IHS
Making cities work

IHS is the international institute of urban management of Erasmus University Rotterdam

MSc Programme in Urban Management and Development

Rotterdam, The Netherlands

September 2017

Thesis

Title: Urban attractiveness: Towards FDI inflow of East Asia Pacific cities

Name: Jeancyn Alforque

Supervisor: dr. Ronald Wall, Phd; Mahlet G. Yilema, MSc.

Specialization: UCR

UMD 13

MASTER'S PROGRAMME IN URBAN MANAGEMENT AND DEVELOPMENT

(October 2016 – September 2017)

Urban attractiveness: Towards FDI inflow of East Asia Pacific cities

Jeancyn Alforque
Philippines

Supervisor:
dr. Ronald Wall, Phd
Mahlet G. Yilema, MSc.

UMD 13 Report number: 1094
Rotterdam, September 2017

Thesis Summary

The study takes off from the more general notion of globalization as a dominant force that enables mobility and openness of capital, markets and society as well as global integration. Along with keeping at pace with globalization, comes the understanding of its manifestations and effects. Foreign direct investments (FDI), by acting as a global network, internationalizes economic activities as well facilitates the transfer of knowledge, technologies and human capital. On the other hand, manifestations of globalization are most evident in cities through geographical agglomeration of FDI clusters across space. Production activities taking place in these clusters, in turn, transform cities from industrial sites to centers of "advanced services". Competitiveness is argued to result from the presence of these clusters of specialized and innovative global institutions. Where globalization leads to the increasing competition among cities to pull in foreign investments, spurs the need to develop FDI-attractive cities. While the premise has been set, attractiveness of cities to FDI tends to be a broad subject. Despite a large body of knowledge dedicated to the study of urban attractiveness in general as well as locational preferences of FDI firms. However, only a few tackle urban attractiveness from a different perspective. With supporting relevant literature and theory, this study argues that an added component such as that of spatial qualities and urban character also constitutes urban attractiveness and has bearing to the overall ability of cities to attract FDI. The variables Distinctiveness, Diversity and Vitality sprang from notable studies on place imaging, place marketing, place-making and the sense of place as well as various urban design and architecture theories that attempt to create and package cities attractive to visitors, investments and for citizens alike. However, an empirical approach to examine the relationship and the extent upon which spatial qualities and urban character can attract Foreign Direct Investment inflow is the objective of this paper. Taking as scope of the study is the East and Asia Pacific region where a surge of FDI inflow is proved to be directed towards. The scope further narrows down into two cities per high and medium FDI inflow categories, selecting Singapore, Hong Kong, Bangkok and Metro Manila. FDI inflow counts of these cities, coupled with locational data are geomapped into GIS. Where FDI sectors agglomerate themselves are taken as samples or FDI districts. Urban attractiveness variable and indicator values are then derived, tested and analyzed relative to these sample FDI districts. Considering the theoretical and empirical results of this study, not only has the positioning of East Asia and Pacific cities been established but the need to develop FDI-attractive cities with an emphasis on spatial qualities and urban character as a component that help shape cities as holistic places. Results yielding substantial significant variables prove that spatial qualities and urban character have bearing over the attractiveness of Singapore, Hong Kong, Bangkok and Metro Manila, especially on the Central Business Districts, to FDI inflow.

Keywords

Globalization, Foreign Direct Investment Inflow, Urban Attractiveness, Spatial Qualities and Urban Character, Competitiveness, East Asia and Pacific

Acknowledgements

While writing this thesis, I have benefited immensely from the encouragement and mentoring of supervisors, professors, colleagues, friends, and family. A warm thank you to my supervisor Ronald Wall, co-supervisor Mahlet Yilema and the UCR team. Special thanks to Dorcas Nyamai for the assistance on both technical and non-technical queries as well as to Jaap Rozema for taking the time to review this paper. My sincerest thank you to the UMD Pinoy 13 group for the help and support as well as my UMD colleagues and friends. Finally, I wouldn't have made it if it were not for the help and motivation of the One up there and to the special people: Papa, mama, Marls and Jim. Josep, who's been my life support system. My amazing boss John Estacio and mentors Farah Atienza, Jay Caniza and Mylene Regidor. Shout out to all my good friends and colleagues who kept in touch despite the distance.

Abbreviations

(AUTO)CAD	Computer Aided Design
BGC	Bonifacio Global City
BKK	Bangkok
CBD	Central Business District
EAP	East Asia Pacific
FAR	Floor Area Ratio
FDI	Foreign Direct Investment
FSI	Floor Space Index
GDP	Gross Domestic Product
GIS	Geographic Information System
GSI	Ground Space Index
HK	Hong Kong
MM	Metro Manila
MNC	Multinational Corporation
NBM	Negative Binomial Model
SG	Singapore
VIF	Variance Inflation Factor

Table of Contents

List of Figures

List of Tables

List of Maps

List of Photos

Chapter 1: Introduction

1.1 Background

The widespread push for globalization, a dominant force that enables mobility and openness of capital, markets and society (Turok, 2004; Marcotullio, 2003; World Bank Group, 2016) as well as the integration of economies across the world, has been shaping the dynamics of development policies (Muwonge and Ebel, 2014) and leading to the economic transformations of various nations. Developed regions are specializing and strengthening tertiary industries or "advanced services" that have transformed from industrial and manufacturing (Choe 2008). Those in developing regions, on the other hand, are transitioning from primary to secondary or to tertiary industries (Choe, Roberts 2011).

Along with keeping at pace with globalization, comes the understanding of its manifestations and effects. Foreign direct investments (FDI), by acting as a global network (Grimwade, 2000; Rugman and Verbeke, 2005 in Wall and Stavropoulos, 2016), internationalizes economic activities as well as facilitates the transfer of knowledge, technologies and human capital (Casi and Resmini, 2014; Marcotullio, 2003; Turok, 2004; van't Hoff and Wall, 2017) On the other hand, manifestations of globalization are most evident in cities through geographical agglomeration of FDI clusters across space (Hall 2005). Production activities taking place in these clusters, in turn, transform cities from industrial sites to centers of "advanced services" (Choe 2008). According to Porter (1990), competitiveness results from the presence of specialized and innovative global institutions. Thus, cities strive for competitiveness by attracting investments and developing clusters of specialized sectors. Where globalization leads to the increasing competition among cities to pull in foreign investments (Snieska, Zykiene 2015), spurs the need to develop FDI-attractive cities.

A large body of knowledge is dedicated on discussing urban attractiveness and how it can be developed and improved to achieve competitive advantage- overall business climate, productivity levels, infrastructure development, new forms of governance, environmental sustainability and human capital development. Apart from these approaches, developing the attractiveness of cities to FDI can further be reinforced through enhancing their spatial qualities (van't Hoff, Wall 2017) as well as their "positive and charming images" or urban character (Carmona, 2010; Vanolo, 2008; Gold and Ward, 1994). Thus, what is believed to be less tackled is the notion of urban attractiveness through the spatial qualities and urban character perspective. A pursuit for a definable and measurable added component, that possesses potential contributions to urban attractiveness and significant effects on FDI inflow, is the focus of this paper.

1.2 Statement of the Problem

Over the past years, foreign direct investment (FDI), being an indicator of global integration, has become a key player in globalizing economic activities. It has recorded growth rates higher in comparison to trade flows and GDP (Casi, Resmini 2014). Also, there is strong link, evident in various countries, between increase in FDI and economic growth (Narula 2012). It encompasses, however, not only its economic role but as an enabler for the transfer and exchange of knowledge, technologies and human capital (Casi and Resmini, 2014; Jackson, 1995, Marcotullio, 2003; Nallari and Griffith, 2012; Turok, 2004; van't Hoff and Wall, 2017). On the other hand, the most evident manifestation of the effects of globalization, according to Hall (2005), is found in the spatial context of urban systems where specialized clusters spatially and geographically agglomerate themselves, thriving in locations that offer the best conditions (Choe, Roberts 2011). As a result, cities strive to achieve this competitive advantage by developing attractive urban environments.

Similar to the global scenario, cities in the East Asia Pacific region (EAP) must run parallel to the pace of their economic transformation, transitioning from agriculture to manufacturing and then consequently to services (Choe and Roberts, 2011; Jackson, 1995; Marcotullio, 2003), as well as continuous urbanization tugging on the other end. These transformations are further validated by a significant increase of FDI inflow into the region having a 28% share of the global FDI shares, Shanghai and Singapore being the top overall recipients. Also, a demonstration of resilience, with only a 1.4% decrease in 2014, occurred amid global FDI inflow dipping by 20% in 2014. Despite that, only a few of these cities ranked high in the Global Competitiveness Report (Ni and Kresl, 2006 in Choe and Roberts, 2011). As EAP economies transform and follow a more market-driven growth, emerges the need to develop and enhance "enabling business environments" in which both public and private sectors can thrive together to create and stimulate opportunities as well as respond to the changing demands of the people and markets (Choe, Roberts 2011).

While the premise has been set above, attractiveness to FDI tends to be a broad subject. Attracting investments involve immense and varying factors that can be maximized or utilized, given the complexity of urban systems. For instance, Casi and Resmini (2004) note that attractiveness of a location is determined by its market size and growth potential. Other determinants can also be production costs, labor costs, presence of highly-skilled labor pool and the structure of local industries (Casi and Resmini, 2004; Helpman, 2006; Nallari and Griffith, 2012). Further, other literatures have argued that the quality of a city's "physical capital" is closely related to competitiveness. For instance, in the Unit's Economist Intelligence (2013), statistical analysis has shown the significant correlation between the quality of a city's "physical capital", defined in terms of physical infrastructure, transportation and telecommunications infrastructure; and its overall competitiveness. Schwab (2015) in the Global Competitiveness report argues that it is crucial to establish efficient transportation system,

roads, railways, airports and seaports to enable mobility and smooth operations as well as facilitate the movement of people and goods, which then poses strong impact on both productivity and mobility . A need for Infrastructure development is however, a known realm and is continually being prioritized in most countries' development goals. Perhaps the most imperative approach lies within policies, institutions and governance. By setting the context for development, institutions and governments can facilitate economic growth (Aoki et al., 1997; Chang, 1998; Rowan, 1998; Weder, 1999 in Morcotullio, 2003). Governments can contribute to attraction of FDI by pursuing sound policies and legal framework upon which they can interact with businesses, firms and individuals. These policies and framework lead to improved institutional quality which eventually has a strong influence on competitiveness and economic growth (Schwab, 2014). Similarly, the realm of policy and governance is already recognized. It also warrants a careful examination where political play of power is erratic and varies greatly in context.

Attracting the inflow of FDI, however, is not only limited to such approaches mentioned above. Attractiveness of cities also pertains to their spatial qualities as well as their "positive and charming images" or urban character (Carmona, 2010; Vanolo, 2008; Gold and Ward, 1994). However, putting economic value in cities through spatial qualities and urban character as well as its direct link to FDI has not been widely tackled (Snieska and Zykiene, 2015; van't Hoff and Wall, 2017). This is also accompanied by the unrecognized "identity crisis" among cities rooted in realities such as colonialism, multi-ethnicity, centrality, regional integration and migration (Chang, 2005; Gospodini, 2004). This may be one of the main reasons behind the growing interest in city branding and place marketing. In Asia in general, globalization has not only brought economic transformations but rather includes the social and spatial components. These transformations led to the conception of such terms as "Asian Renaissance" and "New Asia". Because of this, the "nexus of place", memory and identity have found significance in the region. As Asian cities continue to globalize, the task of honoring "public memory" and identifying place identity takes on new challenges. Thus, identifying a city's innate qualities and character is gaining relevance across different disciplines and among scholars and government bodies (Gospodini 2004).

This study aims to fill the identified gap by defining what constitutes urban attractiveness from the spatial qualities and urban character perspective. To do so, the study builds on and develops concepts from various precedent studies on urban design, urban spatial qualities, place-making, the sense of place and image of the city, enabling an integrated understanding of urban attractiveness. Ultimately, the study will fill the gap by empirically examining the relationship between urban attractiveness and FDI inflow, as argued to be an indicator of global integration and competitiveness.

1.3 Objectives

This paper aims to:

1. Empirically examine the extent of urban qualities and character in attracting Foreign Direct Investment inflow in East Asia and Pacific cities.

As well as, to:

1. Examine the extent of urban qualities and character in attracting the top sectors into East Asian cities.
2. Study the spatial and statistical factors shaping and leading to FDI inflow in East Asia and Pacific cities.

1.4 Research questions

General question:

1. To what extent does spatial qualities and urban character attract foreign direct investment inflow into East Asia Pacific cities (regional)?

Sub-questions

1. To what extent does urban qualities and character attract the top sectors into East Asia Pacific cities (sectoral)?
2. What urban qualities and character prove important in attracting the top three sectors into EAP cities? (Qualitative questions)

1.5 Significance of the study

While the factors that shape locational preferences among firms have been widely explored in literature, putting economic value through attractiveness from the urban qualities and character perspective, on the other hand, has not been widely tackled in literature (Snieska and Zykiene, 2015; van't Hoff and Wall, 2017). An even lesser emphasis is given on empirical approaches that validate the significance of such relationship to FDI. For instance, the World Economic Forum's "Global Competitive 12 pillars" say less about urban qualities. The UN Habitat's "state of the world's cities" (2012/2013), on the other hand, mentioned the facet of quality of life into its "wheel of urban prosperity" but only discusses public and open spaces and is leaning towards education, health and well-being. Similarly, the World Bank's "World Development Indicators" (2016), SGD 9, which tackles infrastructure, refer to constructing suffice roads and means of mobility while SDG 11 pertaining to sustainable cities and communities aim to improve housing and minimizing the impacts of development and urbanization to the environment.

In this light, this study can contribute to the body of knowledge on urban attractiveness and can reinforce further development of a city's qualities and character as a legitimate tool in boosting its overall

attractiveness and eventually, competitive advantage. The regional and sectoral evaluation of urban attractiveness provides recommendations for enhancing and maintaining not only attractiveness of cities to FDI but also aids to identifying which sectors to focus on. Through this paper, decision aids could be provided in creating and evaluating policies that should further strengthen development goals among nations and ultimately, to the understanding on the positioning East Asia Pacific cities, where a surge of FDI inflow is proved to have directed towards.

This is also building on to the more empirical studies such as that done by van't Hoff and Wall (2017) where "heritage, historical components, presence of cultural amenities, street design" etc. should be explored in the future. Further, the understanding of a city's innate qualities and character can aid towards achieving authenticity in place marketing or place branding which can maximize and highlight the genuine assets of the city, including the industry clusters themselves, its cultural features and at the same time attract mobile capital, the creative class and tourism . Thus, urban qualities and character, contributing to the attractiveness of cities to FDI, can create a niche within the global competitiveness realm. This is seen to enrich the understanding of how cities, in general, can enhance their competitiveness towards economic growth.

1.6 Scope and Limitations

The study seeks to define, explain and measure urban attractiveness through key indicators derived from the existing body of knowledge pertaining to the socio-spatial facet of cities and places such that of "the sense of place" place-making, place marketing and place-theming as well as norms from urban design, architecture and economics. This study, however, will not delve into the psychological realm by incorporating human perceptions among the sectors involved. Having that, urban attractiveness in this study is analyzed through an external perspective. That meaning, through the perspective of entities outside the local setting and thus, objectively by the number of FDI inflow into cities. The study builds on empirical studies already done on spatial qualities contributing to locational preferences of FDI sectors. FDI, which will only be used for this purpose to validate urban attractiveness, will be limited to Greenfield investments inflow as well their spatial agglomeration in cities. These concepts and measures, together with FDI inflow data, are analyzed in two ways: regional and sectoral. To conduct regional analysis, the study selects focus cities within the East Asia Pacific region by categorizing them according to the highest and middle FDI inflow count. Focus area is further narrowed down by identifying agglomerations of FDI in districts (samples) by geo-mapping FDI inflow count. Conducting such analysis can examine which areas within the EAP can urban attractiveness and FDI relationship be tested. On the other hand, a sectoral analysis is done by identifying the top three sectors of the region and likewise relating them to urban attractiveness.

One major challenge for this study is the availability of inflow data as well as post codes or coordinates of FDI firms. In such a case, manual geo-coding is done to determine coordinates. A geo-coding tool is

used but is likewise limited in the number of codes generated at a time. Further, there are also non-existent companies whose coordinates are unavailable that in which neither of the methods can solve. Given these limitations, entail more time during the data collection and ordering period. Another challenge is deriving various concepts to arrive at an integrated understanding of urban attractiveness from the spatial qualities and character perspective. Thus, the conceptual study delves into the realms of urban design, place-making, sense of place and image of the city. Similarly, to derive measurable indicators deem a challenge. Indicators should be able to measure what they are meant to measure. Contextualizing these indicators into the EAP cities is also challenging, as it would entail a tedious look from city to city and from one district to another. Such task warrants a look at various government documents and data sources. Thus, due to variety of sources and contextual differences, generalizing the results is carefully conducted and examined. Triangulation through a survey is ideal to gain insights on the preferential behavior of the FDI sectors themselves. However, due to time and resource constraints, conducting such task is deemed unrealistic. Future studies could then add the perceptions of the firms and companies to strengthen the study and further validate the results. Since the study mainly focuses on the qualities and character of cities which can be an eclectic mix of different concepts, future studies could then investigate deeper and in detail into individual socio-cultural aspect of attractiveness.

Chapter 2: Literature Review

2.1 Concepts of the study

The force of globalization

The study takes off from the more general notion of globalization as a dominant force that enables mobility and openness of capital, markets and society (Turok, 2004; Morcotullio, 2003; World Bank Group, 2016), where the global economy is integrated by financial flows, trade of goods and services as well as the mobility of people (World Bank Group 2016). This leads to the economic transformations of various nations where developed regions are specializing and strengthening tertiary industries and those in developing regions are transitioning from primary to secondary or tertiary industries (Choe, 2008).

Foreign Direct Investment

Foreign Direct Investment (FDI) is defined as “a long-term investment relationship between a resident and a non-resident entity” (Casi and Resmini, 2014 p.S56). This assumes that the non-resident entity or the investor imposes the greater management influence within the sector or firm it has invested in. By classification, FDI can be either be greenfield investments which means the establishment of new firms; or brownfield investments which means the complete or partial acquisition/merger of existing firms.

FDI is further classified according to its directional flows. “Indegree”, which is also referred in this paper as inflow, represent the relative number of investments going into or received by countries. Significant indegree flows into a city or country is believed to bring prestige as they are preferred locations for many investors and thus could mean that these cities are rather more attractive than others. “Outdegree” investments refer to the relative number of investments going out of countries, while “betweenness” refer to a city’s strategic position relative to the entire network of cities (Alderson and Beckfield, 2004; Wall and Stavropoulos, 2016). “Inward distance” is also considered which pertains to the distance of investments and would then reflect the coverage of cities (Wall and Stavropoulos, 2016).

Over the past years, foreign direct investment (FDI), being an indicator of global integration, has become an enabler in globalizing economic activities as it has been the only way to enter a foreign market. FDI has also recorded growth rates higher in comparison to trade flows and GDP (Casi and Resmini, 2014) and is able to influence economic performance and international competitiveness (Jackson and Markowski, 1995; Hogenbirk and Narula, 2004) since competitiveness results from the presence of specialized and innovative global institutions (Porter,1990). Global FDI inflows to low and middle income economies, specifically, have substantially increased (World Bank Group, 2016). The most important factors that can be attributed to this surge of FDI inflow are the “acquisition of domestic firms under the process of privatization” as well as increased economic and financial integration due to globalization (de Mello, 1997). Further, despite a 20% dip in 2014 following the global financial crisis, inflows to low and middle income economies, making up 40% of the global FDI, have remained resilient. According to the World Bank (2016), improved business environments, favorable policies and expanding markets continue to attract investors. Although this continued upward trend allows various economies to receive FDI, more than half of inflows are concentrated in Brazil, China and India and puts a wide gap from the lagging economies.

The number of investments received by cities or countries as FDI inflow count are firms or companies coming from various sectors. “Low-tech sectors (are composed of) manufacturing of food products, beverages and tobacco; textile, clothing and leather; wood and wooden furniture; paper, publishing, printing; other manufacturing. High-tech sectors (are made of) Software and IT, electrical and electronics, precision instruments. Business services, by transport, storage and communication; financial intermediation; real estate, renting and business activities.” (Casi and Resmini, 2014 PS57) business service sector can also be composed of media, design and financial consultancy services and business Process Outsourcing (BPO) (Duranton and Puga, 2005). In the EU, business services have the highest flows with about 70%. This goes back to the fact that FDI is the only way to enter foreign market especially for the business service sector given the “intangible and untradeable” nature of its activities (Casi and Resmini, 2014). On the other hand, factors driving the locational preferences of these firms depend on their investment motivations. For instance, in Helpman (2006) and Casi and Resmini (2014), multi-national firms exploit new markets or referred as “horizontal FDI”. Other firms exploit cost

disparities and economies of scale “through and across the production chain” or referred as “vertical FDI”. This type of locational preference is motivated to assess potential locations by merits of lowest production and labor costs. Other firms who are motivated to gain technology and skills- transfer prefer locations with available knowledge institutions and skilled labor pool. There are also firms that are motivated by scarce local supply and thus prefer locations with available resources and raw materials.

