans. In the case of real property they are unmovable, which makes difficult to transfer the warranty.

This outcome denotes the relevance of a healthy banking sector development and availability of capital in order to increase the attractiveness for Foreign Real Estate Investment inflows.

4.3.2 Urban Scale

The second part of the explanatory approach, likewise the previous section, explores the relationship between FREI and factors regarding competitiveness and urban spatial factors at a city level. The linear multiple regression models were performed in SPSS software to estimate the relationship between the FREI flows and the independent variables.

Concerning the choice of cities to study, a selection of the top 50 in number of investments from the FDI Markets 2012 registries were preselected to search for the indicators, which concluded in a sample of 28 cities with available and comparable data. Following the same structure as the country level, three equations are reported aiming to answer the corresponding research question for the urban sale.

4.3.2.1 City FREI and Global Urban Competitiveness Index – GUCI

Table 16 Regression analysis of FREI and Competitiveness at city level (2011)

	(1) FREI number of investments
FREI number of investments	
GUCI Global Urban Competitiveness Index	6,78**
	(2,247)
Constant	-0,388*
	(1,185)
Observations	28

R^2	0,259
Adjusted R^2	0,231

Standard errors in parentheses

** p < 0.05, ** p < 0.01, *** p < 0.001*

Source: Own elaboration based on FDI Markets Database using SPSS

The above outcome indicates a positive relationship between the Global Urban Competitiveness Index and Foreign Real Estate Investments inflows at city level (See Table 16).

4.3.2.2 City FREI and Urban Competitiveness Dimensions

Table 17 Regression analysis of FREI and Competitiveness Dimensions at city level (2011)

	(1)
	FREI number of investments
FREI number of investments	
7th Dimension: Global Connectivity	7,811**
	(2,392)
Constant	-1,507*
	(1,424)
Observations	28
R^2	0,291
Adjusted R^2	0,264

Standard errors in parentheses

** p < 0.05, ** p < 0.01, *** p < 0.001*

Source: Own elaboration based on FDI Markets Database using SPSS

For the second scale of analysis, that included only the Urban Competitiveness Dimensions, the result establishes that FREI attraction is only related to Global Connectivity while the other six dimensions were not significant. The coefficient (*B = 7,811***) suggests a strong relationship (See Table 17).

The seventh dimension displays the level of use of external factors, markets and opportunities, and refers to the interactions among organizations internally and externally of the urban context (Ni, 2012). The indicator includes the quality and range of the transport systems, the convenience of the locations and the availability of technology and information systems. Global connectivity is a fundamental approach to improve and upgrade the city position in the global economic network and the physical conditions of it, represented in the property market (convenient locations and quality facilities), are a trigger for attracting FREI.

4.3.2.3 City FREI and Urban Spatial Factors

Table 18 Regression analysis of FREI and location factors at city level (2011)

	(1) FREI number of investments
FREI number of investments	
Enterprises Connectivity	7,506**
	(2,185)
Constant	-0,564*
	(1,104)
Observations	28
R^2	0,312
Adjusted R^2	0,286
Standard errors in parentheses	
** p < 0.05, ** p < 0.01, *** p < 0.001*	

Source: Own elaboration based on FDI Markets Database using SPSS

Consequent with the results of the second regression at city level, the final model displays Enterprises Connectivity (sub-indicator of the seven dimension, Global Connectivity) as a significant variable for predicting Real Estate inflows (See Table 18).

Enterprises connectivity represents the link of the city´s firms with the global urban economic network. The presence of MNC (headquarters and branches), advanced services and involvement in international operations, implies that cities outreaching its local influence have an advantage to attract FREI inflows. Thus, even though Real Estate is a local business, the cities are more appealing for foreign investors when they have global reach.

Besides, there is evidence of a virtuous circle since Real Estate Property Market is also critical in the promotion of global connection. As a production factor, it supplies convenient locations and quality facilities for the adequate functioning of economic activities. Additionally, the firms have an opportunity of reducing costs when there is an appropriate and accessible location and infrastructure (Ni 2012).

In respect with the other categories of variables, the model did not fit for identifying other relevant variables at city level. The regression revealed no significance for variables related with the property market and urban spatial factors, even tough that it was expected to find a strong relationship due to relevance of the urban scale and the local context for the real estate sector and assets. For future research, there is recommended to broaden the city sample and include time series that allow identifying the changes and effects of the independent variables with greater accuracy.

Chapter 5: Conclusions

5.1 Introduction

The drive of this research was to recognize the structure of the global Real Estate system and to determine the location factors that are relevant for attracting FREI. Therefore, with a geographic context as a precedent, this work focus on finding the correlation between investment flows and competitiveness, alongside other factors influencing the real estate market. This section summarizes the findings of the study for each one of the research questions, zooming in from worldwide to urban perspective, examining world region, country and city scale.

5.2 Conclusions and discussions

5.2.1 The overall picture

Research question 1:

What is the geography of Foreign Real Estate Investments within global regions?

The analysis of the FREI patterns over the last years showed that the cluster holds the concept of real estate as "local" business in a broader scale. Although the integration of diverse economies and markets characterizes the globalization dynamic, 62% of the links happen within countries of the same region. It is relevant to highlight this condition since it underpins the importance of clustering as a growth strategy. Besides, the statement evidences that within the competition for international sources of capital, there are opportunities of complement with the surrounding economies.

In regard to the geographical location of the flows, the global north dominates the network; the zone concentrates 97% of the outward and 78% of the inward investment. The previous figure manifests the association of Real Estate primarily with economies in second and third stage of development. This finding is consistent with the level of evolution of the international real estate sector, showing that the market is still reliant on low-risk assets in stable environments. The industry has yet to grow in developing countries; FREI outward and inward flows in the south are still very few and have not yet established an active industry.

Consequent with the previous statements, both regions of Europe make the most important cluster in the network, generating outward investment in the western countries and inward in the rest of the continent, exemplifying a complementary relationship within the region. Though, and despite the influence of the European cluster in the network, the North America figures are correspondingly significant considering that consists only of two countries. United States stands out as the single leading economy for FREI inflows and outflows. The position

of the country manifests the risky dependence of the system on a single economy and the challenge to strengthen the peripheral links.

According to the analysis at urban scale, it is appropriate to underline that the FREI system also obeys to the configuration of world cities. Reflecting the dynamics of FDI and MNC, the most important financial centers that control the global wealth are the primary source of Real Estate Investments. London, Singapore, New York and Hong Kong concentrate a significant share of the investments taking into notice the elevated number of cities constituting the network.

Secondly, in terms of attracting FREI flows, emergent urban nodes begin to appear. The Eastern Europe cities overshadow the biggest urban economies, showing that those cities might feature a saturated property market, and the investors are embracing a higher level of risk. Furthermore, as stated by Keivani et al. (2001), the growth of investment in these cities is backed in the local government preparation for meeting the requirements of the worldwide domain, highlighting the importance of the planning structures.

Furthermore, about the general growth trends, FREI experienced noteworthy instability over the last seven years. Considering that the local industry in some countries was centrally involved in the 2007 international financial crisis, it had a deeper impact on cross borders real estate investments afterwards. It implies that there is interdependence between the economic crisis and real estate. The drop of the local real estate sector in a single country or region can trigger a global economic crisis, affecting later the dynamics of international real estate investments because of its dependence on capital markets to finance assets.

Currently, the world economies keep struggling to recover from the crisis, but are showing still adverse figures, denoting that the sector has not achieved resilience to cope with the economic cycles.

5.2.2 The competitiveness perspective

Research question 2:

What is the relationship between Foreign Real Estate Investment inflows and urban competitiveness?

Besides considerate the composition of the network, the purpose of this thesis was simultaneously to identify the factors that incentive FREI. Attracting foreign investment into real estate development projects can be a key approach for increasing the economic growth of the countries and cities, since it provides facilities for hosting other economic activities. Similarly, is a key priority for increasing the revenues of cities (property taxes) and the availability of infrastructure and amenities that usually comes along property development.

As a starting point, in relation to the concepts proposed in the framework, the inward number of Foreign Real Estate Investments with competitiveness index as lone predictor was analyzed. Even though the regression models corroborated that there is a positive significant relationship between inflows and competitiveness performance (both nationally and locally), it was expected to have a stronger influence on FREI. According to the literature competitiveness, as the process in which an entity uses its local resources and regional

connections, should be a key driver for attracting real estate capital. The agglomeration economies that competitive environments should generate depend on a suitable physical space to develop its activities. This means that the demand of property is higher in more competitive cities. Likewise, as mentioned in the literature review, real estate has the influence to trigger the competitive advantages of a city, and consequently foreign capital invigorates the property market.

Though, that the correlation between the variables is not strong enough to predict real estate investments number ratifies that the FREI activity depends on a wider range of factors. Understanding that the competitiveness measurements (for both GCI and GUCI methodologies) include several dimensions, the statement supports the notion that the international investments in real estate are sensitive to specific scopes and moreover require to be complemented with other factors that affect the real estate market. Other single factors like economic development, clustering and complementarity occur similarly as key factors for attracting FREI, as evidenced in the section describing the geography of the network.

Consequently, the key pillars that can underpin the attraction of FREI at a country level were two: Market Size (7^{th} pillar) and Labor Market Efficiency (10^{th} pillar). With regard to the first element it can explain by the fact that since real assets have an unmovable nature, this category of investments has the purpose of serving mainly the local and regional markets with the production of facilities in the host country. About second element, the efficiency in the Labor Market is a driver for commercial property demand, as it is a reflection of the economic growth.

Related to the urban scale, global connectivity is the only dimension significant for FREI inflows, implying that the position of the city within the world urban network is important in the allocation of resources. As stated in the literature review section, the linkages with the World Cities are relevant, with the engagement of different locations and capital, they impulse the worldwide market providing cross border knowledge and resources.

In conclusion, the two scales analyzed showed the diverse drivers for MNC related to real estate in determining the destination of investments. Notwithstanding that the policy framework for attracting FDI has usually a national purview, is important to acknowledge the relevance of local and urban scale in the broader picture of globalization. Beyond the macroeconomic and institutional determinants, the position of the urban nodes in the global networks matter for appealing FREI.

5.2.3 Location factors for attracting FREI

Research question 3: Which are the main competitiveness factors for attracting FREI?

Research question 4: What are the real estate market and business environment factors that are determinant for increasing FREI at country level?

Research question 5: What are the real estate market and urban spatial factors that are determinant for increasing FREI at city level?

The last part of the research comprised the analysis of factors influencing real estate market, complementing the sub-indicators of the competitiveness index. With the aim of having a

comprehensive overview for countries and cities, the study recognized the sphere of action of the two territorial entities since they have different drivers for getting FREI. The national scope tried to encompass economic, financial and institutional framework related to the business environment, meanwhile the local incorporated urban spatial factors related to the property. Although there was a limitation on finding suitable property market data, certain indicators were included in the two analyses.

5.2.3.1 Country level determinants

The analysis yielded four key location factors for the cluster: Affordability Index (property market), Pay and Productivity (competitiveness), GDP (economic) and Domestic Credit Provided by the Banking Sector (Financial). The first factor is highly related with the population and the others with the enterprises, involving both housing and commercial markets.

Concerning the factor associated to the population, Affordability Index illustrates the balance that needs to exist between property prices, wages and interest rates in order to attract FREI. The correlation stresses not only the importance of increasing the population incomes in order to stimulate demand, but the need of a coordinated action between land use regulations and financial sector to contain the risks of a bubble. A good Affordability Index implies a lower risk for the investor.

The other determinants, GDP, Pay and Productivity and Domestic Credit relate to the economic activity of the country. The first two, which are a proxy for the market size and employment trends, are fundamental drivers for space demand, to the extent that there are more business and employees to host. The Domestic Credit factor denotes the importance of depth and development of the local financial market for FREI, as the properties are financed locally due to the characteristic of the assets.

Thus, the outcome of the model shows that a variety of forces rule FREI. The final model evidence the need of having a comprehensive approach that surpasses the notion of real estate as property and involves other clusters.

Therefore, national policies to attract FREI cannot merely be focused on encouraging the construction industry, not just because this approach increases the volatility of the market with the possible oversupply of space, but also because it must be a response to the labor market and economic development. Although the volume of capital that involves the investment in property assets makes it relevant as an independent industry, real estate is primarily a factor of production. The objective of the sector must be to assist activities that stimulate the real economy and not only the accumulation of capital assets.

5.2.3.2 City level determinants

The final regression analysis revealed that Enterprises Connectivity (competitiveness sub-indicator) is the only significant factor that explains the Foreign Real Estate Investment inflows number. Although an effort was made to assess the spatial characteristics and quality

of life that could influence the real estate market at city scale, the analysis exposed no correlation with the indicators.

Nevertheless, Enterprises Connectivity denotes the link of the existent firms in the city with the worldwide economic structure. The result is consistent with the previous conclusions, setting the urban economy in a strategic position at global scale. As stated by Taylor (2010), the firms as sub nodes are the prime actors in the world city network and their performance create world cities as nodes of the system.

However, bearing in mind that the correlation with this single variable is strong and its relevance can be supported in the research, it does not predict the performance of FREI. The coefficient of determination of the statistical model leads to state that the results of the analysis are unsatisfying. As mention in the scope and limitations section, the narrow sample size due to the restricted availability of data might be the cause for this outcome. Furthermore, it might be that the set of indicators fails to cover the comprehensive purview that intends this work.

In consequence, the results for the model are not considered robust enough and conclusive For future research is recommended considering the inclusion a larger sample of cities, a time series (panel data technique) or review other academic work that expands the number of predictor variables.

5.3 Recommendations

This study evidences the importance of foreign direct investment in the real estate industry and its impact on urban competitiveness. The sector acts as a critical facilitator of the economic performance by providing commercial properties to business to operate and manufacture their products. Increased FREI inflows will bring growth and greater diversity to the economy, which will redound in attracting more firms and therefore will strength the links with the global economic network.