While it is clear that FDI inflow counts are firms from different sectors and that locational preference of firms are driven by different motivations, it is also worth looking at the way they disperse or cluster across space. For instance, the business services sector is an expanding sector and demands central locations within large cities where there is a large market size (Henderson, 2010; Duranton and Puga, 2005; Turok, 2004), pushing other sectors such as manufacturing and production away intoclusters in other smaller cities (Duranton and Puga, 2005). Thus, to the manufacturing sector, the proximity to a developed business services sector is not a prerequisite however suppliers of business services, on the other hand, cluster in locations with high agglomeration of not only the similar sector but of manufacturing ones. Similarly, Software and IT sectors, as they are going through technological advancement, locate in larger cities where agglomerations of other sectors is beneficial (Henderson, 2010). Their agglomeration creates economies of scale, opportunities for co-location and collaboration as well sharing of infrastructure and resources thereby optimizing operations and reducing costs and eventually raising productivity levels (Nallari and Griffith, 2012). Korten (1995) notes that industry clusters were already existent since centuries ago. Their present-day counterparts, however, are different as they are more global, integrated, highly-specialized and are dominated by MNC’s. Globalization has led to the spatial, geographical agglomeration of various sectors and firms, seeking for locations offering the best conditions that are both unique and global (Choe, Roberts 2011). These firms in close proximity from each other will benefit from the knowledge shared and transferred through face-to-face transactions, interpersonal relationships as well as transfer of man-power across firms. Closer proximity of firms leads to sharing of resources which then helps lower operational costs (Nallari and Griffith, 2012). Thus, apart from the economic role of FDI, it encompasses the transfer and exchange of knowledge, technology and human capital. FDI flows convey the benefits of knowledge and technology transfer to local firms and to the labor force as well as facilitate productivity spill-overs, boost competition and improve the access for exports (Casi and Resmini, 2014; World Bank Group, 2016; Marshall, 1920; van't Hoff and Wall, 2017; Wall and Stavropoulos, 2016) and is likely to remain in such vital role.

Cities

According to Hall (2005) and Choe (2008), the most evident manifestation of the effects of globalization, whose strong linkages created channels for comparing, sharing as well as competition, (Nallari, Griffith 2012) is found in the spatial context of urban systems. This leads to the emergence of cities as platform upon which sectors and firms, mobile capital and labor interact to compare and share knowledge, technology and experience. Firms agglomerate themselves in cities to achieve synergy, boosting overall productivity and eventually contributing to competitiveness and economic growth. This is accompanied by the general acknowledgement of the way FDI is able to influence economic performance and international competitiveness (Jackson and Markowski, 1995). This leads to the increasing competition among cities to attract foreign direct investments. According to Nallari and Griffith (2012), this form of competition is forcing cities to develop and improve its attractiveness in such aspects as "business climate", urban infrastructure as well as quality of life or livability and urban amenities. To do this, it is important for cities to identify its most advantageous qualities and character.

Creating a model of cities includes three structures – mobility of goods (flow of goods), production structure and spatial structure. These elements are necessary to specify a model for cities (Duranton, 2008). Mobility pertains to geographical movement of goods, services, capital, labor, ideas and technology. The production structure may well be associated with products, labor, production functions of firms, "input-output" linkages among firms and how firms compete and collaborate. Duranton and Puga (2004) introduced the mechanism of agglomeration- "sharing", "matching" and "learning" that should also be associated with the production structure. The authors suggest that a city's productivity may be optimized with the "sharing" of facilities, gains and risks; "matching" of jobs to skills, employer to employee or buyers and suppliers; and "learning" through tacit knowledge and transfer of technology. Finally, the Spatial structure pertains to the internal and external geographic considerations as well as physical assets of a city such that of land, infrastructure, housing and natural resources (Duranton 2008). These three structures, although separate notions, encompass as well as support the other. For instance, productivity depends greatly on the efficiency of the physical structure such as infrastructure and the location of firms. Also, how production varies is determined by the mobility of technology and ideas. Despite the growing complexity of cities, this model, provides a more structured and layered understanding.

Urban Attractiveness

The increasing competition among cities within the global economic context puts emphasis on the ability of cities to attract FDI, where attracting FDI refers to new firms coming in rather than the financial merging of existing ones, which in this regard means Greenfield investments. This makes the developing and maintaining of urban attractiveness a relevant undertaking (Snieska, Zykiene 2015). Urban attractiveness pertains to a city's factor endowments and its ability to develop and maintain these endowments. This is accompanied by effective institutional policies, favorable business environment and efficient physical infrastructure as well as accessibility to buoyant and expanding markets (Casi and Resmini, 2012; de Mello, 1997; Jackson and Markowski, 1995; Snieska and Zykiene, 2015; World Bank Group, 2016). Other factors include presence of services, quality of life and macroeconomic factors. As previously mentioned, firms and MNC's have different locational preferences based on varied motivations (Casi and Resmini, 2012; Helpman, 2006; Hogenbirk and Narula, 2004). They determine attractiveness of a location by its market size and growth potential. Other determinants can also be production costs, labor costs, presence of highly-skilled labor pool and the structure of local industries (Nallari and Griffith, 2012). Finally, the presence of affordable natural resources and raw materials also attract FDI. These altogether contribute to attract foreign investments. The better the city's ability to attract FDI, the more it can achieve economic stability and the more likely investments will continue to flow in (Wall and Burger, 2013; Wall and Stavropoulos, 2016).

To illustrate the relationship among FDI, cities and urban attractiveness, Figure 1 assembles the concepts together: One, the imperative role of FDI as means for global integration as well an indicator of competitiveness and for the this purpose, whose directional flows go into cities (inflow); and cities where agglomerations of FDI can manifest, bear an increasing role in the global context and thus, find the need to develop its components to attract FDI inflow; Three, the relationship between FDI and cities can lead to competitiveness.

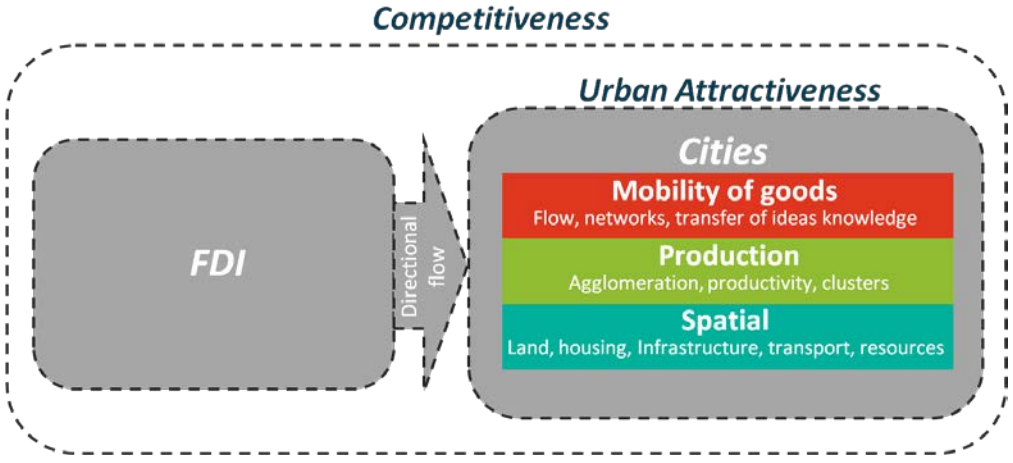


Figure 1 FDI, Cities and Urban Competitiveness

Urban attractiveness, however, is not only limited to developing and utilizing such components mentioned. Attractiveness of cities to FDI also pertains to their spatial qualities (van't Hoff, Wall 2017) as well as their "positive and charming images" or urban character (Vanolo, 2008; Gold and Ward, 1994). Firms are not only seeking for conducive locations that support production and markets but of physical environments that foster their connectivity to the global context, company images and interaction with other industries (McCann, 2008; de Hoog, 2012; van't Hoof and Wall, 2017). Gospodini (2006) describes new urban landscapes as something that includes other factors such as mix land uses, density, culture, architectural character and other spatial qualities.

Further, the European commission (2006) emphasizes not only the productivity, mobility and economic factors of cities can contribute to urban attractiveness but also with its attractive natural and physical environment as well as diverse cultural base. The UK department of transport (2010), on the other hand, focuses urban attractiveness on such factors as environmental quality, quality of the public realm, livability, vitality and the city's general image. Sinkiene and Kromalcs (2010) add that development strategies targeted on urban attractiveness should consider a city's innate qualities, values, identity, and its cultural heritage. By doing this, cities can create a distinct urban character that can draw attention from visitors, residents and investments themselves (Vanolo, 2008). Jacobson (2009), after analyzing place branding in order to attract investments, suggest that investors decision lie on three key factors: "trust" on the location and its positive reputation, "symbolism" or the emotions evoked that also becomes associated with the investor's identity; and "orientation" or clearly presented information to enable investors to process data. These concepts altogether serve as essential instruments in attracting global flows of tourism and investment and in shaping the city's attractiveness to creative talent, tourists and firms (Unit, 2013; Vanolo, 2008, Gold and Ward, 1994), the presence of which contribute to the transfer of knowledge, technologies and human capital (Casi, Resmini 2014). An empirical study by Wall and van't Hoff (2017) explored the locational preferences of knowledge-intensive FDI in global cities. It delved into the spatial qualities such as proximity, typology, functionality and quality that proved to attract investors in. Proximity is checked based on relative distances between FDI clusters and urban infrastructures. Typology pertains to the kinds of land uses and zones while functionality, to the amenities and density of the city. Quality, on the other hand, pertains to the effects of such factors as urbanity, open spaces and the public realm to FDI clusters. The study proves that these urban characteristics, although rather minor contribution, are significant enough to contribute to policy-making and evaluation. The authors added, higher urban competitiveness can be achieved by cities and districts that respond to the spatial needs of firms.

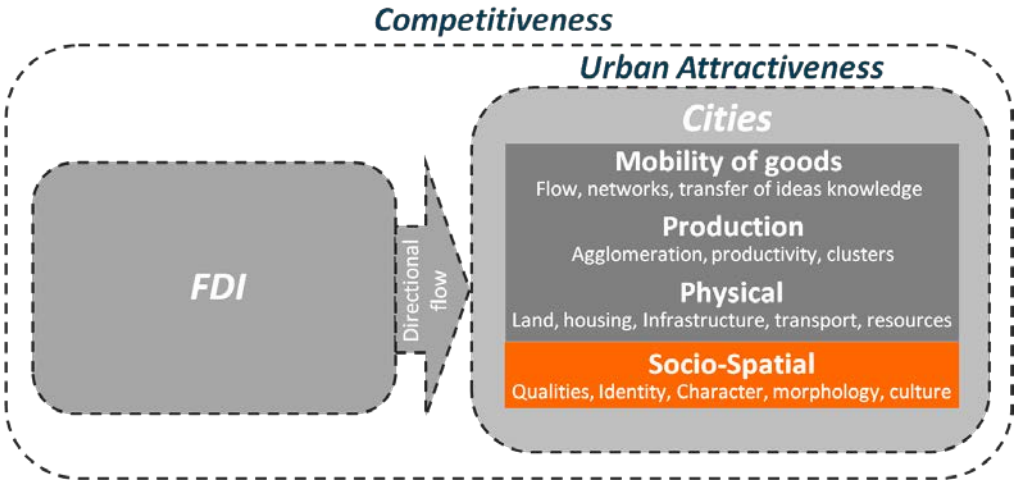


Figure 2 FDI, Cities and Urban Competitiveness from the spatial qualities and urban character perspective

Figure 2 reverts to the framework presented previously but integrates an additional component into the structure. It is believed that not only does mobility, productivity and spatial constitute a city and could be developed to attract FDI but also by introducing the additional component. The framework is modified by renaming Duranton's (2004) spatial to physical which pertains to land, housing and infrastructure while the term socio-spatial encompass qualities, character, as well as the socio-cultural facet of the city. Relative to the purpose of this paper, urban attractiveness will be defined and focused on the urban qualities and character perspective as the added component.

Urban attractiveness: focus

Creating attractive places highlighting ideal spatial quality and urban character is not an unexplored realm. Apart from the studies on urban attractiveness already mentioned, notable studies on place imaging, place marketing, place-making and the sense of place, have attempted to create and package cities attractive to visitors, investments as well as for its citizens (Vanolo, 2008).

Place imaging. Since the 1980's, there had already been attempts among cities to generate new images or to alter negative perceptions for its residents, visitors and investors (Kearns and Philo, 1993 in Carmona, 2010). This turned place imaging as a tool that can shape the perception of a place. Perhaps, what pioneered today's body of knowledge on city images in the spatial context roots from Lynch's "image of the city" in the 1960 (Carmona 2010). Lynch's concept of "imageability" suggests how a place can create a strong sense of image. Although imageability is established in the minds of the beholders, they are drawn from and evoked by real physical places. Lynch's study originally started from "legibility" or the ability of space that allows audience to orient and navigate themselves within it. Thus, Lynch's study established imageability in the context of the physical qualities (Carmona, 2010; Montgomery, 1998). "Paths", "edges", "districts", "nodes" and "landmarks" are the five physical elements that could define imageability. Vanolo (2008) reinforces the image of the city as something

formed not only by visual images. Contributions on the study have highlighted other aspects relating to the symbolisms embedded in the physical and spatial components of the city such that of buildings, roads and monuments. Further, the image of the city can be analyzed through the internal or external perspective. The former is perceived through the local inhabitants of the city while the latter pertains to the representation of the city by and for foreign people unaccustomed to the local life. Such representations are significant in organizing information as well as generalizations and guide policies in such aspects as tourism and investment attraction (Vanolo 2008). Since FDI is the response variable, the study looks through the external perspective.

Place marketing and **Place theming**. Newer concepts such that of "place-marketing" and "place-theming" have been emerging in the present-day market-driven paradigm that sees places as brands or consumer products that must be sold. These concepts are believed to maximize and showcase the assets of the city, including the industries present, its cultural features and at the same time attract mobile capital, the creative class and tourism (Turok 2004). Place marketing is meant to highlight selected qualities or images for specific target audiences. Such images are then utilized for purposes such as tourism, civic boosterism and revitalization as well as economic purposes (Carmona 2010). On the other hand, place theming involves intentional shaping and "packaging" of images around a certain theme. It involves "reinventing" or "inventing" places to attract attention or profit. Theme parks are perhaps the best example of these kinds of invented places. These concepts, however, elicited criticisms since they seem to become fabricated images with much emphasis on marketability.

This leads to the lack of authenticity or realness of place. Florida (2002) suggests that authentic is not generic, rather distinct or unique. *"…authentic with being real, as in a place that has real buildings, real people, real history. An authentic place offers unique original experiences"* (Florida, 2002 P228). Evans (2003) and Hannigan (2003) also note the growing trend of commercial branding has resulted to the "hard branding" of projects that either makes use of iconic buildings or design trends to develop a marketable selling point (Gospodini 2004). Thus, part of the objectives of this paper is to identify a place's innate distinctiveness as something that could aid to more authentic approaches to place marketing that should be able to contribute to its attractiveness.

Placemaking. Perhaps the more celebrated concept and a more recent idea on creating cities with good urban quality and character is about place-making. Think tank Project for Public Spaces (PPS) streamlines such notion that "what if we built our cities around places?" and defines place making as: *"a collaborative process by which we can shape our public realm in order to maximize shared value. More than just promoting better urban design, place-making facilitates creative patterns of use, paying particular attention to the physical, cultural, and social identities that define a place and support its ongoing evolution"* (Place-making booklet, 2016 P2).

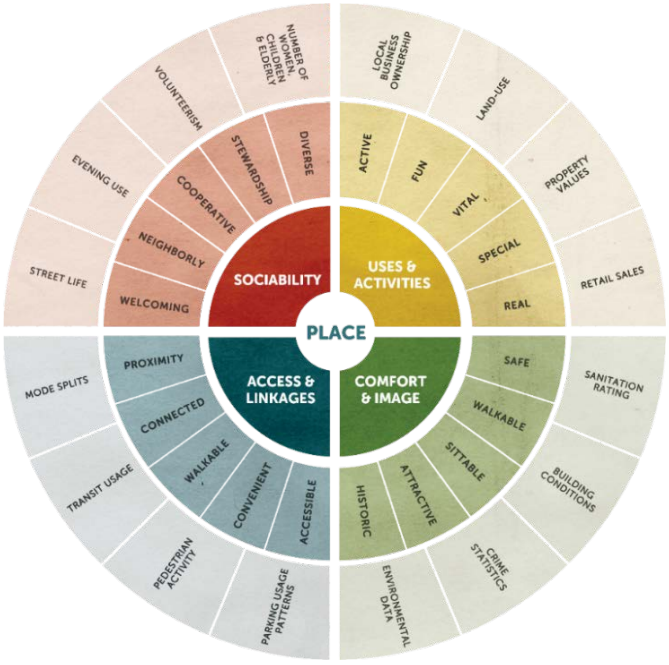


Figure 3 Placemaking wheel, Project for Public Spaces, 2016

Figure 3 is a wheel provided by Project for Public spaces to present the principles of place-making. The inner core ring pertains to the key attributes of a place, the second ring is more of descriptive and intangible that should complement the key attributes while the outer ring is made up of components that should be able to measure the second ring.

- Access & Linkages - Access and linkages refer to the accessibility, connections including visual links. It is believed that a great place is “easy to get to”, “easy to enter” and “easy to navigate”. Places and its components are arranged so that it is easier for people to access by multiple forms of transport and means of mobility.
- Comfort & Image- PPS argues that successful places are the ones that are attractive and comfortable, where comfort is associated with cleanliness, availability of resting spots as well as safety.
- Uses & Activities- Variety in activities is essential to successful places. Places that provide opportunities for people to conduct and participate in different activities give them more reason to come and return. These would mean interesting things to do that available at almost all times of the day and in a variety of intensities.
- Sociability- Sociability is perhaps the most important component as well as the most difficult. A place is believed to foster sociability when it can put people together to interact. This component has been the addition not present from punter’s (1991) and Montgomery’s (2007) models.

Sense of place. Another study was done by Punter (1991) who introduced the components of a “sense of place”, which is made up the “built form” pertaining to the structure and landscape of the city; “meaning” or “imageability” which are perceived qualities and “activities” which pertains to pedestrian

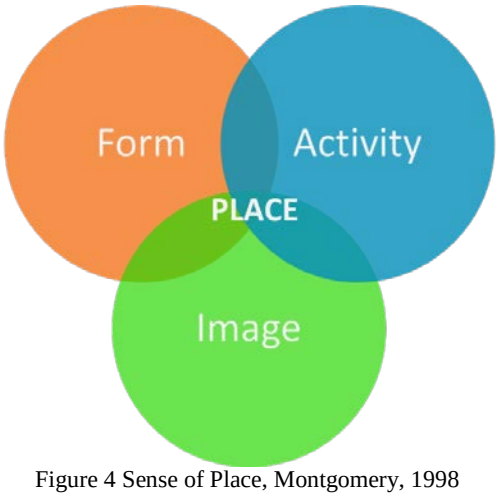


Figure 4 Sense of Place, Montgomery, 1998

and vehicular flows as well as behavior. Springing from this study by Punter, Montgomery (2007) provides a clear differentiation between place identity and place image where the former refers to the how the place actually is, making it more objective. The latter, on the other hand, also pertains to the actual place but includes the perceptual dimension that is being elicited by the place to the beholders. It can then be assumed that place identity can be associated with the physical qualities or form of the city while place image, to the sensory experience evoked by these spatial qualities. There are several spatial qualities that produce sense of place and good urban quality: scale, architectural form, landmarks, open space, view corridors, to name a few. Yet, the notion of sense of place is most importantly held together by the socio-cultural and psychological dimensions of a place (Montgomery 2007). Thus, sense of place at this point can be narrowed down to three main points: spatial qualities (form), imageability (image) and activity.

Given the concepts mentioned above, it was noticed that the components coincide when overlaid together. Montgomery (2007), which sprang from Punter's (1991), overlaid to PPS's (2016), are coinciding. Montgomery's Image coincide with PPS' comfort and image; Montgomery's activity coincides with PPS' uses and activities; and Montgomery's Form coincide with both accessibility and sociability by PPS. From here, a composite model is derived, taking off at the convergence of each of the component. While each component is distinct, explained by different arguments, and are measured differently, they can further be narrowed down to where they are common.