However, the current status of the FREI system only benefits a small proportion of world countries. Despite globalization, the FREI network is highly concentrated in the developed countries, and the poorer countries are still marginalized from the investments.

The high degree of concentration has conveyed in a high degree of systemic risk for the network. As evidenced in the 2009 turmoil, the distress of United States destabilized the entire system. As the single leading economy for FREI flows, the country is highly interconnected with other nations that depend mostly on its capital. This imbalance keeps being a threat for the global economy but it can be an opportunity for secondary markets, which will offer diversification for investors.

However, local governments of emergent and developing countries face the challenge of conceiving proper policies tending to attract FREI, considering the circular dependence between economic activities and the stock of property for urban competitiveness. That dependence is generally characterized an imbalance between the supply and the demand of spaces. D'Arcy & Keogh (1999, p. 918) state "there is frequently a mismatch between the economic conditions which prompt new development, and the conditions prevailing when the resulting new buildings come into the market for the first time." Thus, the match between the

allocation of both financial and physical resources with economic performance is a challenge for cities.

Governments can approach the issue through indirect policies that influence the demand or through direct policies that aim to increase the supply. The first approach will be reliant on generate first economic activities that require property to attract FREI, while the second will rely on stimulate FREI first to attract firms to locate in the country.

It is necessary to considerate that while property market is fundamentally local, the demand for space responds to the fluctuations in the global economy. Therefore, the stimulus of the property market without synchronization with the global economy could lead to oversupply and in consequence to economic fallout since developers might not be able to meet their loan obligations. Under this perspective, and without neglecting the role of construction in the economy, FREI cannot be understood solely as a stand-alone industry, but a mean to impulse other economic activities

In conclusion, governments should embrace a comprehensive approach to policies that aim to attract FREI encompassing the economic capability of the country. This line of thought is reinforced by the results of the model, which evidence a diversity of features commanding the sector. Variables related to the size of the economy, the labor market, the depth of the local financial system and the affordability of property are triggers of FREI inflows. This composition of variables not only shows macroeconomic factors that affect the supply, but also includes the demand side, reflected in the affordability index that merges wages, prices and housing interest rates.

Additionally and even though the regression model did not show any relationship of FREI and the institutional framework of the country, it was expected to show a strong influence in predicting inflows. While the real estate markets are increasingly integrating to the global scale, there are still internal institutional characteristics that affect the viability of FREI in host countries. It cannot be neglected that policies, governance and legal standards are indispensable to regulate the market, provide protection for investors and manage investment risk. It is important to acknowledge that even if the primary objective of some policies is not real estate they can have a significant impact in the market. The theory supports the dependency of real estate with financial markets; therefore, tax incentives and loan rates can boost or decrease demand of property. Such policies therefore should be included in the broader debate of real estate

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Annex 1

List of Indicators

COUNTRY SCALE	
CONCEPT	**Competitiveness**
DATASET	**The Global Competitiveness Report 2013–2014**
SOURCE	World Economic Forum

GCI Global Competitiveness Index	Overall Score - Includes 12 pillars, 1-7 (best)
1st pillar: Institutions, 1-7 (best)	1.01 Property rights, 1-7 (best)
	1.02 Intellectual property protection, 1-7 (best)
	1.03 Diversion of public funds, 1-7 (best)
	1.04 Public trust in politicians, 1-7 (best)
	1.05 Irregular payments and bribes, 1-7 (best)
	1.06 Judicial independence, 1-7 (best)
	1.07 Favoritism in decisions of government officials, 1-7 (best)
	1.08 Wastefulness of government spending, 1-7 (best)
	1.09 Burden of government regulation, 1-7 (best)
	1.10 Efficiency of legal framework in settling disputes, 1-7 (best)
	1.11 Efficiency of legal framework in challenging regs., 1-7 (best)
	1.12 Transparency of government policymaking, 1-7 (best)
	1.13 Gov't services for improved business performance, 1-7 (best)
	1.14 Business costs of terrorism, 1-7 (best)
	1.15 Business costs of crime and violence, 1-7 (best)
	1.16 Organized crime, 1-7 (best)
	1.17 Reliability of police services, 1-7 (best)
	1.18 Ethical behavior of firms, 1-7 (best)
	1.19 Strength of auditing and reporting standards, 1-7 (best)
	1.20 Efficacy of corporate boards, 1-7 (best)
	1.21 Protection of minority shareholders' interests, 1-7 (best)
	1.22 Strength of investor protection, 0–10 (best)
2nd pillar: Infrastructure, 1-7 (best)	2.01 Quality of overall infrastructure, 1-7 (best)
	2.02 Quality of roads, 1-7 (best)
	2.03 Quality of railroad infrastructure, 1-7 (best)
	2.04 Quality of port infrastructure, 1-7 (best)
	2.05 Quality of air transport infrastructure, 1-7 (best)
	2.06 Available airline seat kms/week, millions

	2.07 Quality of electricity supply, 1-7 (best)
	2.08 Mobile telephone subscriptions/100 pop.
	2.09 Fixed telephone lines/100 pop.
3rd pillar: Macroeconomic environment, 1-7 (best)	3.01 Government budget balance, %
	3.02 Gross national savings, %
	3.03 Inflation, annual %
	3.04 General government debt, %
	3.05 Country credit rating, 0–100 (best)
4th pillar: Health and primary education, 1-7 (best)	4.01 Business impact of malaria, 1-7 (best)
	4.02 Malaria cases/100,000 pop.
	4.03 Business impact of tuberculosis, 1-7 (best)
	4.04 Tuberculosis cases/100,000 pop.
	4.05 Business impact of HIV/AIDS, 1-7 (best)
	4.06 HIV prevalence, %
	4.07 Infant mortality, deaths/1,000 live births
	4.08 Life expectancy, years
	4.09 Quality of primary education, 1-7 (best)
	4.10 Primary education enrollment, net %
5th pillar: Higher education and training, 1-7 (best)	5.01 Secondary education enrollment, gross %
	5.02 Tertiary education enrollment, gross %
	5.03 Quality of the educational system, 1-7 (best)
	5.04 Quality of math and science education, 1-7 (best)
	5.05 Quality of management schools, 1-7 (best)
	5.06 Internet access in schools, 1-7 (best)
	5.07 Availability of research and training services, 1-7 (best)
	5.08 Extent of staff training, 1-7 (best)
6th pillar: Goods market efficiency, 1-7 (best)	6.01 Intensity of local competition, 1-7 (best)
	6.02 Extent of market dominance, 1-7 (best)
	6.03 Effectiveness of anti-monopoly policy, 1-7 (best)
	6.04 Extent and effect of taxation, 1-7 (best)
	6.05 Total tax rate, %
	6.06 No. procedures to start a business
	6.07 No. days to start a business
	6.08 Agricultural policy costs, 1-7 (best)
	6.09 Prevalence of trade barriers, 1-7 (best)
	6.10 Trade tariffs, %
	6.11 Prevalence of foreign ownership, 1-7 (best)
	6.12 Business impact of rules on FDI, 1-7 (best)
	6.13 Burden of customs procedures, 1-7 (best)

	6.14 Imports as a percentage of GDP
	6.15 Degree of customer orientation, 1-7 (best)
	6.16 Buyer sophistication, 1-7 (best)
7th pillar: Labor market efficiency, 1-7 (best)	7.01 Cooperation in labor-employer relations, 1-7 (best)
	7.02 Flexibility of wage determination, 1-7 (best)
	7.03 Hiring and firing practices, 1-7 (best)
	7.04 Redundancy costs, weeks of salary
	7.05 Pay and productivity, 1-7 (best)
	7.06 Reliance on professional management, 1-7 (best)
	7.07 Brain drain, 1-7 (best)
	7.08 Women in labor force, ratio to men
8th pillar: Financial market development, 1-7 (best)	8.01 Availability of financial services, 1-7 (best)
	8.02 Affordability of financial services, 1-7 (best)
	8.03 Financing through local equity market, 1-7 (best)
	8.04 Ease of access to loans, 1-7 (best)
	8.05 Venture capital availability, 1-7 (best)
	8.06 Soundness of banks, 1-7 (best)
	8.07 Regulation of securities exchanges, 1-7 (best)
	8.08 Legal rights index, 0–10 (best)
9th pillar: Technological readiness, 1-7 (best)	9.01 Availability of latest technologies, 1-7 (best)
	9.02 Firm-level technology absorption, 1-7 (best)
	9.03 FDI and technology transfer, 1-7 (best)
	9.04 Individuals using Internet, %
	9.05 Broadband Internet subscriptions/100 pop.
	9.06 Int'l Internet bandwidth, kb/s per user
	9.07 Mobile broadband subscriptions/100 pop.
10th pillar: Market size, 1-7 (best)	10.01 Domestic market size index, 1–7 (best)
	10.02 Foreign market size index, 1–7 (best)
	10.03 GDP (PPP)
	10.04 Exports as a percentage of GDP
11th pillar: Business sophistication, 1-7 (best)	11.01 Local supplier quantity, 1-7 (best)
	11.02 Local supplier quality, 1-7 (best)
	11.03 State of cluster development, 1-7 (best)
	11.04 Nature of competitive advantage, 1-7 (best)
	11.05 Value chain breadth, 1-7 (best)
	11.06 Control of international distribution, 1-7 (best)
	11.07 Production process sophistication, 1-7 (best)
	11.08 Extent of marketing, 1-7 (best)
	11.09 Willingness to delegate authority, 1-7 (best)

12th pillar: Innovation, 1-7 (best)	12.01 Capacity for innovation, 1-7 (best)
	12.02 Quality of scientific research institutions, 1-7 (best)
	12.03 Company spending on R&D, 1-7 (best)
	12.04 University-industry collaboration in R&D, 1-7 (best)
	12.05 Gov't procurement of advanced tech products, 1-7 (best)
	12.06 Availability of scientists and engineers, 1-7 (best)
	12.07 PCT patents, applications/million pop.

CONCEPT	Real Estate Market Factors

DATASET	Property Market
SOURCE	Numbeo

Price To Income Ratio
Gross Rental Yield
Price To Rent Ratio
Mortgage As A Percentage Of Income
Affordability Index

DATASET	Economic
SOURCE	World Development Indicators - World Bank
GDP (current US$)	
GDP growth (annual %)	
GDP per capita (current US$)	
GNI, Atlas method (current US$)	
GNI per capita, Atlas method (current US$)	
Gross capital formation (% of GDP)	
Exports of goods and services (% of GDP)	
Imports of goods and services (% of GDP)	
Unemployment, total (% of total labor force) (modeled ILO estimate)	
Industry, value added (% of GDP)	
Services, etc., value added (% of GDP)	
Population (millions)	

DATASET	Financial
SOURCE	World Development Indicators - World Bank
Risk premium on lending (lending rate minus treasury bill rate, %)	
Real interest rate (%)	
Domestic credit provided by financial sector (% of GDP)	
Bank nonperforming loans to total gross loans (%)	

	Lending interest rate (%)
	Deposit interest rate (%)
	Interest rate spread (lending rate minus deposit rate, %)
	Stocks traded, total value (% of GDP)
	Stocks traded, turnover ratio (%)
	S&P Global Equity Indices (annual % change)

DATASET	**Institutional Framework**

SOURCE	World Governance Indicators - World Bank
Governance	Voice and Accountability
	Political Stability
	Government Effectiveness
	Regulatory Quality
	Rule of Law
	Control of Corruption

SOURCE	Transparency International
Transparency	Transparency CPI Score

SOURCE	The Heritage Foundation
Economic Freedom	Economic Freedom overall score
	property rights
	freedom from corruption
	fiscal freedom
	government spending
	business freedom
	labor freedom
	monetary freedom
	trade freedom
	investment freedom
	financial freedom

SOURCE	Ease of Doing Business - World Bank
Business Environment	Ease of starting a business (percentile)
	Ease of Dealing with Construction Permits (percentile)
	Ease of Getting Electricity (percentile)
	Ease of registering property (percentile)
	Ease of getting credit (percentile)
	Strength of protecting investors (percentile)

	Ease of paying taxes (percentile)
	Total tax rate (% profit)
	Ease of trading across borders (percentile)
	Ease of enforcing contracts (percentile)
	Ease of resolving insolvency (percentile)

CITY SCALE

CONCEPT	**Competitiveness**

DATASET	**The Global Urban Competitiveness Report 2011**
SOURCE	Pengfei Ni and The Chinese Center for Social Sciences

Global Urban Competitiveness Index	Overall Competitiveness
Z1 Enterprise Quality	Z1.1 Corporate Culture
	Z1.2 Corporate System
	Z1.3 Enterprise Management
	Z1.4 Enterprise Operation
	Z1.5 Brand
	Z1.6 Enterprise Performance
Z2 Industry Structure	Z2.1 Manufacturing Development
	Z2.2 Service Industry Development
	Z2.3 Financial Sector Development
	Z2.4 High- Tech Industry Development
Z3 Human Resource	Z3.1 Health
	Z3.2 Literacy Quality
	Z3.3 Status of the Labor Market
	Z3.4 Status of Talent
	Z3.5 Education Development
	Z3.6 Cost of Labor Force
Z4 Hard Environment	Z4.1 Basic Elements
	Z4.2 Financial Market
	Z4.3 The Ability for Innovation
	Z4.4 Market Scale
Z5 Soft Environment	Z5.1 Market System
	Z5.2 Market Regulation
	Z5.3 Social Management
	Z5.4 Public Service
	Z5.5 Strategy and Experience
	Z5.6 Paying Taxes