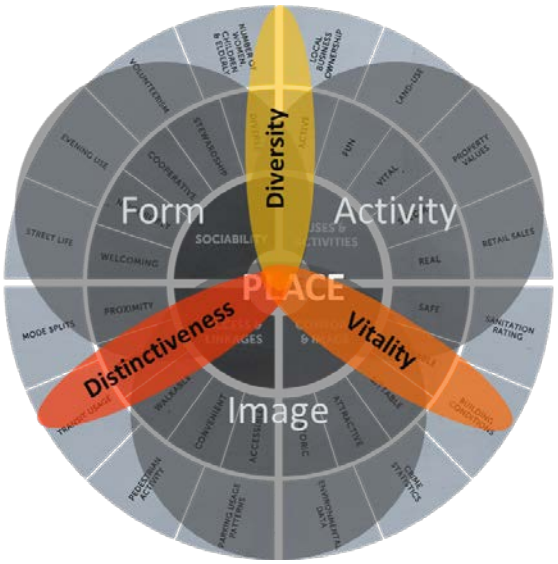


Figure 5. Composite wheel derived from the two place concepts

Image + Form = Distinctiveness

"Urban form is about visual images of cities" (Pont, 2015). A distinctive form would evoke imageability and enable beholders to clearly ascertain what it is they are looking or experiencing (Carmona 2010). A city should have distinct spatial forms and patterns that allow for imageability and legibility, so that people can easily orient and identify themselves in space and context (Lynch, 1960 in Montgomery, 2007). Further, the physical and visual distinctiveness contribute in the creation of a distinct urban character (Carmona, 2010; Great Britain. Dept. of the Environment, The Regions, et al., 2000).

- Site – Considering and integrating a site's natural land form, features and local ecology reinforces local distinctiveness (Great Britain. Dept. of the Environment, the Regions et al. 2000).
- Density - The scale, massing of a development contribute to creating distinct silhouettes and skylines (Great Britain. Dept. of the Environment, the Regions et al. 2000) and one way to analyze built form in its three-dimensional presence is to examine the density of the built environment (Pont, Haupt 2007). In Pont's (2015) paper, the author describes density as a multi-indicator concept relating to the built mass or form. Density can be measured by a combination of "Floor Space Index" , Floor Area Ratio or Plot ratio as a measure of intensity; "ground space index" or coverage as a measure of compactness and "networks" where other measures such as "open space ratio and size of urban blocks can be derived. More importantly, density and the compactness of cities allow face-to-face encounters so that exchange of ideas, meetings and building of trust among firms may take place (Venables, 2010).
- Layout– The way streets and blocks are structured play a significant role in shaping movement patterns that set both the parameters of succeeding developments as well as the character of a place (Carmona 2010). A ratio of the block and street is believed to be either fine or course, the former characterized by smaller street and blocks, while the latter, of bigger streets and blocks.

The important qualities of blocks are their ability to allow visual and physical choice of routes as well as opportunity for movement. Smaller blocks provide more choice of routes and visual permeability since there are more intersections and turning points. Thus, the emphasis is put on obtaining a fine grain layout (Montgomery 2007) which contributes to overall walkability of a city (Nallari and Griffith, 2012; Southoworth, 2005). With fine grain layouts having smaller blocks, narrower streets and more intersections, they are believed to be walked within 10 minutes. According to Montgomery (1998) and Jacobs (1994), cities with areas around one square mile will tend to have 250 intersections or more as in the case of Amsterdam and Toulouse. The layout of streets and its complexity, on the other hand, can evoke symbolic images and character, contributing to the distinctiveness of a place, which can either be regular, which is more geometric, or organic which is more natural (Carmona 2010).

- Building Structures – Buildings have their volumetric, visual and functional characters. Carmona (2010) defines the volumetric character as the building's general massing or its three-dimensional form. It also pertains to the scale or the positioning of the building relative to the general setting or the ratio of the building height to the street width. Scale, according to Montgomery (1998), is the "sense of grandeur" or "intimacy of space". Complementing the distinctiveness of layout, fine grained cities tend to have high buildings with narrow streets and alleys. The Visual character, on the other hand, pertains to the building facades. Buchanan (1988) presented the value of façade design in creating character. To be able to measure such qualities as façade design, Stamps III (1999) introduced "surface complexity", "silhouette complexity", and "facade articulation" to relate the descriptions of physical design features to materials as well as to spatial relationships. Although the paper originally measured the three variables on human perceptions, this paper makes use of this context to attract foreign investment. The third character is the social or functional character which gives meaning to buildings relative to social context and how it can be functional to that same context. Local buildings, which embody local culture and reflections of history, also contribute to the distinctiveness of a place. Thus, local materials as well as building types/methods greatly enhance local distinctiveness (Great Britain. Dept. of the Environment, the Regions et al. 2000). Buildings, with their design and construction, may evoke symbolic meaning and provide an image that can be representative of a city (Carmona 2010). Buildings can also be landmarks that contribute to the providing legible images to people (Lynch 1960).
- Streetscape – "streetscape refers to landscapes consisting of road paving, street furniture, vegetation and roadside buildings. When a streetscape is designed well, the street becomes an amenity zone" (Fukahori and Kubota, 2003 P75). Streetscapes are the "outdoor rooms one encounters when turning the corner or stepping out the door into the street" (Cullen, 1971 in Harvey, 2014 P10). The quality and organization of the hard component of the streetscape, mainly street furniture and paving materials, not only contribute to the value of urban space but

to its the overall identity and character (Carmona 2010). The soft component, composed of vegetation and landscaping, can be significant elements that add to place character and identity. Trees and urban landscape are expression of the human scale, the changing seasons as well as reinforce the character of the surrounding buildings and elements (Carmona 2010).

Form + Activity = Diversity

It is essential to design and develop the form of the city to achieve urbanity, activity and diversity, where diversity means "the mixture of uses and activities" (Montgomery 2007). Diverse spatial forms, typologies and qualities as well as diverse uses allow for a variety of activities to take place. These forms also allow various demographic and cultural backgrounds to use and enjoy such spaces and thus foster inclusiveness.

- Land Use Mix – urban areas must serve varying and several functions and uses. Active and diverse cities lie in the spatial transformation and development of different land and building uses including the activities that they allow (Montgomery 2007). These spatial components must act as appropriate meeting places that stimulate and accommodate contact, transactions and street life as well as provide spaces that allow culture, local traditions, festivals and events that represent meaning and identity of the city (Gehl, 1995).
- Economic Mix – where the spatial context is diverse, should allow for various economic activities to take place. Interesting urban areas with strong sense of place are the ones which possess complex variety, with presence of small-scale business enterprises whose activities interact with both clients/consumers as well as other businesses in various times of the day (Montgomery 2007). These SME's include cafes, bakeshops, delis, supermarkets, cinemas, theatres, galleries, pubs and clubs. The Project for Public Spaces' "Power of 10+" suggests that spaces should have at least 10 places or destinations where similarly, at least 10 activities can take place.
- Demographic Mix - employing spatial and economic diversity should also allow for social diversity, with significant concentration of people with diverse backgrounds and purposes. Further, the growth potential of cities also depends on the age structure and quality of the workforce (Nallari and Griffith, 2012). A dense labor market can better facilitate the matching of firms and labor with their particular skill-set as well as allow the increase of meetings and transactions (Nallari and Griffith, 2012)
- Recreation Mix- A range of spaces should allow activities that support people's recreation and relaxation needs as well to stimulate more exchange and transaction.

Activity + Image = Vitality

Lynch (1981) describes a vital city as one which effectively responds the needs of its people by providing a range of activities within a safe environment. Similarly, Jane Jacobs (1961) argued that

vitality of a city depends greatly on the mix and interlacing of activities. Also, a city that holds activities and celebrations that support culture and heritage is considered to possess vitality.

- Culture – The French's "animation culturel" pertains to creating vitality by planning and executing events, activities and festivals, most of which should occur in streets, civic buildings and public spaces (Montgomery 2007).The presence of civic and cultural structures that are open to the public and allows for alternate uses also contribute to both activity and imageability of the city. With the transformations brought by globalization, preserving the identity and cultural roots of places emerges to be an undertaking (Gospodini, 2004). Such transformations and development could leave a city's "soul and identity" at risk (Koh and Melic, 2017). However, in such cases as preserving Singapore's culture and history, conservation efforts put emphasis on turning a city's historic character as an "X-factor" that can contribute to building the city as a distinct, diverse and liveable place. The two authors further add that historical and cultural districts reinforce the liveability, accessibility and attractiveness of cities.
- Liveliness – A city is considered lively if it possesses high level of commercial activity (Montgomery 2007). It also includes the ability of local elements within the city to attract foot traffic and concentrations. Buzz allows cities to be relatively known (Turok, 2004). to UNCTAD (2004) and Endo (2006), tourism is expected to be one of the leading sectors to attract FDI. Further, various investments will be directed towards supporting the tourism sector.
- Safety – The lack of safety threatens both the use of public spaces as well as the creation of the sense of place (Carmona 2010). Thus, the city's safety level says so much about its character and identity. Jacobs (1961) and Montgomery (2007) suggest that encouraging activity and transactions provide "eyes-on-the-street" and thus more likely increase natural surveillance.
- Movement – The linkage of cities to the rest of the region and to the global setting as well as for the facilitation of goods and circulation of people, greatly rely on the efficiency of transport and movement infrastructure (Nallari and Griffith, 2014). Carmona (2010) argues that pedestrian movement can be related to the notion that streets can act as public spaces that foster social interaction. The author also added that economic, cultural and social exchange and interactions are dependent on pedestrian movement. While public transport is imperative, car usage is inevitable in such purposes as business, night activities, long distance journeys and trips that involve transporting heavy or several goods (Comedia, 1991 in Montgomery, 2007). However, where car usage is excessive, alternate transport means such as bicycles are encouraged.
- Function – A city that makes sense is organized so that its function may contribute to its legibility (Montgomery 2007). Vital city districts promote activities supported by suitable space sensibly chosen and structured help attract a variety of people during different times of the day (Project for Public Places, 2016).

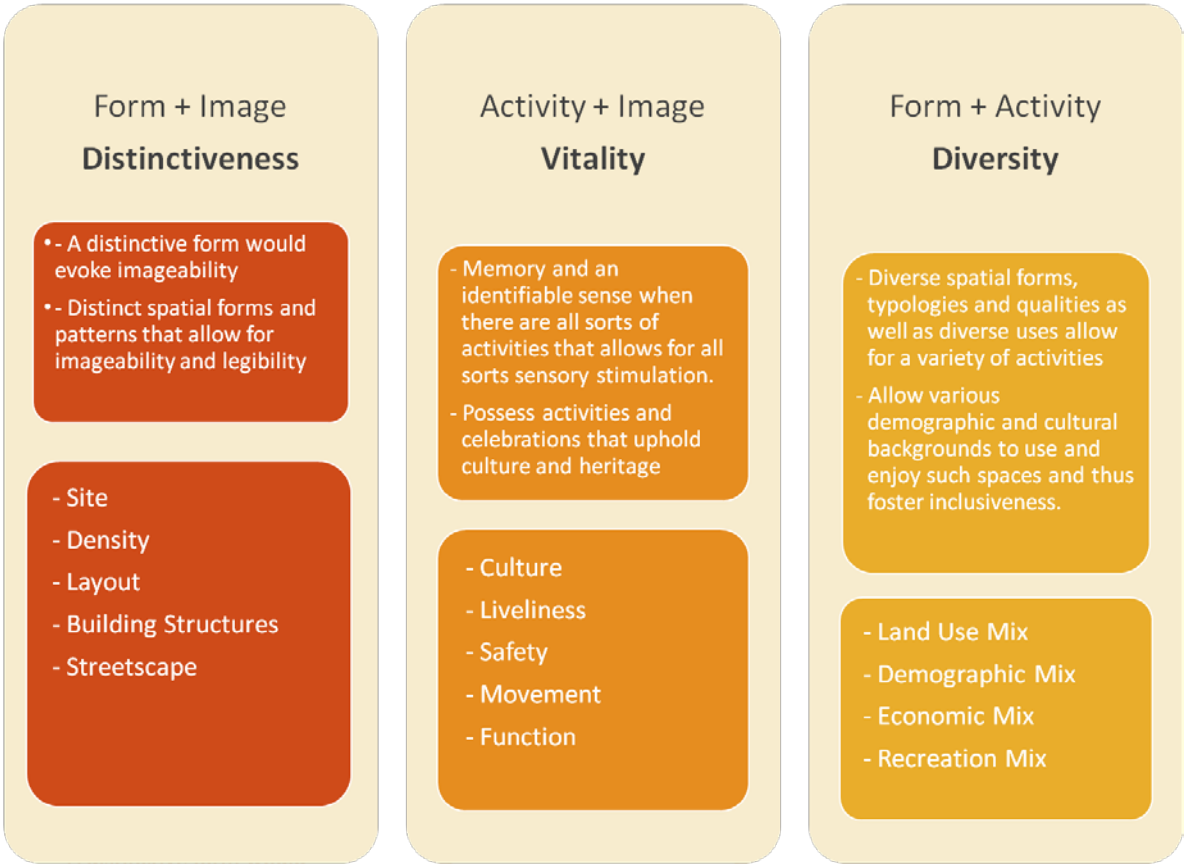


Figure 6 Summary of Operationalization table

2.2 Conceptual Framework

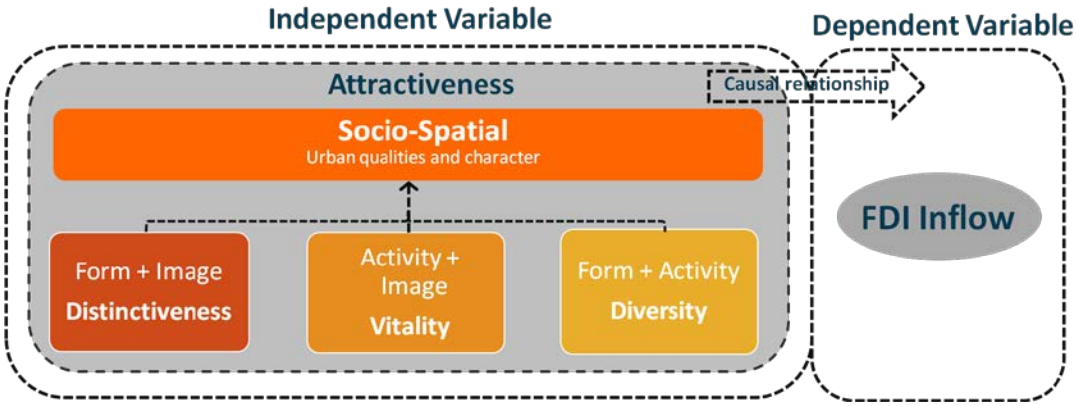


Figure 7 Conceptual Framework

From the previous figures presented to show the relationship among FDI, cities and urban attractiveness, figure7 shows the framework upon which the study draws on. This framework, as a synthesis of the research question, focuses on the qualities and character of the city that contributes to cities' attractiveness to FDI inflow.

Dependent variable

As argued by theory, the increasing competition within the global realm call for cities to attract FDI that serve as means by which cities can be integrated into the global network and to achieve competitiveness. The ability of cities to attract FDI refers to the creation of new firms rather than the financial merging of existing ones (Casi and Resmini, 2014). Thus, the dependent variable in this framework is FDI inflow count or the relative number of investments going into or received by countries which also means in this regard as Greenfield investments. FDI count is also classified by its regional and sectoral differences. FDI, in terms of the regional aspect, are classified by looking into inflows of cities within the EAP region and further narrowing down into two cities per category depending on the highest and medium FDI counts. This location-based classification is intended to look at different spectrums and aspects of locations. Sectoral differences, on the other hand, examine the top three sectors with the most FDI counts.

Independent variable

After delving into and synthesizing various concepts, the paper narrows down into three qualities/descriptions that make up urban spatial qualities and character and in turn, define urban attractiveness: Distinctiveness, Diversity and Vitality. Together, they make up as latent variables or main concepts. These main concepts are made of sub-variables and indicators, derived from different measurement norms in such fields as urban design, architecture and economics.

Chapter 3: Research design and methods

3.1 Operationalization

As much as existing empirical knowledge on FDI and urban attractiveness especially through the urban qualities and character perspective is concerned, this study is rather more exploratory in nature. Thus, a scan of potential indicators which are likely to be an eclectic mix and to a certain extent affect FDI inflow, is inevitable.

Concept	Description	Indicators	Values
Dependent Variable			
Foreign Direct Investment Inflow	Relative number of investments going into or received by countries	FDI indegree/inflow count	The more FDI count agglomerated/dispersed in the city, the more globalized and integrated the city becomes
Independent Variables			
Urban Attractiveness			
Distinctiveness			
		Total land area*	City total land area in km2
- Site	Considering and integrating a site's natural land form, features and local ecology reinforces local distinctiveness	Slope/topography	Values from 0% to 36% (coded)
		Distance to water body	Distance to natural features
		Distance to mountain	Distance to natural features
		Elevation	Land elevation from 0
- Density	The scale, massing of a development contribute to creating distinct silhouettes and skylines and one way to analyze built form in its three-dimensional presence is to examine the density of the built environment	Floor space Index or Floor Area ratio (FSI/FAR)	Expresses the relation of the amount of built floor area to the area of a plan. Low FAR would signify low density development. Similarly, to medium density and high density developments
		Ground Space Index (GSI)	Percentage of the plot area covered by buildings
		Urban Extent	Measure of sprawl
		Open space per person	Amount of open space per person
		Urban Built-up area	Measure of urbanity; how much of the total space is developed
- Layout	The way streets and blocks are structured play a significant role in shaping movement patterns that set both the parameters of succeeding developments as well as the character of a place	Grain	Street to block ratio; Fine or Course grain
		Number of intersections	Measure of grain To ensure permeable grain, Ideal number of intersection is 250 per 2.59sqkm (Montgomery, 1998)
		Complexity	Values from 1 to 3 (Rough or smooth; regular or irregular)
		Average Block size	Area of block; measure of grain
		Average road width	Road width; measure of grain
- Building	Buildings, with their design and construction, may evoke symbolic meaning and provide an image that can be representative of a city. Buildings can also be landmarks that contribute to the providing legible images to people.	Height	The height can show human scale and how "intimate" the street level is; height in meters
		Scale	Building height to street width; Show human scale and how "intimate" the street level is.
		Surface Complexity	Building materials used; Coded levels from 1 to 5
		Silhouette Complexity	The number of turns or corners to generate levels for the silhouette factor; coded values 1 to 4