Z6 Living Environment	Z6.1 Natural Environment
	Z6.2 Environmental Quality
	Z6.3 Shopping Environment
	Z6.4 Dining & Restaurant
	Z6.5 Housing
	Z6.6 Culture and Entertainment
	Z6.7 Social Security
Z7 Global Connectivity	Z7.1 Location Convenience
	Z7.2 Land Transportation
	Z7.3 Water Transportation
	Z7.4 Air Transportation
	Z7.5 Information Connectivity
	Z7.6 Residents Connectivity
	Z7.7 Enterprises Connectivity
Nominal/Real Exchange Rate Ratio	
GDP	
GDP Growth Rate (%)	
Real Economic Growth Rate (5 Years)	
Employment Rate	
Labor Productivity	
International Patents	
Multinational Corporations	
Population (10 000)	
Area (Sq Km)	

CONCEPT	**Real Estate Market Factors**

DATASET	**Quality of Life**

SOURCE	Numbeo
Quality of Life	Quality of Life Index
	Purchasing Power Index
	Safety Index
	Health Care Index
	Consumer Price Index
	Property Price to Income Ratio
	Traffic Commute Time Index
	Pollution Index

SOURCE	The Economist Intelligent Unit

Hotspots, City Competitiveness	Overall Competitiveness
	Economic strength
	Physical capital
	Financial maturity
	Institutional effectiveness
	Social and cultural character
	Human capital
	Environment and natural hazards
	Global appeal

DATASET	**Urban Spatial Characteristics**

SOURCE	The Lincoln Institute of Land Policy
Urban Expansion	Openness index
	Proximity index
	Cohesion index
	Open Space/inh
	Build up area/inh
	Open space/city footprint

SOURCE	The Economist Intelligent Unit
Livability Report	Rank- Spatial Adjusted Livability Index
	Rank- EIU Livability Index
	Green Space (1=best - 5=worst)
	Sprawl(1=best - 5=worst)
	Natural Assets (1=best - 5=worst)
	Cultural Assets (1=best - 5=worst)
	Connectivity ((1=best - 5=worst)
	Isolation (1=best - 5=worst)
	Pollution (1=best - 5=worst)
	Spatial Characteristics (1=best - 5=worst)
	Stability (18.75%)
	Healthcare (15%)
	Culture and Environment (18.75%)
	Education (7.5%)
	Infrastructure (15%)
	Spatial Characteristics (25%)
	Spatial Adjusted Livability Index

SOURCE	Own Research

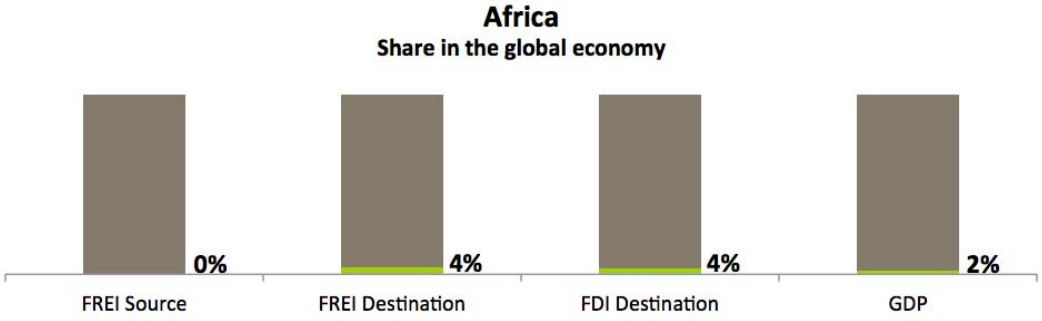
Urban Character	Number of CDB
	Function of City
	Type of Economy
	Air traffic
	Number of Airports
	Port
	Size of port
	Population Rank (Country)
	% Country GDP
	% Country Pop
	Inh/sqkm

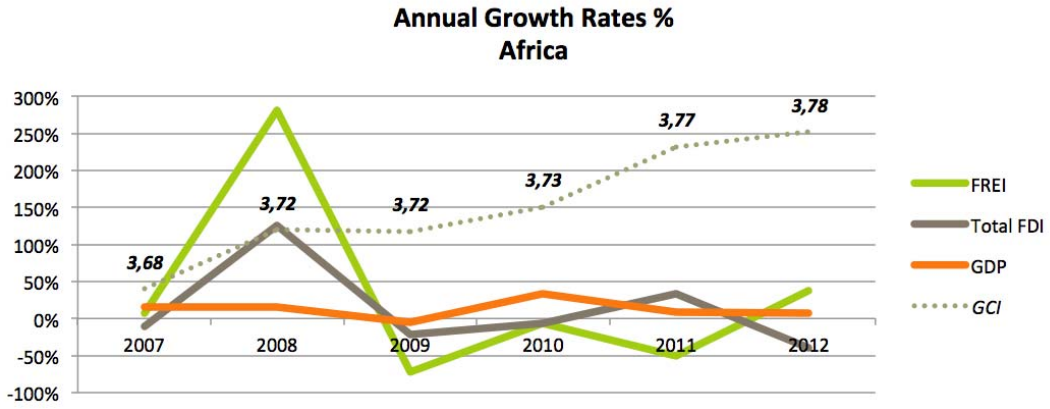
SOURCE	2ThinkNow
Innovation Cities	Index Score

Annex 2

World Regions Performance

1. Africa



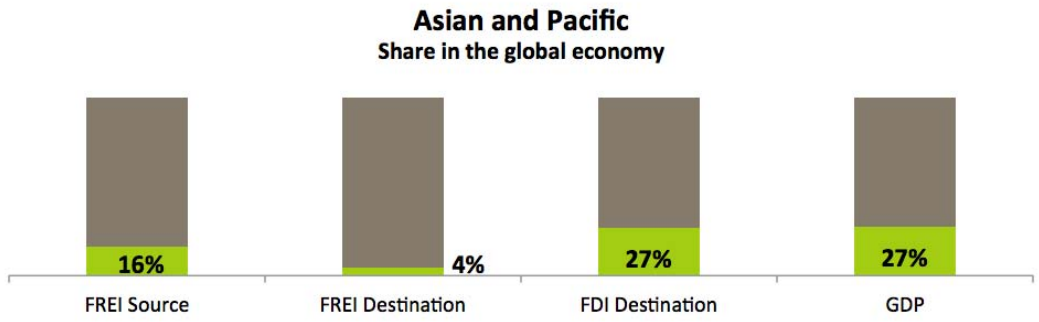


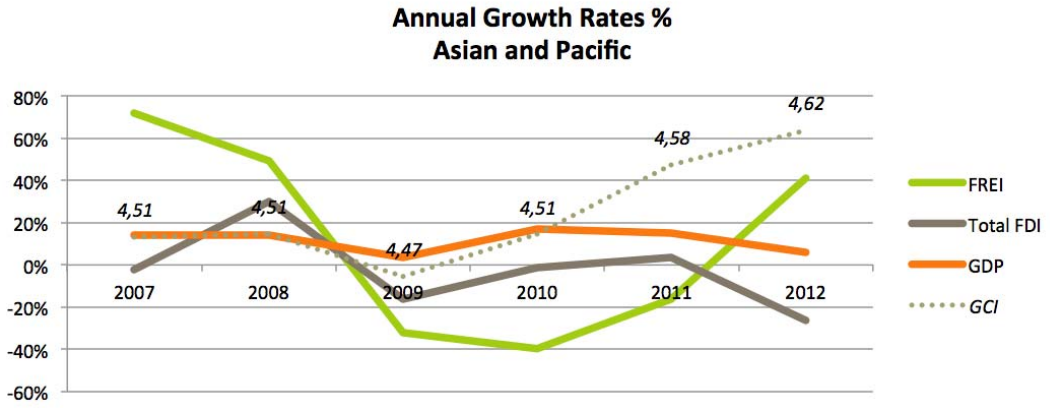
Africa Region – FREI City Network

The figure included all home and host cities, but only displays links over five investments. The thickness of the lines represents the number of investments, meanwhile the full dots represent the host countries and hollowed dots the home. Source: Own elaboration based on FDI Markets Database using ArcGIS