		Façade Articulation	Levels to be generated by projecting or recessing portions of the facade in order to generate different quantities of convex deficiency; coded values 1 to 8
		Number of Landmarks	Contributes to Imageability and legibility; count
		Number of heritage/old buildings	The count of how many old buildings which may give off strong character for the city
-Streetscape	The quality and organization of the hard component of the streetscape, mainly street furniture and paving materials, not only contribute to the value of urban space but to its the overall identity and character. The soft component, composed of vegetation and landscaping, can be significant elements that add to place character and identity.	Average Sidewalk Width	Measure of walkability, ample physical infrastructure must be met; Metric value
		Average Spacing of Trees	Measure of shading and framing of view corridors
		Height of Trees	Measure of scale (human scale); framing view corridors
		Number of trees	Measure to support open space measures
		Number of Heritage/native/old trees	Indication of the change of seasons; framing view corridor; native trees can contribute to overall character
		Pavement material	Coded values for different material types
		Presence of wayfinding signs	Coded values for presence of signs
Diversity			
-Land Use Mix	Urban areas must serve varying and several functions and uses. Active and diverse cities lie in the spatial transformation and development of different land and building uses including the activities that they allow	Mixed Use Index	Degree of mix of uses (ratio between residential and commercial uses)
		Commercial use percentage (Land Use)	Percentage of use allotted for commercial (land area)
		Number of commercial uses	Total number of commercial establishments
		Average number of different types of commercial facilities within 500m	Measure of how much commercial facilities are accessible and walkable.
		Residential use percentage (Land Use)	Percentage of use allotted for residential (land area)
		Residential types	Number of different types of residential uses
		Residential Floor Space	Total area of residential stock/floor space
		Office Floor space	Total area of office stock/floor space
		Open space ratio	Percentage of uses allotted for open spaces (includes parks and public space)
		Institutional Land Use	Percentage of use allotted for institutional uses (schools, hospitals)
- Economic Mix	Where the spatial context is diverse, should allow for various economic activities to take place. Interesting urban areas with strong sense of place are the ones which possess complex variety, with presence of small-scale local business enterprises whose activities interact with both clients/consumers as well as	Integration value	More integrated, more natural movement
		Number of business establishments	The more number would signify more local and commercial activities
		Business density ratio	New registrations per 1,000 of the population
		Mixed Land ownership	Public, private or mixed land ownership

	other businesses in various times of the day		
-Demographic Mix	Employing spatial and economic diversity should also allow for social diversity, with significant concentration of people with diverse backgrounds and purposes	Percentage of ethnic population	Where there is diverse types of spaces, diverse must also be present
		Percentage of young population	Presence of young population or the workforce who are more likely to benefit from the diversity of spaces as well as the ideal for attracting FDI firms; ages 15-34
-Recreation mix	A range of spaces should allow activities that support people's recreation and relaxation needs as well to stimulate more exchange and transaction.	Number of Parks and Playgrounds	Measure of how many public spaces to support different forms of recreational activities
		Percentage of parks within 500m (relative to total number of parks)	Measure of how many public spaces to support different forms of recreational activities, are accessible and walkable
		Number of Amenities	Measure of how many facilities for amenities are present to support different forms of recreational activities
		Percentage of Amenities within 500m relative to total number of parks	Measure of how many facilities for amenities are present to support different forms of recreational activities are accessible and walkable
Vitality			
- Culture	Creating vitality by planning and executing events, activities and festivals, most of which should occur in streets, civic buildings and public spaces. Presence of civic and cultural structures that are open to the public and allows for alternate uses also contribute to both activity and imageability of the city.	Number of festivals/events	Number of local and international events as well as cultural events; More foot traffic is ideal to achieve activity and transaction (Montgomery, 1998; PPS, 2016)
		Number of cultural/civic structures	Measure of how much cultural structures are present
		Distance to civic/cultural structures within 500meters	Measure of how much cultural facilities are accessible and are walkable.
- Liveliness	A city is considered lively if it possesses high level of commercial activity. It also includes the ability of local elements within the city to attract foot traffic and concentrations.	Integration value (space syntax)	More integrated, more natural movement
		Tourist Arrival Count	Count of people coming in to visit; More foot traffic is ideal to achieve activity and transaction (Montgomery, 1998; PPS, 2016)
		Social Media Buzz	Place branding/marketing thrives on social media as platform to which places may be promoted; measure of tags and mentions.
		Iconic Monument/Image	Presence of icons that form images and recognisance can attract foot traffic and concentrations.
- Safety	The city's safety level say so much about its character and identity. Jacobs (1961) and Montgomery (2007) suggest that encouraging activity and transactions provide "eyes-on-the-street" and thus more likely increase natural surveillance.	Safety Index	The higher the index, the safer the city
- Movement	Pedestrian movement can be related to the notion that streets can act as public spaces that foster social interaction. The	Number of bus stops	Measure of accessibility and mobility
		Bus stop coverage	Measure of radius of bus stop/Interval of bus stop and how much of them are accessible

	author also added that economic, cultural and social exchange and interactions are dependent on pedestrian movement. While public transport is imperative, car usage is inevitable in such purposes as business, night activities, long distance journeys and trips that involve transporting heavy or several goods. However, where car usage is excessive, alternate transport means such as bicycles are encouraged.	Number of terminals/stations	Measure of accessibility to public transport
		Types of transport modes	Measure of accessibility and mobility as well as alternate modes of transport
		Percentage of amenities within 500meters	How much of amenities are accessible and walkable
		Length of blocks	Measure of walkability
		Percentage of circulation (Land Use)	Measure of mobility
		Traffic VC	Volume of traffic to capacity of roads
		Public to private accessibility ratio	Percentage of public transport trips to vehicular trips; measure of alternate transport
- Function	A city that makes sense is organized so that its function may contribute to its legibility. Vital city districts should allow activities that support people's recreation and relaxation needs as well to stimulate more exchange and transaction	Opening and closing hours	Coded values 1-5 Activities open at most times of the day
		Amenities use percentage (Land Use)	Percentage of use allotted for amenities
		Distance to amenities within 500m	Measure of how much amenities are accessible
		Percentage of walkable frontage	Measure of accessible active frontage

* Factors or control variables to check

Table 1 Variables and Indicators

3.2 Research strategy and methodology

As research strategy, this study conducts desk research or a quantitative research method that makes use of existing data sets. Given the nature of the research question, the strategy employs a deductive strategy which begins with the more general background concept of globalization as a phenomenon shaping cities today then progresses to how cities can respond to the challenges of such phenomenon by attracting Foreign Direct Investment (FDI) to become competitive. Among other components, it then focuses on urban attractiveness through the spatial qualities and urban character perspective. Diversity, vitality and distinctiveness as main concepts, including the variables and indicators, are argued to constitute spatial qualities and urban character. Together, they define urban attractiveness which is the independent variable and FDI inflow count as the dependent variable.

Given the research questions, FDI inflow data are classified according to regional and sectoral. Having that, the research methodology begins with a regional analysis. A competitive scan of East Asia Pacific cities is conducted in relation to their FDI inflow counts. Through this process, the study can identify relevant cities that show high (first category) and medium (second category) FDI inflow count, selecting two cities per category. The two cities per category are chosen by their comparability with each other in such aspects as land area and total population. After identifying the four focus cities, investment counts, through the locational data of companies/firms, are then geo-mapped in Geographic Information System (GIS) software. Where the FDI agglomerations manifest themselves across space within the selected cities, serve as spatial samples or FDI districts for the study. These spatial samples are taken at a similar scale at a 1,500-kilometer radius, to ensure consistency and that districts are comparable. The

study proceeds by collecting all the indicator values within the context of these samples. A scan of potential variables having significant relationship to FDI inflow yields an eclectic mix of indicators grouped together by theory. A combination of GIS, fractalyze, space syntax, AutoCAD as well as virtual street tour and virtual maps are used to derive the indicator values relative to the samples. Together with the rest of the secondary data gathered, these are all consolidated into a data matrix, which is used for the inferential statistical analysis. Inferential statistical analysis is used to examine the causal relationship among the variables (Van Thiel 2014), which in turn presents the relationship between urban attractiveness in the spatial qualities and urban character perspective and how it attracts FDI inflow within the sample cities. Further, sectoral analysis is done through the same process of analysis but looks into the top three FDI sectors. Figure 8 illustrates the research methodology process.

3.3 Data collection methods

Data collection methods for this paper involve gathering and utilizing existing secondary quantitative datasets. For the dependent variable, data includes Foreign Direct Investment inflow counts (Greenfield) of various cities coupled with locational data such as postcodes, addresses or geotags to visualize their agglomeration across space. FDI data are obtained from fDi Markets which provides such data all over the world from the periods 2003-2013. Locational data are obtained from the geo-coding tool or where unavailable, coordinates are manually located from Google earth and GeoPosition through company addresses. The independent variables that define urban attractiveness including their respective indicators, on the other hand, involve several types of data sources and methods of collection.

First, continuous data for indicators such as land use percentages, traffic volume capacity and safety index are obtained from local government open data source or other open data providers. Second, data for indicators such as density, grain, site features and streetscape are obtained from maps and plans and interpreted through suitable spatial software such as space syntax, GIS, AutoCAD and Fractalyze. Third, some dummy indicators that are design elements such as wayfinding, pavement material and building surface complexity can be measured or quantified but are specified by level, type or category. Scores are provided for each category of each indicator. The range of value of category scores describes the degree of effects to the dependent variable. All these data are consolidated into a data matrix that serves as baseline file for the inferential analysis.

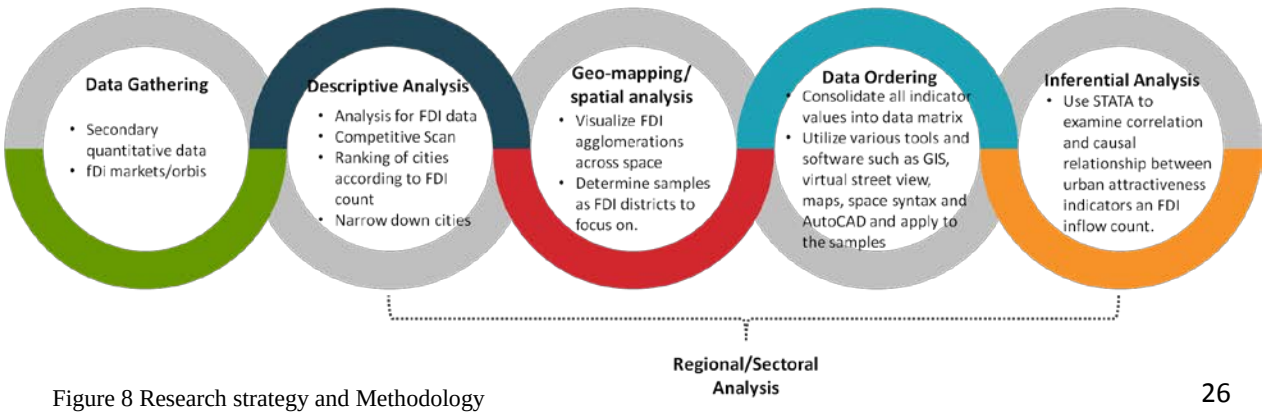


Figure 8 Research strategy and Methodology

3.4 Validity and reliability

Firstly, the study makes use of secondary quantitative data, the quality of which is assured considering that it is reviewed and evaluated by several reliable sources and bodies. In collecting data, desk research does not interfere with research situation. This reduces threats to validity and reliability (Van Thiel 2014). Next, quantitative analysis is used which allows generalization of findings to wider context or population and thus contributes to external validity (Winter 2000). This is done through a suitable statistical approach and software to check the strength and causal relationship of the variables. Here, Poisson and Negative Binomial Models are used for regression as well as factor analysis to confirm the groupings and correlation of the indicators. It is also important to perform statistical tests to correct irregularities in the data (Cameron, Trivedi 2001) and to ensure that results are sound. Validity is reinforced by identifying the observations objectively. Cities are classified according to highest and medium FDI counts from the secondary data. This is followed by obtaining samples in similar and comparable scales that serve as representation of the bigger regional context. Sampling is done through geo-mapping FDI counts and where exactly they agglomerate across space. This method may be purposeful than random but it uses geo-mapped locational data to determine the sample or working area.

Further, the use of quantitative data gathered from open data and reliable data sources allows for replicability of the study and thus contributes to reliability (Winter 2000). Further, to allow consistent measurements, indicators are known and widely-used measurements used in the urban design, architecture as well as in the economic realms. For instance, the measure of distinctiveness through density or layout is done through such indicators as Floor area ratio and fractal dimension, to name a few. These are also generated through relevant software where results are calculated and may be re-calculated. To further strengthen the validity of the study, triangulation through a survey is ideal, so that insights on the preferential behavior of the FDI sectors themselves may be gained. However, due to time and resource constraints, conducting such task is deemed unrealistic.

3.5 Data Analysis and techniques

The regional analysis begins by running a descriptive check to get a grasp of the raw data, conduct a competitive scan of the regional differences and to generate a category and ranking of cities. Two cities are selected from each category, relative to the highest and medium FDI inflow counts, yielding 4 cities in total. Charts and graphs are used to visualize the results where necessary. Focusing on the 4 cities, FDI are geographically contextualized by geo-mapping locational data of companies/firms into GIS. In the locations within the city where they agglomerate across space serve as samples or FDI districts. Next is to derive the variables and indicators relative to these samples so that data matrix maybe obtained. A scan of potential indicators with significant relationship to FDI inflow yields an eclectic mix of indicators. Since there is already pre-defined grouping based on theory as presented in table 1,

confirmatory factor analysis is conducted which empirically confirms the correlation and the "underlying structure" of these indicators (Torres-Reyna, 2010) and thus justifies the grouping.

To respond to the main research question and thereby examine the effects of urban attractiveness to FDI inflow count, inferential statistical analysis is conducted. The statistical analysis is done in STATA, and begins with descriptive tests such as histogram and summary. This is followed by simple regression to check relationships as well as check for multicollineary, where standard errors of the indicators may be inflated. This means that they correlate too much or that they explain the same thing (Bruin, 2006). This may be corrected through the Variance Inflation Factor (VIF) function in STATA, removing some indicators having values more than 10 (Bruin, 2006; StataCorp, 2015). Considering FDI count is discrete data, the suitable regression model is the Poisson model. The Poisson distribution "is a discrete probability distribution for the counts of events that occur randomly in a given interval of time (or space)" (Marchini 2008):

$$\Pr[Y = y] = \frac{e^{-\mu}\mu^{y}}{y!}, \qquad y = 0, 1, 2, ...,$$

Where Y is the number of events in a given interval, μ is the "intensity" or "rate parameter" or the mean number of events per interval and the distribution as P[μ]. Thus, the Poisson regression, as it considers count data, presents the likelihood coefficients as "events" or "rates" or how many times a variable affects the other. To control for inconsistencies such as overdispersion of the dependent variable, where variance is not equal to or exceeds mean, statistical test such as goodness-to-fit and checking variance and mean values after running the Poisson regression are performed (Cameron, Trivedi 2001). Where oversdispersion cannot be addressed in Poisson model, negative binomial model is used:

$$h(y|\mu, \alpha) = \int f(y|\mu, \nu)g(\nu|\alpha)d\nu,$$

Where g(ν|α) is called the mixing distribution and α pertains to the unknown parameter of the mixing distribution. The integration defines an "average" distribution. The NBR models the "number of occurrences" or events (counts) when the event is overdispersed which cannot be considered by the Poisson Regression (StataCorp, 2015). With the Negative Binomial model, value of R2 as that of the Ordinary Least Squares model, is not relevant. What is measured in NBR is the log likelihood of the coefficients or the likelihood of the fitted model (Bruin, 2006). The model also uses "vce" as standard error reported as it is more robust (StataCorp, 2015). Coefficients are reported by default or the rate at which events occur. To respond to the research questions, the analysis part is developed in two ways: regional and sectoral. While regional differences is examined through the descriptive analysis done in the initial part, regional analysis is further conducted by running a regression on the variables.

Chapter 4: Research findings and Analysis

4.1 Regional Analysis

The East Asia Pacific context

The East Asia Pacific (EAP) region is taken as the focus area of the study. Consisting of Australia, Brunei, Cambodia, China, Hong Kong, Indonesia, Japan, Korea, Lao DPR, Macau, Malaysia, Mongolia, Myanmar, Pacific islands, Papua New Guinea, Philippines, Thailand, Timor Leste and Vietnam (see Annex for Map), the EAP regions remains to be resilient where the outlook for the next two years is generally positive (World Bank Group 2016). The region accounts for almost two thirds of the global economic growth which makes it a key contributor to the world economy. This is proven by a significant increase in FDI with a 28% share from the global FDI shares, Shanghai and Singapore being the top overall recipients of FDI with 289 billion dollars and 67, 523 million dollars, respectively (World Bank Group 2016). This is accompanied by a demonstration of resilience with only a 1.4% decrease in 2014, which occurred amid global inflow FDI dipping by 20% in 2014. According to the World Bank (2016), improved business environments, favorable or "pro-FDI" policies and expanding markets continue to attract investors to low and middle-income economies such as EAP countries. Further, Chia Siow Yue (1993) adds that favorable factor endowments such as natural resources and labor also attract FDI into the EAP economies. Despite that, only a few of these cities ranked high in the Global Competitiveness Report (Ni and Kresl, 2006 in Choe and Roberts, 2011).

Also, according to the World Bank (2009), Asian cities and their role in national economic development is not fully grasped. Malaysian and Thai cities contribute more than 90% to national GDP while almost 100% contribution from Hong Kong and Singapore, primarily because they are city-states and are highly urbanized (Choe, Roberts 2011). Further, megacities such as Bangkok, Manila and Jakarta, where there is a likely high degree of agglomeration, contribute a higher percentage of GDP. In this highly-globalized paradigm where economies are transforming and is becoming largely FDI-driven, competition among cities becomes tight.

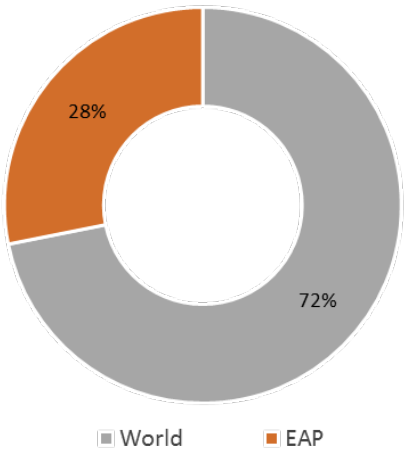


Figure 9 EAP FDI inflow relative to global FDI (World Bank, 2016)

Many Asian cities have incorporated cluster development to become more competitive. Thus, Asian cities are called upon to develop attractive cities to increase FDI inflow as well as for FDI cluster development.

The East Asia Pacific context: urban attractiveness

During the mid-1990's, globalization has not only brought economic transformations to Asia (in general) rather includes the social and spatial components. These transformations led to the conception of such terms as "Asian Renaissance" and "New Asia". Because of this, the "nexus of place", memory and identity resonates as well in Asia (Chang 2005). As Asian cities continue to globalize, the task of honoring "public memory" and identifying place identity takes on new challenges. This is also accompanied by unresolved "identity crisis" of cities rooted in three realities:

1. Colonialism and its aftermath, thus the myriad of cultures and identities. Especially in South East Asia where there exists an intersection of colonial heritage, post-colonial nation-building has been a challenge however still offers a unique experience.
2. Multi-ethnic nature of South East Asia, and the power struggle of dominance. In such multi-ethnic settings, there is an increasing need for ethnic minorities for their cultural heritage to be recognized.
3. "Centrality on the local culture" which means that politics, caste system, race, religion and gender mainly define urban forms and processes (Evers, Korff 2000).

Although urban renewal projects have been fully embraced in Europe, Asian cities have started with their own initiatives only in the 1970's which served various goals such as tourism, cultural revitalization and development of national identity. These are, however, less understood where the focus is most likely in the economic and infrastructure development as well as re-building constitutions and governments from what is left in the post-colonial era. The popular use of the term "New Asia" is in fact a proof of this. Chang (2005) argues the premise for such term is not clear. Questions such as "what is new about Asia?" and "how is the New Asia identity performed, circulated and contested?" are awaiting to be explained. These are questions that warrant empirical clarification (Chang 2005).

Results of Analysis

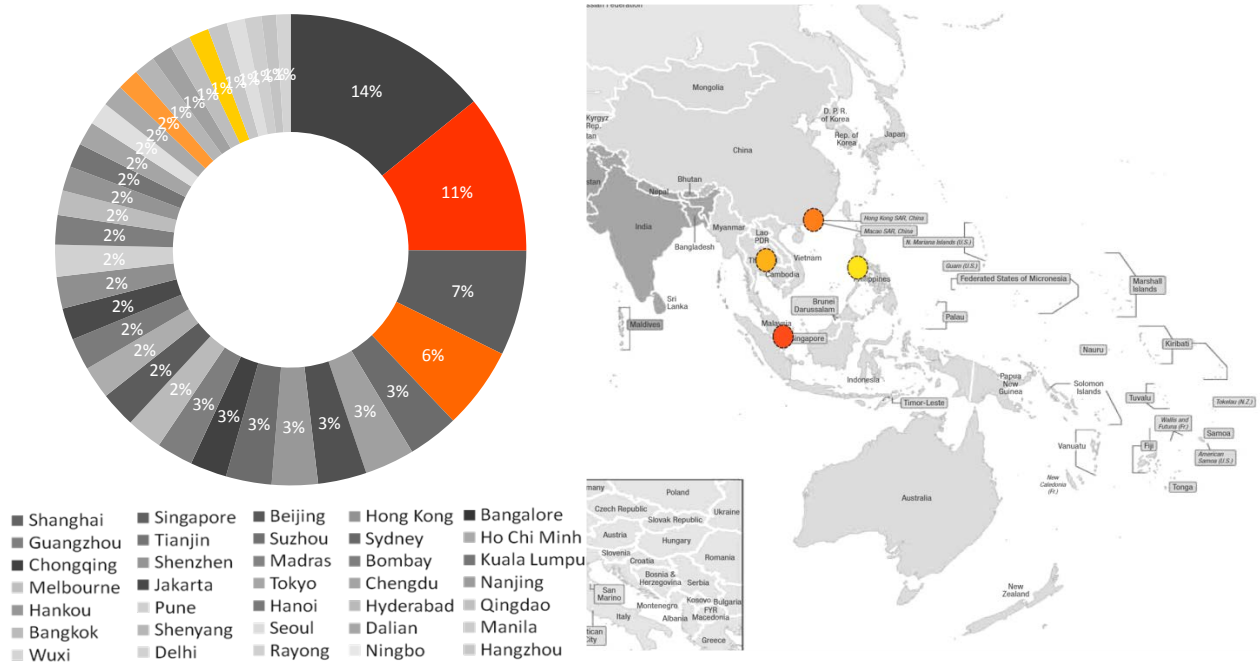


Figure 10 Ranking of cities by FDI inflow count (first 50); Left: Locational map of four EAP cities, (World Bank Group, 2016)

The regional analysis took into consideration FDI inflow counts of 1,685 different cities within the EAP region. A descriptive analysis is conducted to perform a competitive scan of cities so that the study area can be narrowed down to the highest and middle FDI count categories, where two cities will be selected from each category. Topping the list is Shanghai having 14% share of the overall FDI inflow in the region. This is followed by Singapore, Beijing and Hong Kong with 11%, 7% and 6% shares respectively.

Considering the distribution, these results validate the previously-mentioned study from the World Bank (2016) that despite many countries receiving FDI, inflows are concentrated at certain few countries. In this case, 39% or almost half of the total EAP FDI inflow is received only by four cities in two countries- China and Singapore. Middle FDI counts, on other hand, are composed of cities such as Shenzhen, Kuala Lumpur, Melbourne, Tokyo, Seoul, Bangkok, Manila and Delhi, having 1%-2% FDI shares each. Figure 10 shows the first 50 of the 1,685 cities and their FDI-inflow share of the total EAP FDI inflow. The rest of the cities have relatively low FDI inflow which may have little significance to the study and are thus not considered.

From this list, four cities are selected, two for each of the high and middle FDI inflow category. Singapore and Hong Kong are selected at the first category as they are both city-states and almost comparable in such aspects as land area and total population. Singapore has a land area of 718.98km^2 and a population of 5.60 Million while Hong Kong has a land area of 927.20km^2 (excluding islands or

new territories) and a population of 7.347 Million. On the other hand, for the second category, Bangkok and Manila are selected likewise considering almost comparable aspects. Bangkok has a land area of 1,569km^2 and a population of 12.877Million and Manila with a land area of 613.83km^2 and population of 12.87Million. From this descriptive check of the data, it can be noticed that first category cities fall as large cities with populations not exceeding 8 million while second category cities are megacities having a population of more than 9.4 million (Nallari, Griffith 2012) and whose land areas are amalgamated linked small cities (UN, 2010) close to or even exceeding the entire land areas of the first category city-states. Population, land area or perhaps population density may well be checked inferentially if such factors affect FDI inflow.

Looking at the FDI inflow of the four cities with a total of 8,496 investment counts, Singapore has the highest FDI inflow count with 4,374. Following Singapore is Hong Kong with 37% less FDI inflow count at 2,765. Dropping by almost 75% is Bangkok having 730 investment counts and Metro Manila with 636 investment counts. Figure 11 shows a bar graph comparison of the FDI inflow counts. Although the ability of cities to attract FDI refers to the creation of new firms rather than the financial merging of existing ones (Casi and Resmini, 2014) which is essentially the dependent variable of this study, total capital investments were also checked and shows that not only does the first category cities have the highest investment counts but likewise with the capital investment values shown in figure 12.

As the purpose of this study is to determine to what extent the qualities and character of cities attract FDI, the methodology zooms in further into the district level to where the variables are derived and tested. Also, observation points or samples are needed so that ample variance in the study is achieved. Geo-mapping the FDI inflow count of each city is conducted to identify the spatial agglomeration of these investments. The initial challenge of this task is the availability of coordinates of firms. Also, addresses for some firms cannot be found or no longer exist at this time. There are approximately 8,000 firms so manual geo-coding is not possible given the time constraints. Thus, a sample of FDI count was taken (300 firms per city- top 100, middle 100 and bottom 100). Geo-coding database, eventually, is brought available which is then used to consider all FDI firms.

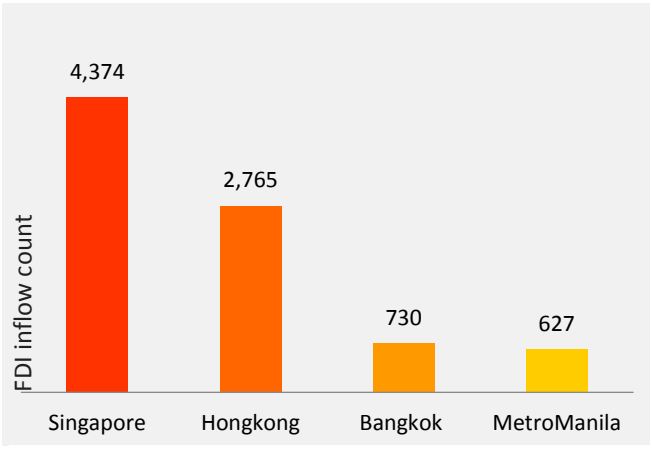


Figure 11 FDI inflow count per focus city, fDi Markets

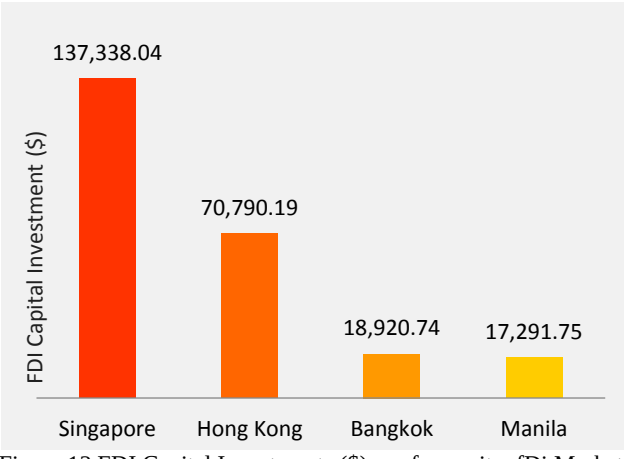


Figure 12 FDI Capital Investments ($) per focus city, fDi Markets

Coordinates generated both through the geo-coding tool and manually are plotted using Geographic Information System software. Each point or coordinate represent one FDI count or one firm/company. To where the agglomerations of points are most evident, a radius of 1,500km is taken as the sample area. This yielded a total of 30 FDI districts as samples and serves as the observation points for the inferential analysis. Figure 13 shows the geo-maps of each city.

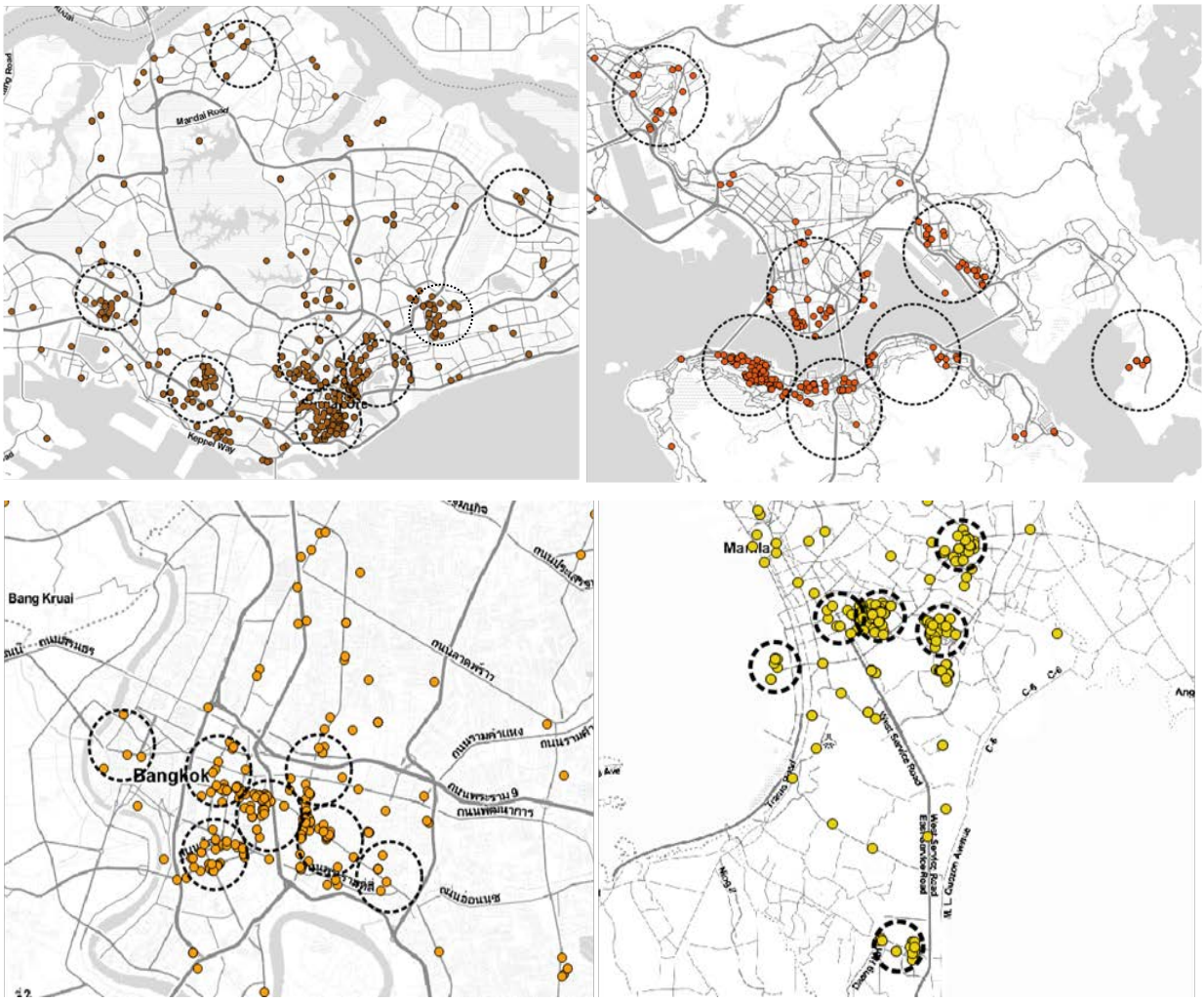


Figure 13 Upper left: Singapore geo-map; Upper right: Hong Kong geo-map; Lower left: Bangkok geo-map; Lower right: Metro Manila geo-map; Note: Chek Lap Kok district at far left of Hong Kong area

City	Total FDI Inflow Count	District	FDI inflow count per district	%
MetroManila	627	Makati CBD	233	37%
		BGC	99	16%
		Pasong tamo	24	4%
		Ortigas	77	12%
		Mckinley Hill	39	6%
		MOA BayCity	17	3%
		Alabang Filinvest	39	6%
Bangkok	730	Bangrak	92	13%
		Ratchatewi	94	13%
		Pathumwan	133	18%
		Khlong Tan	123	17%
		KhlongToi	27	4%
		Phra Nakhon	9	1%
		Phra kanong	34	5%
Hongkong	2,765	Wan chai	490	18%
		Central	854	31%
		TST	442	16%
		Kowloon-Kwuntong	230	8%
		Kwaifong	163	6%
		Causeway-Quarry	154	6%
		TseungKwan O Ind	86	3%
		Chek Lap Kok	48	2%
Singapore	4,374	CBD	1,216	28%
		Queenstown	282	6%
		Novena-Newton	386	9%
		Marina-Kallang	415	9%
		Jurong East	311	7%
		Pasir ris	74	2%
		Sembawang	119	3%
		Geylang	207	5%
TOTAL	8,496			

Table 2 Summary of cities and Districts with respective FDI inflow count

In general, a vast majority of investments are agglomerated in each city's Central Business Districts. This shows the preference of sectors in the central area (Henderson, 2010) as well as the proximity to major urban services and infrastructure (van't Hoff and Wall, 2017). In industrializing countries, urban regions are typically composed of a large core city surrounded by smaller satellite cities where the core city serves as the economic base as well as the business hub of the region (Henderson, 2010, Nallari and Griffith, 2012).

Geo-mapped FDI inflow counts of Singapore where agglomerations of firms are most evident, yield eight districts. 1,216 or 28% of firms are located at the CBD or the Singapore's downtown core while 23% are in the Novena-Newton, Marina-Kallang and Geylang districts, areas in close proximity to the

CBD. The outer districts or the suburbs Queenstown, Pasir Ris, Sembawang and Jurong East, on the other hand, make up 24%. There is a significant 31% of FDI firm percentage that are dispersed in other locations or whose coordinates may be incorrect. Relative to the country level and to the total country land area, these FDI districts are dispersed. For one, Singapore is a developed country where centrality of a prime city is not the scenario. Also, Singapore is a city-state so FDI inflow is considered for the entire country.

For Hong Kong, the Central district has the most FDI firm count with 854 or 31% of the total count. Following is Wan Chai district, located east and adjacent to the Central district, with 18%. Across the Victoria harbour, Tsim Tsa Tsui has 16% followed by Kowloon-Kwun tong and Kwai Fong districts with 8% and 6% respectively. Similar to Singapore, relative to the country level and the total land area, these FDI districts are also dispersed. Since Hong Kong is likewise a city-state and are made up of islands, FDI districts are found across the country.

On the other hand, in the second category or the medium FDI inflow count, Bangkok is made up of a total of 730 FDI counts. Bangkok's CBD, composing of the three districts Bangrak, Ratchathewi and Pathumwan make up almost half or 42% of the total. Adjacent districts Khlong Toei, Khlong Tan, Phra Nakhon and Phra Kanong make up the other 58%. Unlike the first category cities, these districts are clustered together relative to each other and the overall regional/country level. As these are industrializing megacities, the more likely that FDI are concentrated or centralized.

Lastly, Manila or Metro Manila, being a metropolitan region composed of 17 cities, has a total of 636 FDI counts. A dominant 37% of share in the total FDI inflow count is held by the Makati CBD and at the second spot is Bonifacio Global City (BGC) with 15% or 99 FDI firms. These two areas are private-owned mixed-use developments with separate but integrated administrative systems. Other adjacent areas of Pasong tamo, Ortigas, Mckinley hill and Bay City make up 31% while other locations where FDI counts are dispersed. Filinvest city, even still within the Metro Manila region, lies in the sub-urban area of Alabang. Similar to Bangkok, FDI districts in Metro Manila are clustered in close proximities. Again, this may be explained by the centrality of this industrialized megacity.

After FDI districts have been identified as well as their respective FDI inflow count, inferential analysis responding to the research questions is conducted. The inferential analysis begins by a descriptive check of the data such as the histogram, summary and details of the dependent variable as well as the summary of the independent variables. Figure 14 shows that the FDI inflow count, the dependent variable, does not follow a normal distribution or is skewed. This is due to the nature of FDI inflow count being discrete data where frequencies or events do not have in-between values. FDI counts of the four cities (30 districts) are much denser at the 1 to 250 count values while FDI counts above 500 and above 1,000 are much less. This means that most districts have FDI count values within the 1-250 range. Descriptive summary was also conducted for the independent variables.

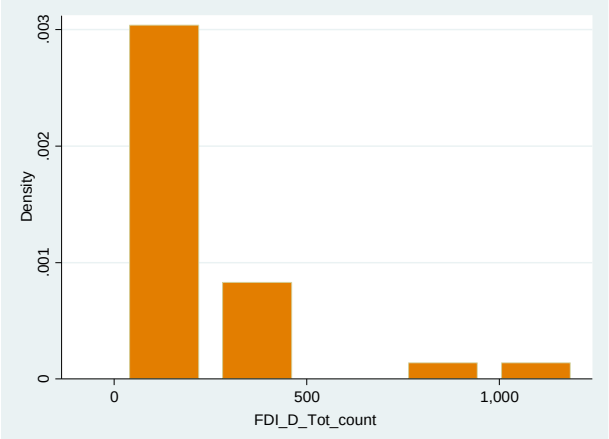


Figure 14 FDI FDI inflow count Histogram

An initial regression is necessary to test for multicollinearity or where standard errors of the indicators may be inflated (Bruin, 2006). This means that they correlate too much or that they explain the same thing .This may be corrected through the Variance Inflation Factor (VIF) function in STATA and thus removing some inflated indicators that have values more than 10 (Bruin, 2006; StataCorp, 2015). Indicators such as Surface Complexity, Facade Articulation, Land Use Mix Index, Business Density Ratio, Business Establishments and Business Establishment Mix were removed. Also, with the initial regression, more indicators are disregarded from a careful look at the direction of the relationship between variables. Positive and negative indicators are checked and grouped accordingly. Moving along, Factor Analysis which checks the correlation as well as empirically confirm whether the indicators indeed belong to the same theoretical concept is conducted.

Variable	Indicator name	Factor 1 Eigenvalue	Overall KMO
Site	Distance to body of water	1.025	0.55
	Distance to mountain		
	Elevation		
Density	Floor Space Index/Floor Area Ratio	1.16	0.519
	Ground Space Ratio		
	Amount of open space per person		
	Urban Built up area		
Layout	Grain	1.437	0.523
	Number of Intersections		
	Complexity		
Softscape	Average tree spacing	1.06	0.50
	Average tree height		
Land Use Mix	Number of Commercial uses	2.09	0.5
	percentage of commercial use within 500meters		
	Special/Other Uses		
	Residential Land Use		
	Office Floor Space		
	Open Space		
	Institutional Land Use		
Demographic Mix	Percentage of ethnic population	1.54	0.5
	Percentage of young people		

Recreation Mix	Percentage of parks within 500m relative	1.178	0.54
	Number of Amenities		
	Percentage of Amenities within 500m		
Culture	Number of local festivals and events	1.764	0.665
	Number of civic structures		
	Percentage of civic structures within 500m		
	Number of heritage buildings		
Liveliness	Integration Value	1.65	0.434
	Tourist Arrival Count		
	Social media buzz		
	Amenities Land Use		
	Number of Amenities		
	Walkable frontages		
Movement	Number of bus stops	2.095	0.638
	Number of terminal/stations		
	Circulation		
	Public-Private Accessibility ratio		
	Connectivity		

Table 3 Factor Analysis

Based on the factor analysis run to confirm the correlation and the initial theoretical grouping of indicators, results prove that they belong within the same group. Only factor 1 for each grouping has eigenvalues, or "the variance of the factor" (Bruin, 2006) above 1 and factor loadings are mostly above .30 for each indicator, thus groupings were retained as is. The function and liveliness variables, however, did not show any factor with eigenvalues more than 1 which means they do not have certain commonality or uniqueness to be grouped together. Combining both variables however showed enough correlation and thus grouped together as liveliness. Also, streetscape variable is broken down into its hard and soft components. Landscape and tree indicators are re-grouped into softscape while sidewalk width is left for the streetscape given that other streetscape indicators are categorical in nature. Further, Kaiser-Meyer-Olkin test that measures sampling adequacy, also re-confirms the need to conduct groupings through factor analysis. KMO values are almost and more than .50 which is proved to be an ideal value.

	Percentiles	**Smallest**		
1%	9	9		
5%	17	17		
10%	25.5	24	Obs	30
25%	48	27	Sum of Wgt.	30
50%	121		Mean	217.2333
		Largest	Std. Dev.	264.3517
75%	282	442		
90%	466	490	Variance	69881.84
95%	854	854	Skewness	2.335321
99%	1216	1216	Kurtosis	8.63541

Table 2 FDI count Summary Details

Deviance goodness-of-fit =	3236.86
Prob > chi2(23) =	0.0000
Pearson goodness-of-fit =	3370.893
Prob > chi2(23) =	0.0000

Table 1 Goodness-to-fit

Next step is identifying the proper regression model. Again, since FDI count is a discrete variable, Poisson distribution model is appropriate together with tests for overdispersion. Table 4, the results of summary done for FDI count data, shows that the variance largely exceeds the mean. In such cases, the data is overdispersed. Further, goodness-to-fit which tests the suitability of Poisson Model, suggest that the assumption that alpha=0 or that mean is equal to variance is significant, thereby nullifying the assumption. Thus, Negative Binomial Model is used. Variables yielded from the factor analysis as well as other independent variables are run into a NB regression with FDI inflow count of each district.

	(1) FDI_D_Tot_count
FDI_D_Tot_count	
UrbanextTotarea	-3.44***
	(1.02)
Scores for factor 1 (Site)	2.31***
	(0.36)
Scores for factor 1 (Density)	0.34
	(0.23)
Scores for factor 1 (Layout)	0.96***
	(0.14)
St_SWwidth (Streetscape)	4.57***
	(0.67)
St_NumPubart (Streetscape)	0.02***
	(0.01)
Scores for factor 1 (Softscape)	3.45***
	(0.66)
Scores for factor 1 (Land Use Mix)	0.90***
	(0.10)
Scores for factor 1 (Demographic Mix)	3.85***
	(0.90)
Scores for factor 1 (Recreation Mix)	-0.13
	(0.08)
Scores for factor 1 (Culture)	0.18
	(0.18)
Scores for factor 1 (Movement)	-2.41***
	(0.27)
Scores for factor 1 (Liveliness)	1.04***
	(0.19)
Safe_SafetyInd	0.04
	(0.08)
B_SilComp==2	-0.52***
	(0.11)

B_SilComp==3	-0.40*
	(0.17)
Constant	-10.04
	(6.87)
lnalpha	
Constant	-131.14
	(.)
Observations	17
Adjusted R^2	

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

Table 6 Negative Binomial Regression result

As mentioned during the descriptive spatial analysis, cities with high FDI inflow counts Singapore and Hong Kong are city-states whose urban land areas and population belong to the large city category (UN, 2010) while cities with medium FDI inflow counts Bangkok and Metro Manila fall under the megacities category with agglomerated small cities forming a large metropolis and having population beyond 9.4 million. Based on the regression done, the urban extent or the edge of the built-up area relative to the official administrative area indeed has negative significant effect which means that as cities sprawl, they are most likely to be less attractive to FDI inflow.