AFRICA							
Country Scale				City Scale			
Source		Destination		Source		Destination	
3		25		6		60	
Top 3				Top 3			
1	South Africa	1	Morocco	1	Johannesburg	1	Cairo
2	Egypt	2	Egypt	2	Cairo	2	Tripoli
3	Kenya	3	Algeria	3	Cape Town	3	Casablanca

2. Asian and Pacific



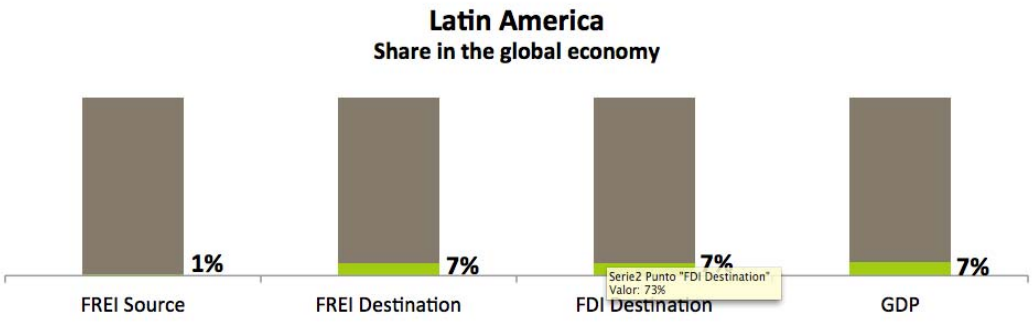


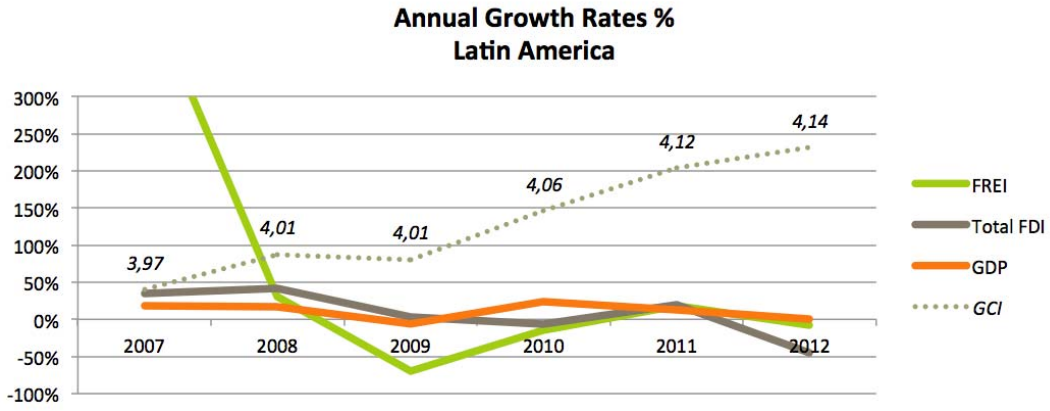
Asian and Pacific Region – FREI City Network

The figure included all home and host cities, but only displays links over five investments. The thickness of the lines represents the number of investments, meanwhile the full dots represent the host countries and hollowed dots the home. Source: Own elaboration based on FDI Markets Database using ArcGIS

ASIAN AND PACIFIC							
Country Scale				City Scale			
Source		Destination		Source		Destination	
17		24		61		198	
Top 3				Top 3			
1	Singapore	1	China	1	Singapore	1	Shanghai
2	Australia	2	India	2	Sydney	2	Beijin
3	Japan	3	Vietnam	3	Hong Kong	3	Ho Chi Minh City

3. Latin America



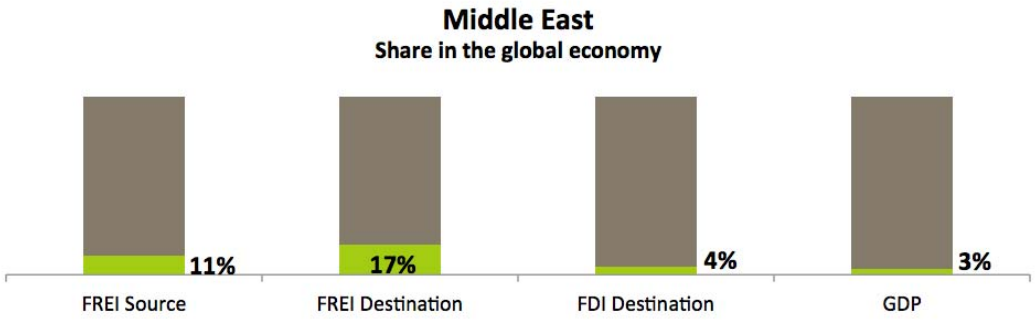


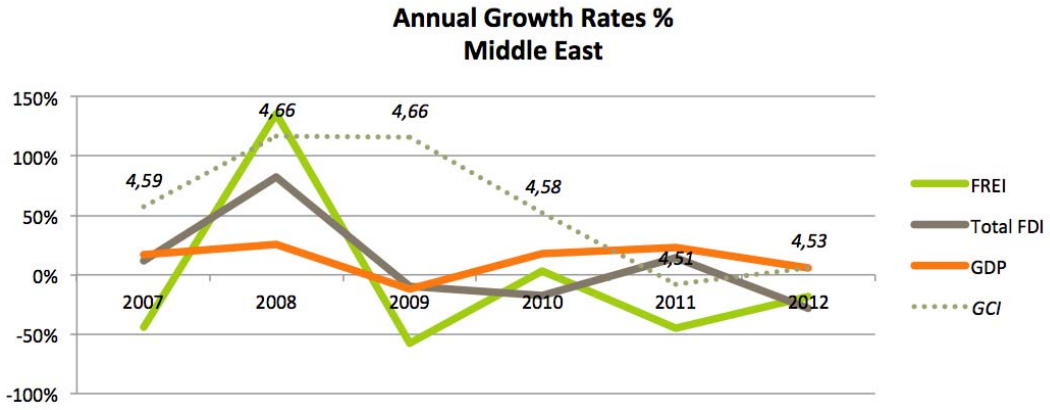
Latin America Region – FREI City Network