Form + Image = Distinctiveness

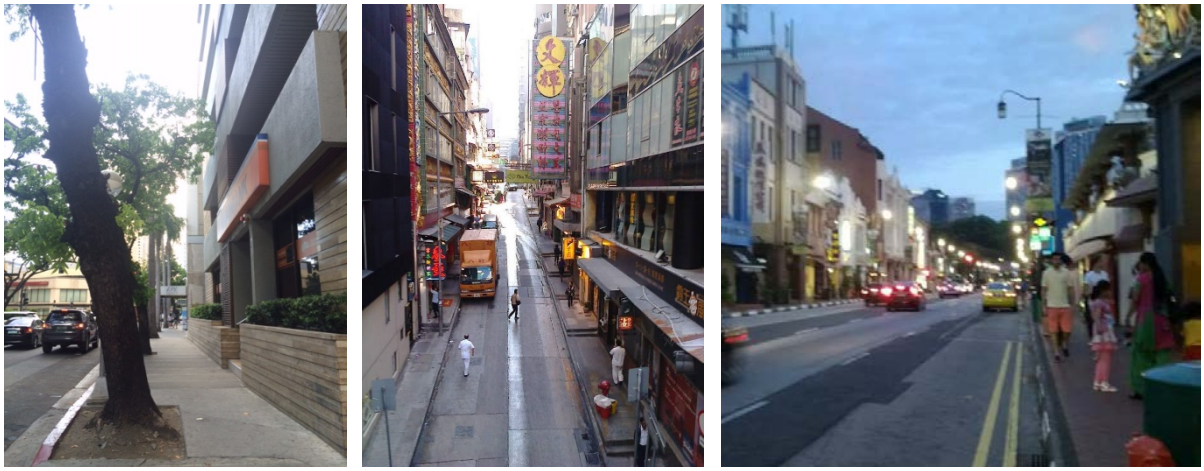
Site- Site variable is composed of indicators such as site elevation and distances to mountains and bodies of water. Based on the regression done, site features possess significant effects on FDI inflow by a factor of 2.31. Districts with high FDI counts such as CBD and Marina-Kallang in Singapore have frontages to the straits of Singapore where high activities of the port are also found. They are also in close proximities to hills and peaks such as Mt. Faber. Similarliy, Central, Wan Chai and Tsim Sha Tsui districts in Hong Kong have great proximity and access to the Victoria Harbor, the port of Hong Kong and Victoria peak. The whole area is surrounded by hills and peaks that also function as natural parks and reserves. The presence of these natural features also restricts development into further sprawling or expanding, as in the case of both Hong Kong and Singapore.

Images 1&2. Left: view of the Central district showing the Victoria harbor. Right: Singapore Marina-Kallang fronting Strait of Singapore (Source: Author)

Image 3&4. Left: Aerial view of Hong Kong Central; Right: Aerial view of Singapore CBD (Sources: Hong Kong Environment Resource Management and the Lonely Planet)


Density- In this model, Density does not have significant effects on FDI. This is caused by the interaction of its indicators to the control variable (urban extent). Urban extent already says so much about the density of the four cities. Results are otherwise when run individually with the dependent variable. As density increases, it has the likelihood to increase FDI by a factor of .74. Density, made up of Floor Space Index, Ground Space index, urban built-up and open space per person prove the significance of densified and urbanized areas to competitiveness. The most urbanized and densified districts are CBD, Marina-Kallang, Novena-Newton in Singapore; Central, Wan Chai and Tsim Sha Tsui in Hong Kong; Makati CBD and BGC in Metro Manila; and Bangkok CBD (Bangrak, Ratchatewi and Pathumwan) which are all also the districts with the highest FDI counts relative to the their respective total FDI inflow count per city. The results suggest that cities whose plots have high ground coverage and stacked-up structures but with ample open spaces are more likely to attract FDI. The density of these CBDs which makes them distinct from all the other districts, are likely to be more attractive to FDI.

Layout- The way streets and blocks are structured play a significant role in shaping movement patterns that set both the parameters of succeeding developments as well as the character of a place (Carmona 2010). The empirical results of the regression show that layout has a strong significant effect on FDI count. As layout increases, FDI count has the likelihood to increase by a factor of .96. With the increase in layout means finer grain or smaller blocks and street widths as well as more intersections and tend to be more regular than organic. By theory, fine grain is related to legibility and walkability, given easier navigation and movement through short blocks and narrower streets (Montgomery, 1998; Carmona, 2010). Walkability is also further reinforced by the activation of street life due to small plots and narrower streets, thereby creating closer interaction and intimacy between the plot and the street (Montgomery, 1998). Districts with the highest grain and more intersections are likewise the ones with high density such as CBD, Novena-Newton and Marina-Kallang in Singapore; Central, Wan Chai, Causeway and Tsim Sha Tsui in Hong Kong; Makati CBD and BGC in Metro Manila. All other districts from these cities as well as Bangkok districts have lower grains and are more organic and complex in layout.



Images 5,6&7. Left: Makati CBD street; Middle: Street at Central district; Right: Street at Novena-Newton Singapore (Source: Author)

Building- The regression model naturally removed the building variable as some of its indicators such as building scale and height, as they interact with density and urban extent, serve as a function of the other. Density, given the Floor Space Index and Ground Space Index explain that districts which are more likely to be attractive to FDI have stacked up and with almost full ground coverage. On the other hand, silhouette complexity results at -0.52 suggests that buildings having more dynamic silhouettes decrease FDI count. This means that cleaner lines and simple structures with fewer turns or edges are more likely to be attractive. Overall, cities' building quality and character show significant effects on FDI inflow.

Images 8,9&10. Upper Left: Singapore CBD buildings (Source: Author); Upper Right: Hong Kong Central buildings (Source: Author); Lower Middle: BGC buildings (Source: Fort Bonifacio Development Corp.)

Image11 Makati CBD buildings (Source: Ayala Land, Inc.)

Streetscape- Sidewalks, as physical infrastructures, are integral part of the road to ensure mobility among pedestrians (Southworth 2005) and thus support overall walkability and mobility. Also, as street life is activated with fine grain layout where intimate interaction of streets and blocks is present, sidewalks are able to include humans and their transactions into the equation. Based on the regression, street width has the likelihood to increase FDI inflow count by 4.57. Districts with high FDI inflow counts such as CBD, Marina-Kallang, Novena-Newton in Singapore; Central, Wan Chai, TST and Kowloon-Kwontong in Hong Kong as well as Makati CBD and BGC in Metro Manila have wide sidewalks. Public art, as part of the streetscape component and public realm, also significantly increases FDI inflow by 0.02. This proves presence of art in the urban setting contribute to the overall attractiveness of cities. Overall, cities' streetscape show significant effects on FDI inflow.

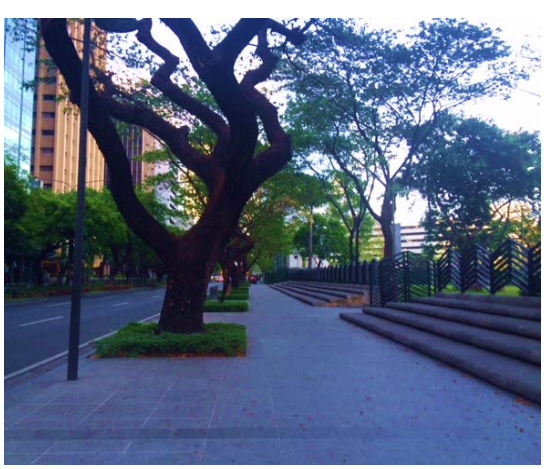


Image12 and 13 Left: Makati CBD Sidewalk (Source: Author); Right: Orchard road Singapore (Source: Singapore Guide)

Image 14, 15 Left & 16: Singapore Street trees; Middle: Makati CBD street trees; Right: Hong Kong Central street trees (Source: Author)

Softscape- Sofscape is composed of indicators such as average tree height and average tree spacing. Based on the regression, increasing average spacing and height of trees has the likelihood to increase FDI inflow by 3.45. This result is suggestive that tall trees spaced in rows framing the view corridor are more likely to be attractive. Tall trees with spacing at around 10 meters are found in such districts as Singapore CBD, Novena-Newton, Wan Chai, Causeway-Quarry, BGC and Makati CBD.

Form + Activity = Diversity

Land Use Mix- Land Use mix, one of the sub-variables for the concept of diversity, show that number of commercial use, accessible commercial uses, special uses, residential floor space, office floor space, open space and institutional land use pose significant effect on FDI inflow. An increase in Land Use has the likelihood to increase FDI by 0.90. Land Use mix proves that as there are varied and diverse uses as well as high commercial activity where constant transactions are accommodated, the more likely it is for cities to be attractive to FDI. Particularly, special uses which are special zones, business parks and industrial parks are common locations of the different sectors. Districts with the highest land use mix are again the CBDs of the respective cities.

Demographic Mix- The demographic aspect or the diversity of ethnicity as well as the percentage of the youth in the overall population also contribute to a city's diversity and have significant effects on FDI inflow. The increase of demographic diversity is more likely to increase FDI by a factor of 3.85. Interestingly, when run separately, demographic mix variable pose negative significant effects. Although Florida (2014) suggests that the young working class who are more creative are more likely to attract investments and vice versa but in this regard, the young population ages 15-34 are low in Singapore while high in all other cities. This segment may not be living in such FDI districts in

Singapore while the centrality of Bangkok and Metro Manila explains the presence of young population in the city area while for Hong Kong, it is due to the limited land area. It may also be more likely that FDI districts or sectors prefer older and seasoned workforce. In terms of ethnicity, Singapore may be more diverse but Hong Kong is more homogeneous. Nevertheless, Demographic Mix has positive significant effects when interacting with other variables.

Recreation Mix- It is believed that the quality of life and well-being are two of the more important aspects that make cities attractive to foreign investments (World Bank, 2016). Parks and playgrounds allow for diverse activities to take place thus contribute to diversity. And it is important that these are accessible within the 800 meter walking threshold (Southworth 2005). Regression results, however, show that parks and playgrounds, amenities as well as their accessibility prove to have no significant effects to FDI inflow.

Activity + Image = Vitality

Culture- Culture does not show significant effects on FDI inflow**.** This is suggestive that manifestations of cultural qualities do not necessarily tend to be attractive to FDI. When run separately, culture show strong and positive significant effects to FDI inflow. However, in this model, it is affected by the interaction of variables which may make it less significant factor to attractiveness. Civic and heritage structures such museums, galleries, religious structures and old buildings, are within the main districts with high FDI counts. Districts with the highest FDI are in fact districts such as CBD and Marina-Kallang and Novena-Newton in Singapore, Central and Wan Chai in Hong Kong, Bangrak and Rachatewi in Bangkok and Makati CBD in Metro manila have the highest count of accessible civic structures and heritage buildings. In particular, the "signature image" of Singapore featuring the Singapore River, the heritage houses in the Boat Quay conservation district and the tall buildings in the background has portrayed the Singapore Central Business District for years (Koh and Melic, 2017). The juxtaposition of the old and new through civic conservation areas and modern structures is a representation of Singapore as an advanced and progressive nation rooted in history. Bangkok however, also has high cultural and civic manifestation with the conservation district and presence of wats and temples woven into the urban setting but however has less FDI inflow count. Interestingly, Li (1994) points out that cultural differences largely affect FDI decisions especially for sectors who need to understand and retrofit their services to suit the local preference. Thus, cultural manifestations may help sectors understand the local setting better. Festivals, on the other hand, are rather more even across the city-scale. Overall, the cultural facet of cities does not have significance to the attractiveness of cities to FDI inflow.

Liveliness- A city is considered lively if it possesses high level of commercial activity (Montgomery, 1998). It also includes the ability of local elements within the city to attract foot traffic and

Image 17, 18 & 19 Left: Hong Kong TST district (Source: Author); Upper Right: Bangkok Pathumwan commercial area (source: Triptous); Lower Right: Bonifacio High Street, BGC (Source: Mega Citizens)

concentrations. Individually, tourism indicator show negative effects. This is basically due to the big disparity of tourism counts between the high FDI cities Singapore and Hong Kong while Bangkok, having medium FDI count, has high tourism count. Perhaps more sample cities should be taken to consideration to draw better conclusions. Further, according to a study done by Tang (2007) in China, although there is a strong relationship between tourism and FDI, there is no evidence of the direction of the causal relationship from the former to the latter. This means that FDI may not be a result of tourism rather the other way around. Indicators city icons, integration ratios, social media buzz and amenities increase foot traffic and concentrations and contribute to the vitality of cities. Thus overall, liveliness increases FDI count by 1.04. This suggests that place branding and marketing efforts through iconic images or social media that are directed towards attracting foot traffic may well be towards attracting FDI inflow.

Movement- The overall movement and mobility within cities has the likelihood to affect FDI inflow count by a factor 2.41. Interestingly, it has a negative effect. Although it is proven theoretically that movement is a crucial aspect where industries thrive on proximity and accessibility to be able to operate smoothly (van Hoft, Wall, 2017; Schwab, 2015), movement in this case, is affected by its interaction with particular variables such as urban extent and layout. The compactness and fine grain layout of cities allows for mobility to be more pedestrian and transit-oriented. Further, data on rail and intermodal transit are not taken to account in these models for the lack of data availability. Overall, movement is a significant variable in the attractiveness of cities to FDI inflow.

Results are tested and isolated considering the districts with the highest FDI inflow counts: CBD, Marina-Kallang, Novena-Newton in Singapore, Central, Wan Chai and Tsim Sha Tsui in Hong Kong Bangkok CBD (Bangrak, Ratchatewi and Pathumwan) and Makati CBD and BGC in Metro Manila. "By" command and a ranking code are used to run similar NB regression in STATA.

	(1) FDI_D_Tot_count
FDI_D_Tot_count	
UrbanextTotarea	-6.83***
	(1.44)
Scores for factor 1 (Layout)	0.61***
	(0.09)
Scores for factor 1 (Land Use Mix)	1.37***
	(0.29)
Scores for factor 1 (Demographic Mix)	1.85***
	(0.56)
Scores for factor 1 (Recreation Mix)	-1.51*
	(0.62)
Scores for factor 1 (Movement)	-2.21***
	(0.61)
Constant	12.54***
	(1.64)
Lnalpha	
Constant	-21.32
	(.)
Observations	12
Adjusted R^2	

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

Table 7 Negative Binomial Regression result – Top districts

Table 7 shows the significant variables. Regression results suggest that urban extent or sprawl has negative effect which means that compact and high-dense developments are likely to be more attractive. The positive significant effect of layout by a factor of .61 means that these districts have finer grain, more intersections, smaller blocks and are more regular. Again, these are qualities that foster walkability and pedestrian-orientedness. The mix of land uses and commercial activity as explained by the 1.37 increase in FDI inflow, show that it is more likely for cities to be attractive if they have diversity in uses that in turn accommodate variety of activities and transactions. Recreation mix, on the other hand, is significant but shows negative effects. This may be because recreational amenities are not within FDI districts or that the increase in radius relative to FDI districts caused the negative effect. Lastly, movement has negative significant effect with a decrease in FDI by a factor of 2.21. As explained previously, interacting variables such that of layout and urban sprawl, may affect movement and for this model, rail transport, which is dominant in such cities, are not considered.

4.2 Sectoral Analysis

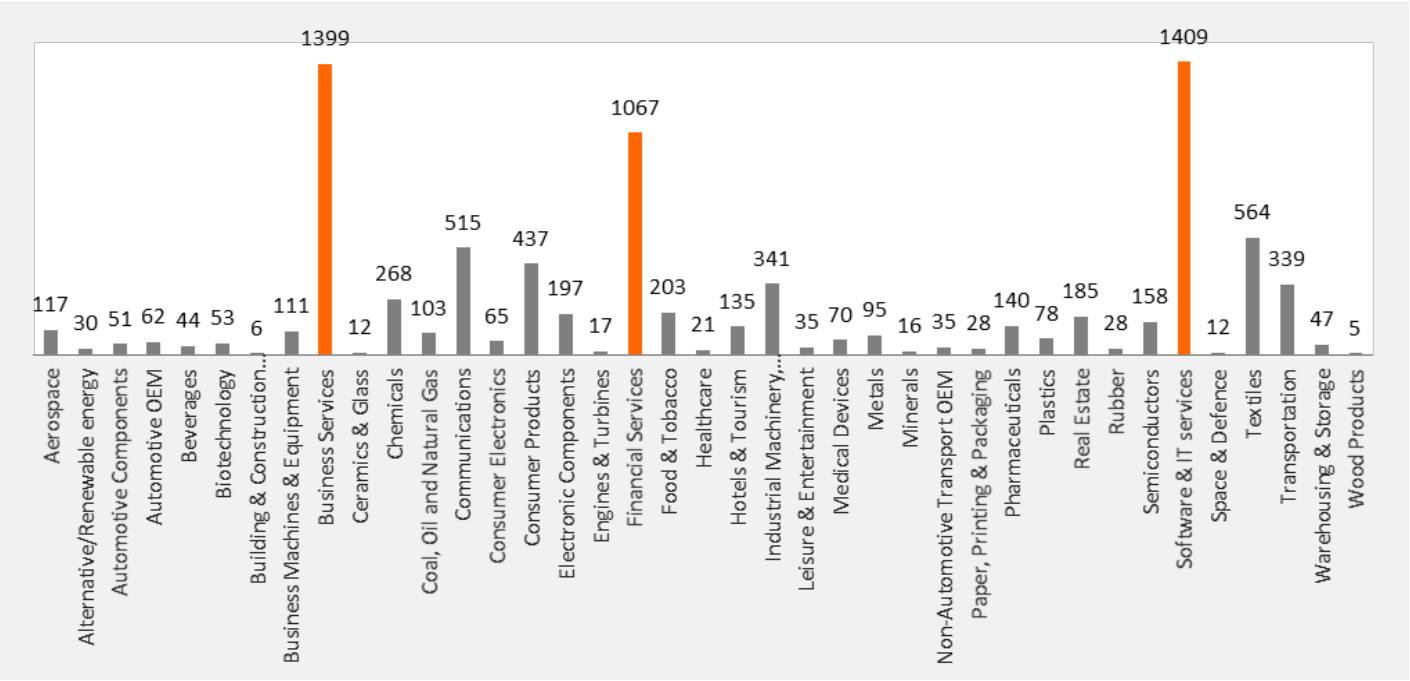


Figure 15 EAP Sectors with respective FDI inflow counts, fDi Markets

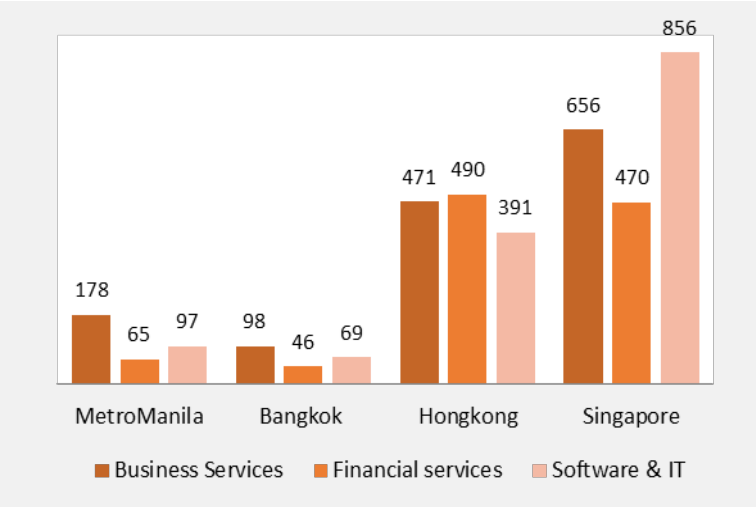


Figure 16 Top 3 sectors per focus city, fDi Markets

38 industries or sectors comprise FDI inflow into the four focus cities Singapore, Hong Kong, Bangkok and Metro Manila. Among these sectors, business services, financial services and software and IT have the highest FDI inflow count making up 46% of the total inflow count. Software and IT sector has the highest FDI count with 1,409 firms followed by business services, which are mostly transport, storage and communication, real estate, media, design and financial consultancy services, business Process Outsourcing (BPO) (Casi and Resmini, 2014; Duranton and Puga, 2005); and financial services having

1,399 and 1,067 FDI counts respectively as shown in figure 15. Given the dominance of these sectors describe the economic climate of the region, where service and financial-oriented economies are more developed (Duranton and Puga, 2005; Hogenbirk and Narula, 2004; Turok, 2004). This also validates the theory about the transformation of the EAP region into secondary or tertiary industries. A close look at these sectors, however, shows that these top sectors are only dominant and concentrated in the first category cities or with the high FDI inflow counts. Singapore dominates all fronts with 61%, 47% and 44% of share in the total software and IT, Business services and financial services FDI count, respectively (Figure 16).

Similarly, these FDI inflow count are geo-mapped in Geographic Information System to identify the way they agglomerate and disperse across space. FDI districts are taken from the same samples from the regional analysis, deriving FDI count of each sector within each sample area. Figure 17 shows the geo-maps generated given the color-coded points representing the top three sectors.