The figure included all home and host cities, but only displays links over five investments. The thickness of the lines represents the number of investments, meanwhile the full dots represent the host countries and hollowed dots the home. Source: Own elaboration based on FDI Markets Database using ArcGIS

LATIN AMERICA							
Country Scale				City Scale			
Source		Destination		Source		Destination	
5		19		5		83	
Top 3				Top 3			
1	Chile	1	Brazil	1	Santiago	1	Sao Paulo
2	El Salvador	2	Mexico	2	San Salvador	2	Mexico City
3	Mexico	3	Argentina	3	Managua	3	Buenos Aires

4. Middle East





Middle East Region – FREI City Network

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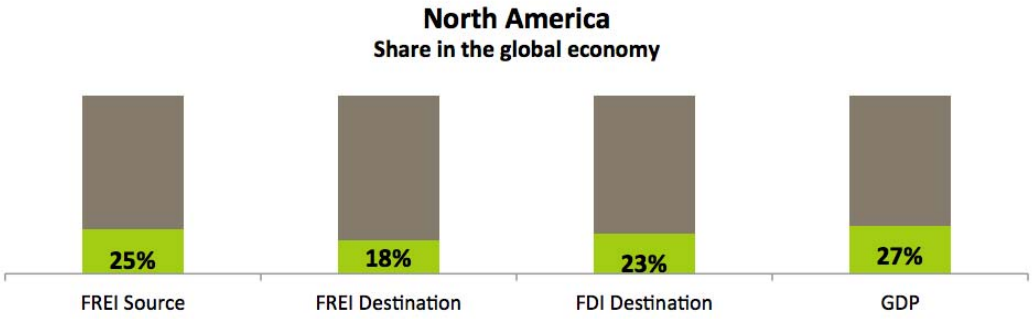
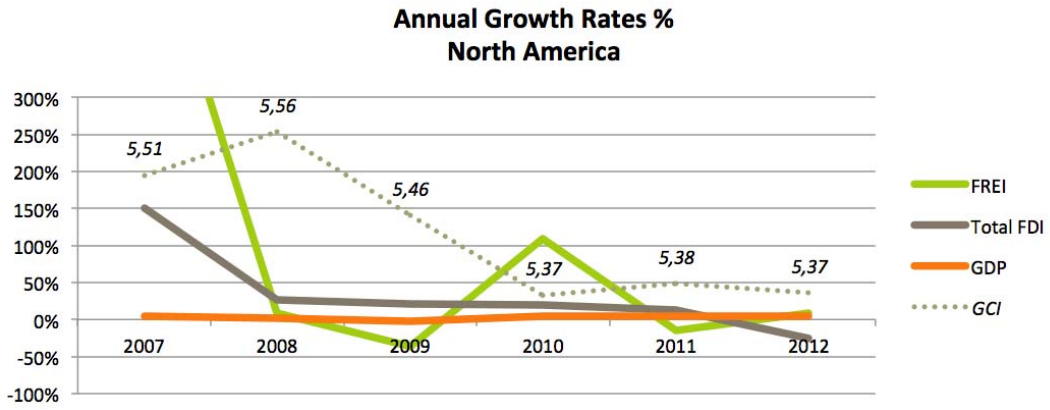
MIDDLE EAST							
Country Scale				City Scale			
Source		Destination		Source		Destination	
9		14		20		44	
Top 3				Top 3			
1	United Arab Emirates	1	Bahrain	1	Abu Dhabi	1	Abu Dhabi
2	Israel	2	Iran	2	Amman	2	Ajman
3	Kuwait	3	Iraq	3	As-Salimiyah	3	Al Buraimi

5. North America



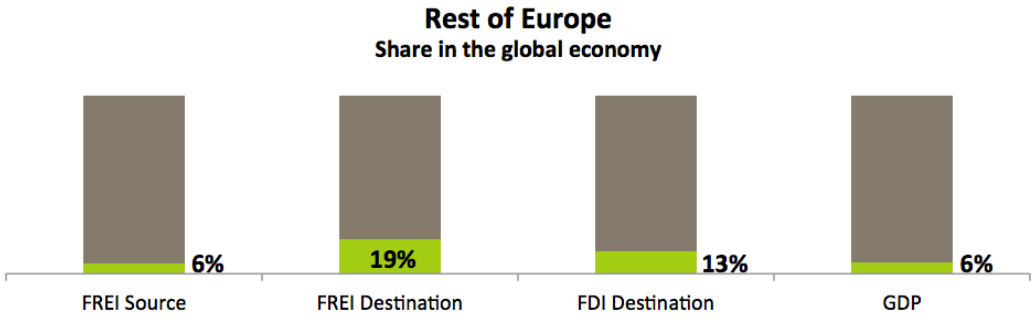


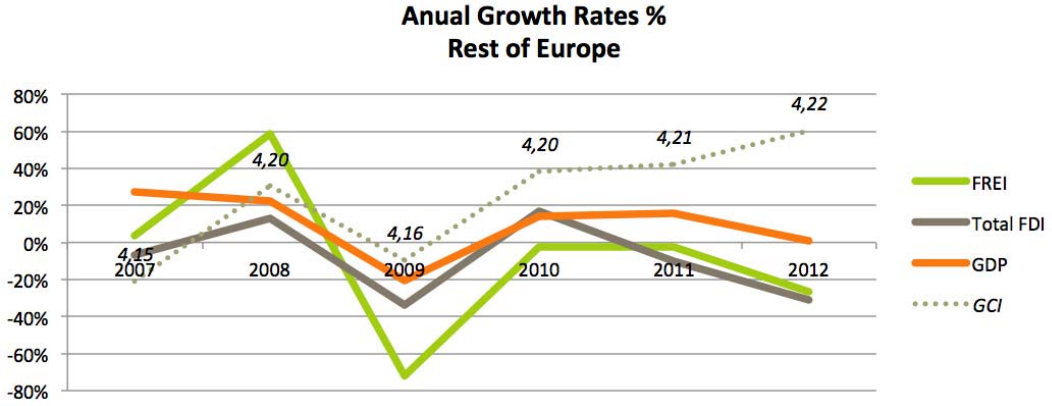
North America Region – FREI City Network

The figure included all home and host cities, but only displays links over five investments. The thickness of the lines represents the number of investments, meanwhile the full dots represent the host countries and hollowed dots the home. Source: Own elaboration based on FDI Markets Database using ArcGIS