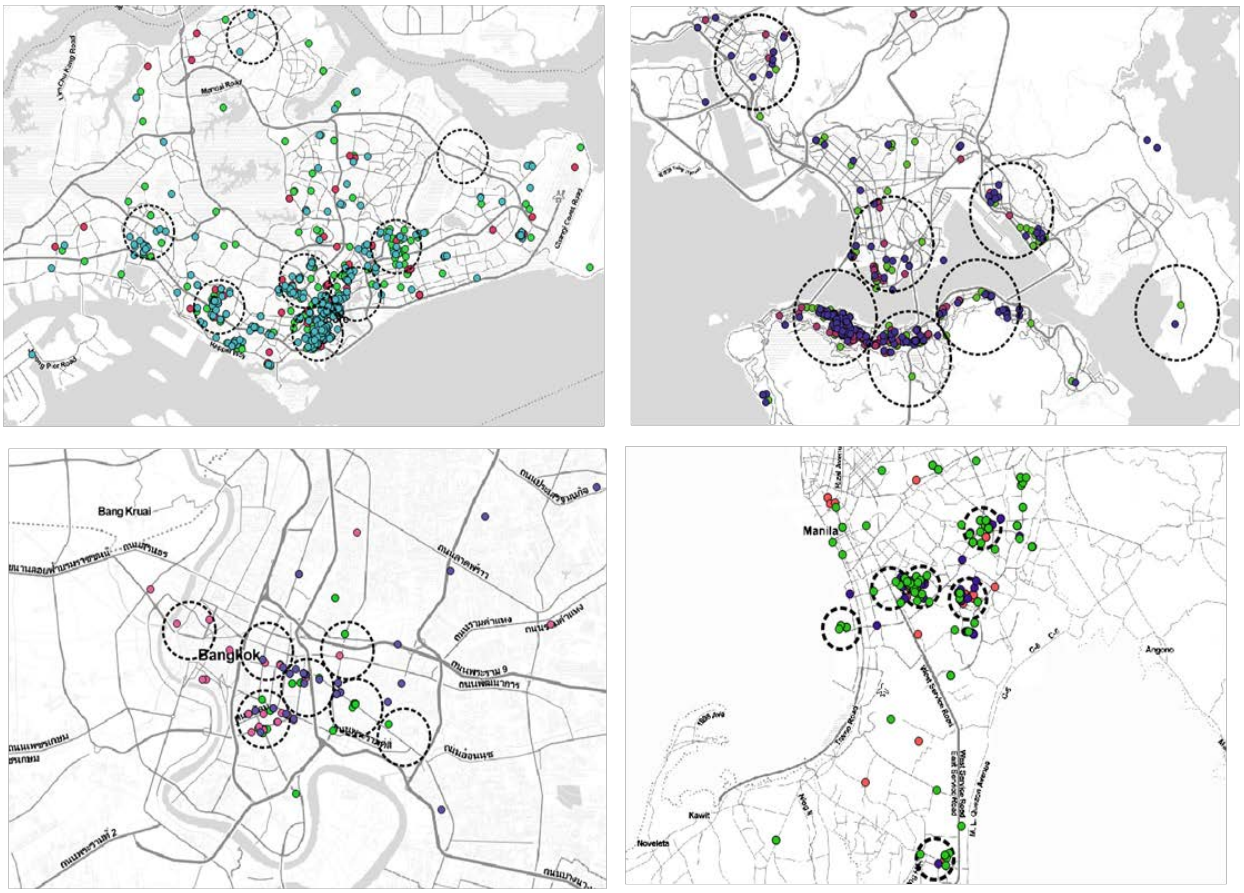


Figure 17 Upper left: Singapore geo-mapwith top 3 sectors; Upper right: Hong Kong geo-map with top 3 sectors; Lower left: Bangkok geo-map with top 3 sectors; Lower right: Metro Manila geo-map with top 3 sectors

City	Total FDI Inflow Count	District	Business Services	Financial Services	Software IT
MetroManila	340	Makati CBD	39	16	24
		BGC	5	10	16
		Pasong tamo	4	0	3
		Ortigas	30	6	6
		Mckinley Hill	8	0	5
		MOA BayCity	6	0	0
		Alabang Filinvest	8	3	1
Bangkok	213	Bangrak	18	10	6
		Ratchatewi	1	3	2
		Pathumwan	5	6	7
		Khlong Tan	9	0	4
		KhlongToi	1	0	2
		Phra Nakhon	0	1	0
		Phra kanong	2	3	1
Hongkong	1,352	Wan chai	35	49	30
		Central	112	192	48
		TST	16	24	30
		Kowloon-Kwuntong	10	3	14
		Kwaifong	2	5	7
		Causeway-Quarry	17	10	21
		TseungKwan O Ind	1	0	10
		Chek Lap Kok	6	1	4
Singapore	1,982	CBD	219	236	217
		Queenstown	23	5	30
		Novena-Newton	35	39	33
		Marina-Kallang	32	25	64
		Jurong East	10	0	18
		Pasir ris	0	0	0
		Sembawang	1	0	2
		Geylang	26	4	25

Table 8 Summary Districts with respective FDI inflow count per sector (top 3)

Based on the geo-maps, FDI count per sector is derived per the 30 districts and is the basis for the sectoral inferential analysis. For all the four cities, most of the investments of the top three sectors are located and concentrated at each city's CBD. Financial sectors are more likely to do so due to the presence of services and infrastructure as well as the business environment a CBD offers (Wu, 2000). This is often caused by the "bandwagon effect" where financial firms locate in relation to where other services as well as their competitors are present. The business services sector, on the other hand, is an expanding sector and demands central locations within large cities where there is a large market size (Henderson, 2010; Duranton and Puga, 2005; Turok, 2004), outbidding other sectors such as manufacturing and production in such locations. Since these are the same sectors considered as the

dependent variable FDI total inflow count from the regional analysis, the inferential sectoral analysis makes use of the same indicators and variables for urban attractiveness.

	(1) BusinessServ	(1) Financial	(1) SoftwareIT
UrbanextTotarea	4.59		-0.17
	(4.51)		(4.03)
Scores for factor 1 (Site)	4.42***	-2.28	1.54
	(1.22)	(1.26)	(1.26)
Scores for factor 1 (Density)	-3.43*	2.13**	-0.22
	(1.74)	(0.66)	(1.05)
Scores for factor 1 (Layout)	-0.71	2.37***	0.36
	(0.49)	(0.57)	(0.40)
Scores for factor 1 (Softscape)	-1.79*	1.11	-1.15
	(0.85)	(1.02)	(0.84)
Scores for factor 1 (Land Use Mix)	1.79**	0.09*	2.00***
	(0.55)	(0.31)	(0.57)
Scores for factor 1 (Demographic Mix)	12.98**	5.07***	3.90
	(4.08)	(1.46)	(2.81)
Scores for factor 1 (Recreation Mix)	-0.27	-0.44	-0.65*
	(0.29)	(0.35)	(0.28)
Scores for factor 1 (Culture)	2.86***	-0.79	0.34
	(0.62)	(0.59)	(0.60)
Scores for factor 1 (Movement)	4.40***	0.56	-2.43
	(1.17)	(1.80)	(1.44)
Scores for factor 1 (Liveliness)	0.38*	0.43	0.10
	(0.36)	(0.25)	(0.34)
Safe_SafetyInd	1.17*		0.39
	(0.45)		(0.30)
B_SilComp==2	0.45	0.22	-0.03
	(0.39)	(0.48)	(0.34)
B_SilComp==3	2.38*	0.98	1.35
	(1.11)	(0.76)	(0.86)
Constant	-80.92*	-5.97	-23.95
	(34.84)	(3.35)	(23.61)
Lnalpha			
Constant	-19.84	-20.80	-20.28
	(1583.78)	(.)	(.)
Observations	17	17	17
Adjusted R^2			

Standard errors in parentheses

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

Table 9 Negative Binomial Regression results of the top 3 sectors

Image + Form = Distinctiveness

Site- Site variable is only significant to the business sector, where an increase in or the presence of site qualities has the likelihood to increase FDI by a factor of 4.42. This could mean that these sectors are mostly in the locations where terrain, elevation and nearby natural features are distinct.

Density- Density has significant effects on the both the business and financial services sectors, decreasing FDI with a likelihood of 3.43 and increasing by a likelihood of 2.13, respectively. This means that financial firms are mostly found in high-density developments with high-rise office buildings while business services sectors made of mostly creative consulting and business outsourcing firms, although still located in central areas, would tend prefer medium rise or stand-alone structures closer to commercial activities.

Layout- Layout has positive significant effects on the financial sector. This means that these sector prefer walkable and permeable districts with smaller blocks, narrower roads and shorter block lengths.

Form + Activity = Diversity

Land use mix – Land Use Mix has significant effects to the business, financial and software and IT sectors, increasing FDI inflow with the likelihood of 1.79, 0.09 and 2.0 respectively. These sectors thrive on commercial and business activities and thus land uses that support diverse activities and transactions are more likely to attract the three sectors.

Demographic Mix- Ethnicity and the percentage of young population have positive significant effects for the business services sector. It has the likelihood to increase FDI inflow by 12.98 while a 5.07 for the financial services sector. As previously mentioned, both sectors locate in urbanized and densified areas (Helpman, 2006) and where financial services follow where business services are already established (Wu, 2000).

Activity + Image = Vitality

Culture- Culture only affects the business services sector by a likelihood of 2.86. Li (1994) points out that cultural differences largely affect locational preference of the services sector who need to understand and retrofit their services to suit the local preference. The more culture manifests itself within cities, the better the sector's understanding on the needs of the market and thus utilizing this understanding for their benefit.

Movement- movement is essential for productivity of the business service sectors so that their operations may be optimized and efficient**.** In this case, an increase in the overall mobility of districts increases FDI count by 4.40. The other two sectors are more likely to thrive in ICT mobility rather than physical mobility.

Chapter 5: Conclusions and Recommendations

5.1 Conclusions

This study is able to establish the relationship among the concepts of globalization and competitiveness and how these lead to the increasing role of cities to attract FDI. As a result, developing FDI-attractive environments deem a relevant undertaking. While a large body of knowledge is already dedicated to the study of urban attractiveness in general as well as locational preferences of FDI firms, only a few tackle urban attractiveness from the spatial qualities and urban character perspective as well as its direct relationship to FDI. With support of various relevant literature and theory, this study is able to argue that an added component such as that of spatial qualities and urban character also constitutes urban attractiveness and has bearing to the overall ability of cities to attract FDI. An empirical approach, however, is the objective of this paper and is imperative to reinforce such argument.

1. To what extent does urban qualities and character attract foreign direct investment inflow into East Asia Pacific cities?
    - The regional analysis has enabled the study to examine the indicators of urban attractiveness to FDI inflow, testing it within the context of sample FDI districts found in the four East Asia Pacific cities Singapore, Hong Kong, Bangkok and Metro Manila. Despite not all indicators show significant relationship to FDI inflow, the regression analysis conducted prove that a substantial number of them pose significant effects on FDI inflow count. For instance, the indicator urban sprawl yielding negative significant effects prove that size and density of cities pose negative impacts on its attractiveness. Site, Layout, Building, Streetscape and Softscape, variables that make up the distinctiveness concept, all have significance and have the likelihood to increase the rate of FDI inflow by 2.31, 0.96, 4.57 and 3.45, respectively. Silhouette complexity having -0.52 effects on FDI means an increase in the complexity of building form is less likely to be attractive. This proves that cities' distinctiveness of form and image are attractive. However, due to some limitations of the model, certain categorical indicators such as facade articulation, surface complexity and pavement material either are collinear or may not be mixed into the factor analysis and thus individually thrown into the regression model to interact with the rest of factor variables only to be omitted at the end. Thus, this model is not able to explain fully the design or aesthetic aspect of both buildings and streetscape. Land Use mix, part of the diversity concept, also have significant indicators and increase the rate of FDI by 0.90. This should not be too surprising as the mix of land uses foster more activities and transactions that accommodate face-to-face interaction (Montgomery 2007). The demographic aspect or the diversity of ethnicity as well as the percentage of the youth in the overall population also contribute to a city's diversity and have significant effects with a likelihood to increase FDI inflow count by 3.85. However, when run individually against the dependent

variable, the increase of demographic diversity is more likely to decrease FDI by a factor of 0.52. The percentage of ethnic population relative to the focus cities does not seem to be a reliable gauge considering that Singapore is more diverse but Hong Kong is more heterogeneous. Further, the young population located in FDI districts is low in Singapore but high in Hong Kong, Manila and Bangkok. Some may hold true for Bangkok and Metro Manila where centrality naturally pulls in population. Hong Kong is more restricted in land area and is more mixed use, thus including most residential enclaves within the central areas. On the other hand, for the variable vitality, movement show significant effects but decrease FDI by a factor of 2.41. Movement, given the interaction with other variables in this model, yield negative effects on FDI inflow. This is due to the interaction with layout and urban sprawl where finer grain and compactness mean less area allotted for circulation. Further, this does not consider data on train and intermodal transit for the lack of available data. Lastly, liveliness, or the ability of local elements within the city that attract foot traffic and concentrations, shows positive significant effects with a 1.04 increase in FDI inflow. This suggests that social media buzz and city amenities directed towards attracting foot traffic may well be towards attracting FDI inflow. Interestingly, tourism indicator has negative effect which may be attributed to the fact that Hong Kong has high tourism count but otherwise for Singapore. Thus, it can either be that tourism does not affect FDI rather the other way around or that more cities should be taken to consideration to show more variance and comparison.

On a side note, culture does not show significant effects on FDI inflow**.** This is suggestive that manifestations of cultural qualities do not necessarily tend to be attractive to FDI. In this model, it is affected by the interaction of variables which may make it less significant factor to attractiveness. However, when run separately, culture show strong and positive significant effects to FDI inflow. Interestingly, Li (1994) points out that cultural differences largely affect FDI locational preference especially for sectors who offer services and thus entail the need to understand and retrofit services to suit the local preference. Perhaps, the more culture manifests itself into the urban setting, the better for sectors to understand the local setting and thus utilize this to their advantage.

2. To what extent does urban qualities and character attract the top sectors into East Asia Pacific cities (sectoral)?

- With the regression done on the top three sectors, the business services and financial sectors prove to have the most significant variables and thus are the sectors most likely attracted by the spatial quality and character of cities. They are attracted by a city's site qualities, density and layout that increase FDI inflow by as much as 4.42, 2.13 and 2.37, respectively. They are also attracted by the mix of land uses, mix of demographic structure and the liveliness of cities. The business services sector, which are comprised of transport, storage and communication;

financial intermediation; real estate, renting and business activities." (Casi and Resmini, 2014 PS57) as well as media, design and consultancy firms, specialized financial advising, Business Process Outsourcing (BPO) (Duranton and Puga, 2005), is an expanding sector and demands central locations within large cities where there is a large market size (Henderson, 2010; Duranton and Puga, 2005; Turok, 2004), as explained by the preference in locating at the CBDs of each city.

3. What urban qualities and character prove important in attracting the top three sectors into EAP cities?
    - The spatial qualities and urban character, as an added component, have bearing over the attractiveness of Singapore, Hong Kong, Bangkok and Metro Manila, especially on their Central Business Districts, to FDI inflow. The results also show that an attractive EAP city for FDI is a centrally-located, high-density compact city with ample open spaces. Supporting its compactness is its fine-grained layout where blocks and streets are at a smaller scale thus having more intersections and where these altogether allow for legibility and permeability (Lynch, 1960; Carmona, 2010; Montgomery, 1998). It is also a city with tall but simple and clean skylines and building forms where softscape components such as street trees help frame the view corridor at the pedestrian level. It is also a city with mixed land uses and high commercial activity. These are all the qualities and character possessed by both Hong Kong and Singapore specifically their respective CBDs as well as CBD of Bangkok and the two master-planned mixed-use developments Makati CBD and BGC in Metro Manila. One observation worth mentioning from the empirical results highlights the walkability of these districts. When cities are walkable, they are compact therefore, not sprawling, zoned for mixed uses, safe, pedestrian-friendly (with ample physical infrastructure) and have accessible public transport (Nallari and Griffith, 2014; Southoworth, 2005). Further, they also have fine grain layout with smaller blocks and narrower streets as well as more intersections (Montgomery, 1998).

5.2 Recommendations

Considering the theoretical and empirical results of this study, not only has the positioning of East Asia and Pacific cities, where a surge of FDI inflow is directed towards has been established but also the need to develop FDI-attractive cities with an emphasis on the spatial qualities and urban character component. This component is argued to help shape cities as holistic places. Thus, development goals and policies centered on FDI attraction and eventually towards competitiveness and economic growth should integrate the innate qualities and character of cities to complement other factors such as business climate or ease of doing business, market size, infrastructure to name a few. To do this, both the public and private sector (as in the case of private-owned districts in Metro Manila) should support urban planning and renewal policies and projects. Having this, urban planning and design, especially in Bangkok and Metro Manila, finds a renewed and strengthened relevance where elements such as urban

sprawl, density, development layout, master plans, land uses, building character and streetscape/landscape may be designed and controlled. Further, the business services sector, being one of the top FDI sources, is attracted by the spatial qualities and character of cities. Thus, both the private and public sector can focus on attracting these investments by utilizing a city's site features, mix of land uses, demographic diversity, cultural and historical elements, mobility and liveliness. Lastly, place branding and place marketing can achieve authenticity in "selling" cities by packaging them into thematic brands that also considers its overall dimensional distinctiveness and functional diversity. Attractive cities in the EAP are centrally-located, compact and walkable, boasting of its natural site features and open spaces nestled within its tall, modern, simple and sleek building forms and topped by softscape and landscape elements. It is also a city with diverse land uses where a high level of commercial and civic activities can take place and of which are benefited likewise by diverse users.

With the meagre available literature on spatial qualities and urban character as well as their direct role in the attractiveness of cities to FDI, this study put together concepts from relevant literature in various realms such as urban design, architecture, economic geography and from such concepts as placemaking, place imaging and sense of place as legitimate tools to the attractiveness of cities and creates a link to FDI inflow as the main indicator of urban competitiveness. Given that, the study is rather more exploratory and can be an eclectic mix of different concepts and indicators. Thus, future studies could investigate deeper and in detail into the each of the significant variable. Perhaps, with the limitations of the model, further studies can do an in-depth examination on the effects of design and aesthetic aspects of buildings and streetscape. Ethnic diversity may also be revisited, considering more cities to achieve variety and comparison. Tourism and FDI can also be studied in detail, ascertaining the direction of the causal relationship. A study done by Tang (2007) in China argues that although there is a strong relationship between tourism and FDI, there is no evidence of the direction of the causal relationship from tourism to FDI. This means that FDI may not be a result of tourism rather the other way around. Tang (2007) concludes that FDI for the tourism sector should be pulled in to develop the tourism component of Chinese cities. Whether this holds true for the Singapore, Hong Kong, Bangkok and Metro Manila or to any other EAP cities with tourism potential, is a subject for further study. Also, culture variables have positive significant effects when run individually with FDI inflow count. Li (1994) points out that cultural differences largely affect FDI locational preference especially for sectors who offer services and thus entail the need to understand and retrofit services to suit the local preference. Perhaps, the more culture manifests itself into the urban setting, the better for sectors to understand the local setting and thus utilize this to their advantage. However, culture wound up non-significant or negative when interacting with other variables in this model Thus, future studies could delve deeper into the cultural facet. Lastly, triangulation through a survey is also ideal to gain insights on the locational preferences of the FDI sectors themselves. Future studies could then add the perceptions of the firms and companies to strengthen the study and further validate the results.

Bibliography

Alderson, A. S. and Beckfield, J. 2004. Power and position in the world city system. *American Journal of Sociology,* 109 (4), pp. 811-851.

Aoki, M., Kim, H. and Okuno-Fujiwara, M., 1997. The role of government in East Asian economic development: comparative institutional analysis. Clarendon Press.

Batty, M. and Longley, P. A. 1987. Fractal-based description of urban form. *Environment and Planning B: Planning and Design,* 14 (2), pp. 123-134.

Berghauser Pont, M. Y. and Haupt, P. A. 2009. *Space, Density and Urban Form,* .

Boyle, D., 2003. Authenticity Brands, Fakes, Spin and the Lust for Real Life.

Bruin, J. 2006. newtest: command to compute new test. UCLA: Statistical Consulting Group. https://stats.idre.ucla.edu/stata/ado/analysis/.

Buchanan, P., 1988. Facing up to facades: A report from the front. *Architects' Journal,* 188 pp. 24-27.

Burger, M. J., van der Knaap, B. and Wall, R. S. 2013. Revealed competition for greenfield investments between European regions. *Journal of Economic Geography,* 13 (4), pp. 619-648.

Cameron, A. C. and Trivedi, P. K. 1986. Econometric models based on count data. Comparisons and applications of some estimators and tests. *Journal of Applied Econometrics,* 1 (1), pp. 29-53.

Carmona, M., 2010. Public places, urban spaces : the dimensions of urban design. 2nd ed. Oxford, UK ;: Architectural Press,.