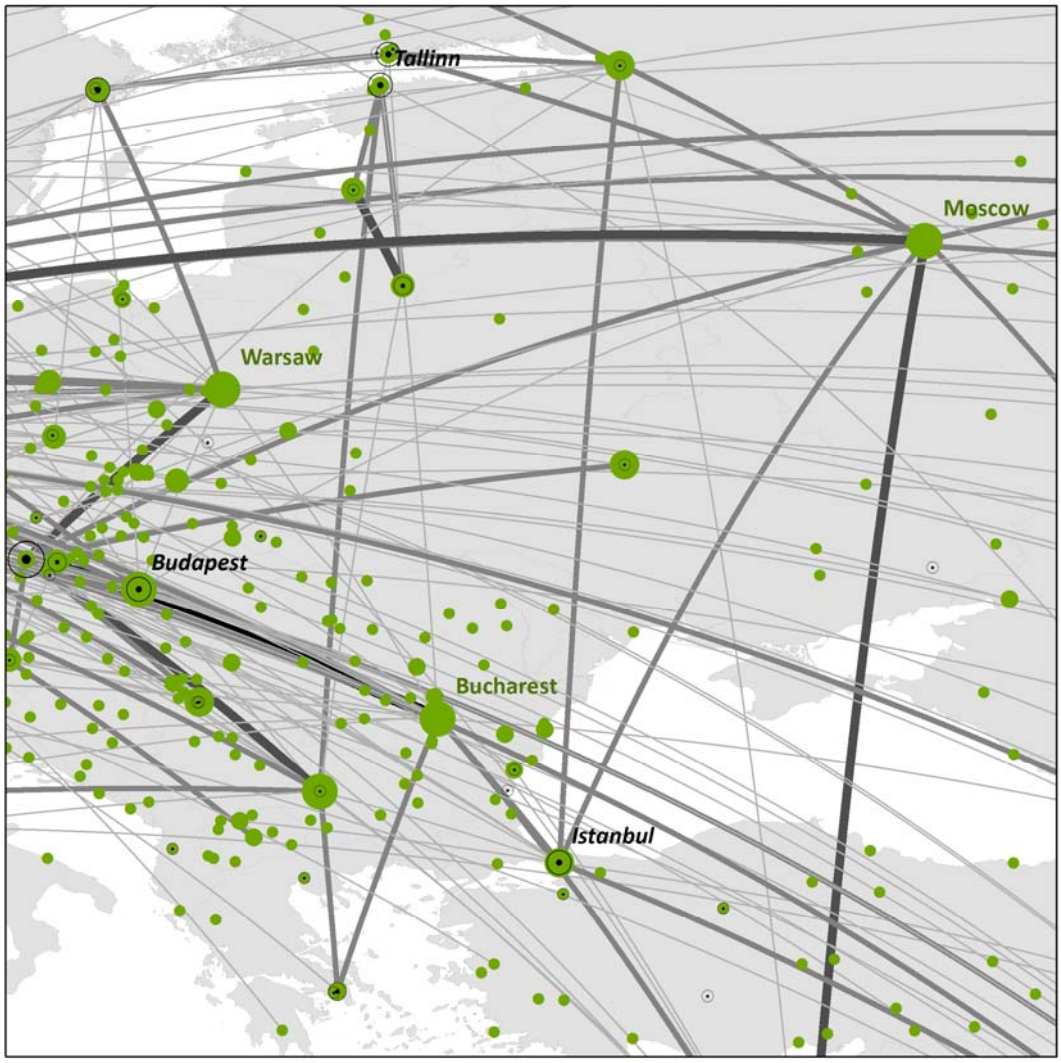
NORTH AMERICA							
Country Scale				City Scale			
Source		Destination		Source		Destination	
2		2		143		239	
Top 3				Top 3			
1	United States	1	United States	1	Nyc (Ny)	1	Nyc (Ny)
2	Canada	2	Canada	2	Denver (Co)	2	Chicago (Il)
3	-	3	-	3	Chicago (Il)	3	Washington, Dc

6. Rest of Europe



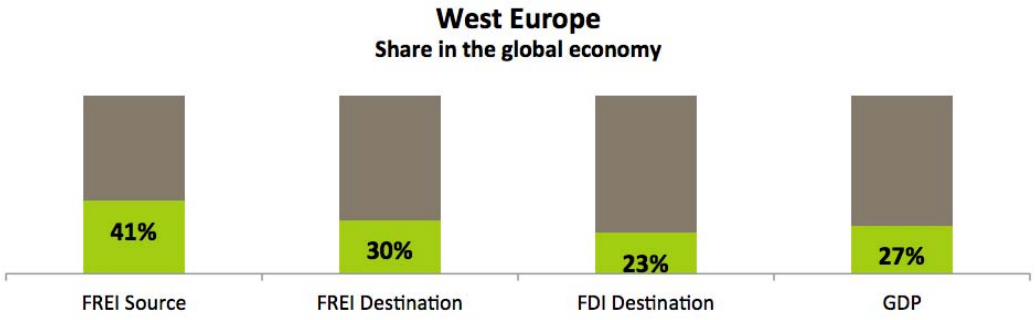


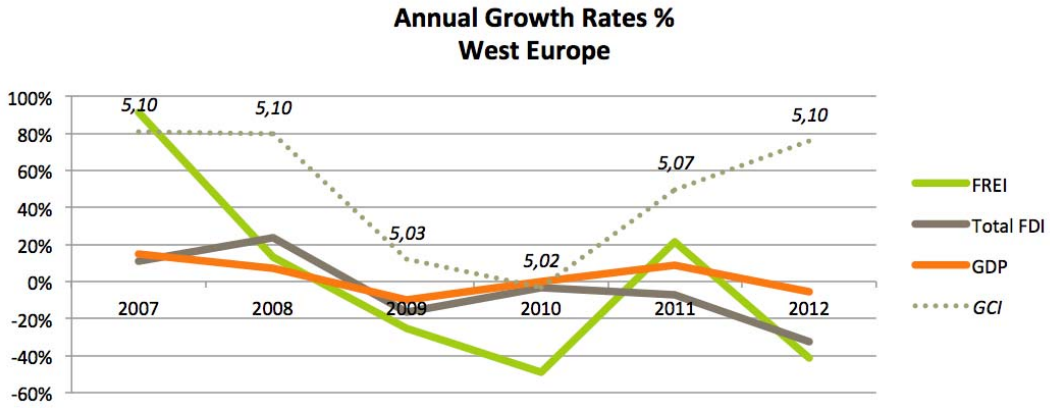
Rest of Europe Region – FREI City Network



REST OF EUROPE							
Country Scale				City Scale			
Source		Destination		Source		Destination	
17		23		40		289	
Top 3				Top 3			
1	Slovenia	1	Poland	1	Istanbul	1	Bucharest
2	Turkey	2	Russian Federation	2	Budapest	2	Moscow
3	Hungary	3	Romania	3	Tallinn	3	Warsaw

7. West of Europe





West Europe Region – FREI City Network

The figure included all home and host cities, but only displays links over five investments. The thickness of the lines represents the number of investments, meanwhile the full dots represent the host countries and hollowed dots the home. Source: Own elaboration based on FDI Markets Database using ArcGIS

WEST EUROPE							
Country Scale				City Scale			
Source		Destination		Source		Destination	
17		17		172		296	
Top 3				Top 3			
1	United Kingdom	1	United Kingdom	1	London	1	London
2	Luxembourg	2	Germany	2	Luxembourg	2	Paris
3	Austria	3	France	3	Vienna	3	Madrid