Casi, L. and Resmini, L. 2014. Spatial complexity and interactions in the FDI attractiveness of regions. *Papers in Regional Science,* 93 pp. S51-S78.

Castells, M., 1989. The informational city: Information technology, economic restructuring, and the urban-regional process. Blackwell Oxford.

Chang, H., 1998. The role of institutions in Asian development. *Asian Development Review,* 16 (2), pp. 64-95.

Chang, T. C., 2005. Place, memory and identity: Imagining 'New Asia'. *Asia Pacific Viewpoint,* 46 (3), pp. 247-253.

Choe, K., 2008. City cluster development: toward an urban-led development strategy for Asia. Asian Development Bank.

Choe, K. A. and Roberts, B. H., 2011. Competitive cities in the 21st century: Cluster-based local economic development. Asian Development Bank.

Clifton, K., Ewing, R., Knaap, G. and Song, Y. 2008. Quantitative analysis of urban form: a multidisciplinary review. *Journal of Urbanism,* 1 (1), pp. 17-45.

Comedia Consultancy, 1991. *Out of Hours: A Study of Economic, Social and Cultural Life in Twelve Town Centres in the UK* (Comedia, London).

Cullen, G., 1971. The concise townscape. Routledge.

de Koe, D. and HvA, P. d. B. 2013. Urban vitality through a mix of land-uses and functions: an addition to citymaker.

De Mello Jr, Luiz R, 1997. Foreign direct investment in developing countries and growth: A selective survey. *The Journal of Development Studies,* 34 (1), pp. 1-34.

Dobbs, R., Smit, S., Remes, J., Manyika, J., et al., 2011. Urban world: Mapping the economic power of cities. *McKinsey Global Institute,* .

Dovey, K., 2014. Framing places: mediating power in built form. Routledge.

Duranton, G., 2008. Viewpoint: From cities to productivity and growth in developing countries. *Canadian Journal of Economics/Revue Canadienne d'économique,* 41 (3), pp. 689-736.

Duranton, G. and Puga, D. 2005. From sectoral to functional urban specialisation. *Journal of Urban Economics,* 57 (2), pp. 343-370. Available at: http://www.sciencedirect.com.eur.idm.oclc.org/science/article/pii/S0094119004001093 .

Endo, K., 2006. Foreign direct investment in tourism—flows and volumes. *Tourism Management,* 27 (4), pp. 600-614.

Evans, G., 2003. Hard-branding the cultural city–from Prado to Prada. *International Journal of Urban and Regional Research,* 27 (2), pp. 417-440.

Evans, G., 2009. Creative Cities, Creative Spaces and Urban Policy. *Urban Studies,* 46 (5-6), pp. 1003-1040.

Evers, H. and Korff, R., 2000. Southeast Asian urbanism: the meaning and power of social space. LIT Verlag Münster.

Florida, R., 2014. The Rise of the Creative Class--Revisited: Revised and Expanded. Basic books.

Florida, R., Mellander, C., Stolarick, K., Silk, K., et al., 2011. Creativity and prosperity: The global creativity index. *Toronto, ON: Martin Prosperity Institute,* .

Fukahori, K. and Kubota, Y. 2003. The role of design elements on the cost-effectiveness of streetscape improvement. *Landscape and Urban Planning,* 63 (2), pp. 75-91.

Gehl, J., 1989 A changing street life in a changing society, *Places* (Fall), pp. 8-17.

Gold, J. R. and Ward, S. V., 1994. Place promotion: the use of publicity and marketing to sell towns and regions. John Wiley & Son Ltd.

Gospodini, A., 2004. Urban morphology and place identity in European cities: Built heritage and innovative design. *Journal of Urban Design,* 9 (2), pp. 225-248.

Great Britain. Dept. of the Environment, the Regions, Commission for Architecture and the Built Environment, 2000. By design: Urban design in the planning system: Towards better practice. Thomas Telford.

Grimwade, N., 2003. International trade: new patterns of trade, production and investment. Routledge.

Hall, P., 2005. The world's urban systems: a European perspective. *Global Urban Development,* 1 (1), pp. 1-12.

Hannigan, J., 2005. Fantasy city: Pleasure and profit in the postmodern metropolis. Routledge.

Harvey, C., 2014. *Measuring Streetscape Design for Livability using Spatial Data and Methods,* .

Hayden, D., 1994. The Power of Place: Claiming Urban Landscapes as People's History. *Journal of Urban History,* 20 (4), pp. 466-485.

Helpman E., 2006. Trade, FDI, and the organization of firms. *Journal of Economic Literature* 44: 589–630

Henderson, J. Vernon. 1974. "The Sizes and Types of Cities." *American Economic Review* 64 (4): 640–56.

Hogenbirk, A. and Narula, R. 2004. Location and agglomeration of FDI in The Netherlands: implications for policy.

Hoog, M. de, 2013. *The Dutch Metropolis: Designing Quality Interaction Environments*. Bussum: Uitgeverij THOTH.

Jackson, S. and Markowski, S. 1995. Attractiveness of Countries to Foreign Direct Investment, The. *J.World Trade,* 29 pp. 159.

Jacobsen, B. P., 2009. Investor-based place brand equity: A theoretical framework. *Journal of Place Management and Development,* 2 (1), pp. 70-84.

Jive´ n, G. and Larkham, P. J. 2003. Sense of place, authenticity and character: a commentary. *Journal of Urban Design,* 8 (1), pp. 67-81.

Kearns, G. and Philo, C. 1993. Culture, history, capital: A critical introduction to the selling of places. *Selling Places: The City as Cultural Capital, Past and Present,* pp. 1-32.

Knox, P. L., 2005. Creating ordinary places: Slow cities in a fast world. *Journal of Urban Design,* 10 (1), pp. 1-11.

Korten, D. C., 1995. *When Corporations Rule the World.* Bloomfield, CT: Kumarian Press.

Kresl, P. and Pengfei, N. 2006. Global urban competitiveness report (2005-2006). *Social Sciences Academic Press,* .

Li, J., 1994. Experience effects and international expansion: Strategies of service MNCs in the Asia-Pacific region. *MIR: Management International Review,* pp. 217-234.

Lo, F. and Marcotullio, P., 2001. Globalization and the sustainability of cities in the Asia Pacific Region. United Nations Publications.

Lynch, K., 1960. The image of the city. MIT press.

Madanipour, A., 2003. Public and private spaces of the city. Routledge.

Marchini, J., 2008. The Poisson Distribution. *University of Oxford, UK*, .

Marcotullio, P. J., 2003. Globalisation, Urban Form and Environmental Conditions in Asia-Pacific Cities. *Urban Studies*, 40 (2), pp. 219-247.

Marshall, A., 1920. Industry and trade: a study of industrial technique and business organization; and of their influences on the conditions of various classes and nations. Macmillan.

McCann, P., 2008. Globalization and economic geography: the world is curved, not flat. *Cambridge Journal of Regions, Economy and Society*, 1 (3), pp. 351-370.

Montgomery, J., 2007. Making a city: Urbanity, vitality and urban design. *Journal of Urban Design*, 3 (1), pp. 93-116.

Muwonge, A. and Ebel, R. D. 2014. Intergovernmental finances in a decentralized world. In: C. Faracque-Vitovic and M. Kopanyi eds., 2014. Municipal finances : a handbook for local governments. Washington: World Bank. pp. 1-39.

Nallari, R. and Griffith, B., 2012. Geography of Growth. The World Bank.

Narula, K., 2012. 'Sustainable Investing' via the FDI route for sustainable development. *Procedia - Social and Behavioral Sciences*, 37 pp. 15-30. Available at: http://www.sciencedirect.com/science/article/pii/S1877042812007501/pdf?md5=ccb5297550e05e4756708737f789fc85&pid=1-s2.0-S1877042812007501-main.pdf [Accessed 07-12-2016].

Pont, M. B. and Haupt, P. 2007. The relation between urban form and density. *Urban Morphology*, 11 (1), pp. 62.

Porter, M. E., 1990. The competitive advantage of nations.

Project for Public Spaces, 2016. How to turn a place around: a handbook for creating successful public spaces. Project for Public Spaces Incorporated.

Punter, J., 1991. Participation in the design of urban space. *Landscape Design*, 200 (1), pp. 24-27.

Rowan, H. (Ed.) (1998) *Behind East Asian Growth: The Political and Social Foundations of Prosperity*. London: Routledge.

Rugman, A. M. and Verbeke, A. 2005. Towards a theory of regional multinationals: A transaction cost economics approach. *MIR: Management International Review*, pp. 5-17.

Salah Ouf, A. M., 2001. Authenticity and the Sense of Place in Urban Design. *Journal of Urban Design*, 6 (1), pp. 73-86.

Schneider, A., Mertes, C., Tatem, A., Tan, B., et al., 2015. A new urban landscape in East–Southeast Asia, 2000–2010. *Environmental Research Letters*, 10 (3), pp. 034002.

Schwab, K., 2014. The global competitiveness report 2014-2015 : full data edition (Insight report). Geneva: World Economic Forum. Available at: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf [Accessed 07-12-2016].

Sinkiene, J. and Kromalcas, S. 2010. Concept, Directions and Practice of City Attractiveness Improvement. *Viesoji Politika Ir Administravimas,* (31), pp. n/a.

Snieska, V. and Zykiene, I. 2015. City attractiveness for investment: characteristics and underlying factors. *Procedia-Social and Behavioral Sciences,* 213 pp. 48-54.

Source, E., 5–Cohesion Policy and Cities–The urban contribution to growth and jobs in the regions, July 2006. *Communication to the Council and Parliament, .*

Southworth, M., 2005. Designing the walkable city. *Journal of Urban Planning and Development,* 131 (4), pp. 246-257.

Spencer, G. M., 2015. Knowledge Neighbourhoods: Urban Form and Evolutionary Economic Geography. *Regional Studies,* 49 (5), pp. 883-898.

Stamps, A., 1999. Physical Determinants of Preferences for Residential Facades. *Environment and Behavior,* 31 (6), pp. 723-751.

Stata, A., 2015. Stata Base Reference Manual Release 14.

Stevens, Q., 2006. The Shape of Urban Experience: A Reevaluation of Lynch's Five Elements. *Environment and Planning B: Planning and Design,* 33 (6), pp. 803-823.

Tang, S., Selvanathan, E. A. and Selvanathan, S. 2007. The relationship between foreign direct investment and tourism: empirical evidence from China. *Tourism Economics,* 13 (1), pp. 25-39.

Transport Investment and Urban Attractiveness. Department for Transport, Government of the United Kingdom. http://www.dft.gov.uk/pgr/scienceresearch/social/coll_transport andcitycompetitive/ table33transportinvestment.doc [2010-01-04]

Torres-Reyna, O., 2010. Getting started in factor analysis (using Stata 10). *Princeton University, New Jersey, .*

Turok, I., 2004. Cities, regions and competitiveness. *Regional Studies,* 38 (9), pp. 1069-1083. Available at: http://www.tandfonline.com/doi/pdf/10.1080/0034340042000292647?needAccess=true [Accessed 07-12-2016].

UN Comtrade (United Nations Commodity Trade). Statistics Database. http://comtrade.un.org/db/.

UNCTAD. 2004. Prospects for FDI flows, TNC strategies and promotion policies: 2004–2007. TD(XI)/BP/5, 27 April, Geneva.

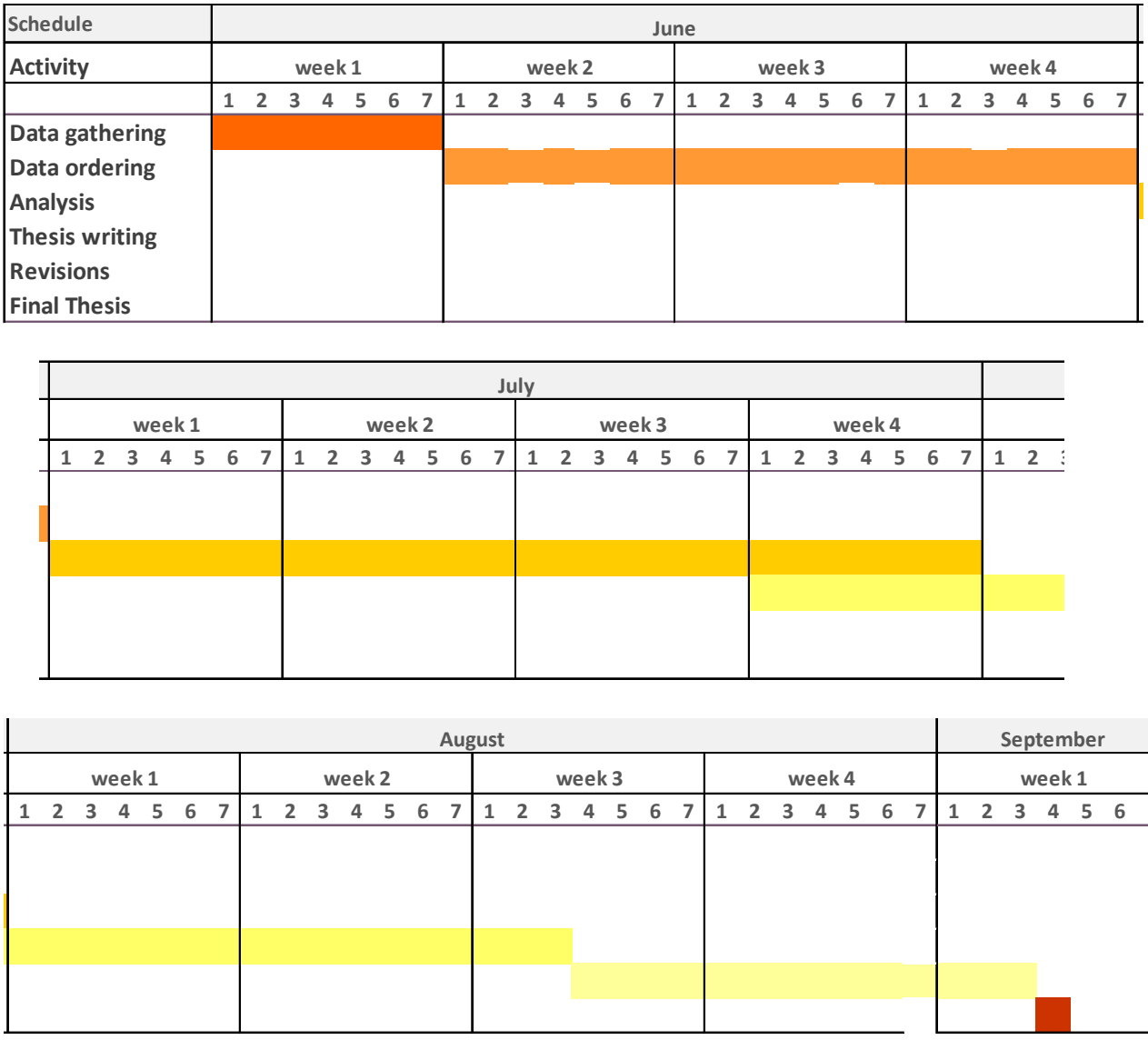
Unit, E. I., 2013. Hot spots 2025: Benchmarking the future competitiveness of cities. *The Economist, London, .*

Urban Redevelopment Authority. Conservation Guidelines. Singapore, 2011. From www.ura.gov.sg/uol/uol/-/media/User%20Defined/URA%20Online/Guidelines/ Conservation/Cons-Guidelines.pdf. Retrieved December 2016.

Van Nes, A., Berghauser Pont, M. and Mashhoodi, B., eds., 2012. Combination of Space syntax with spacematrix and the mixed use index: The Rotterdam South test case, [8th International Space

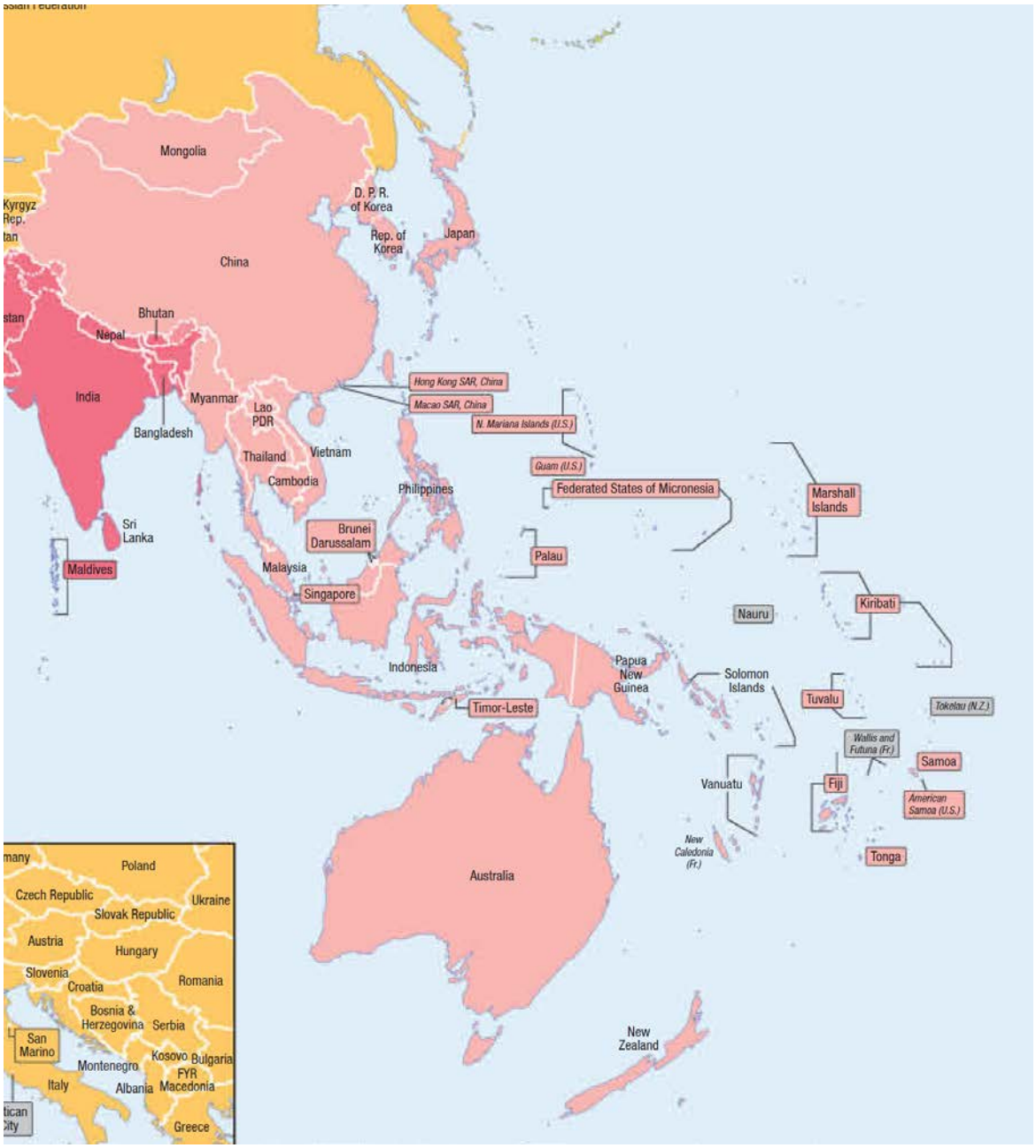
Annex 1: Research instruments and time schedule

Time Schedule



Legend

- Data Gathering
- Data Ordering
- Analysis
- Thesis writing
- Revisions
- Final Thesis



East Asia and Pacific (EAP), World Bank, 2016

Annex 2: IHS copyright form

In order to allow the IHS Research Committee to select and publish the best UMD theses, participants need to sign and hand in this copy right form to the course bureau together with their final thesis.

Criteria for publishing:

A summary of 300 to 500 words should be included in the thesis.

The number of pages for the thesis is about 60.

The thesis should be edited.

Please be aware of the length restrictions of the thesis. The Research Committee may choose not to publish very long and badly written theses.

By signing this form you are indicating that you are the sole author(s) of the work and that you have the right to transfer copyright to IHS, except for items cited or quoted in your work that are clearly indicated.

I grant IHS, or its successors, all copyrights to the work listed above, so that IHS may publish the work in *The IHS thesis series*, on the IHS web site, in an electronic publication or in any other medium.

IHS is granted the right to approve reprinting.

The author(s) retain the rights to create derivative works and to distribute the work cited above within the institution that employs the author.

Please note that IHS copyrighted material from *The IHS thesis series* may be reproduced, up to ten copies for educational (excluding course packs purchased by students), non-commercial purposes, providing full acknowledgements and a copyright notice appear on all reproductions.

Thank you for your contribution to IHS.

Date : _____

Your Name(s) : _____

Your Signature(s) : _____

Please direct this form and all questions regarding this form or IHS copyright policy to:

The Chairman, IHS Research Committee Burg. Oudlaan 50, T-Building 14th floor, 3062 PA Rotterdam, The Netherlands	j.edelenbos@ihs.nl Tel. +31 10 4089851