Spatial Effects of Foreign Direct Investment (FDI) on Poverty Reduction in Colombia: A Mixed Methods Approach

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SPATIAL EFFECTS OF FOREIGN DIRECT INVESTMENT (FDI) ON POVERTY REDUCTION IN COLOMBIA: A MIXED METHODS APPROACH

by

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A thesis submitted to the Graduate College in partial fulfillment of the requirements for the Degree of Master of Science
Department of Geography
Western Michigan University
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Foreign direct investment (FDI) has been identified as an important factor in stimulating economic growth and decreasing poverty. In particular, the relationship between FDI and economic growth has been extensively debated in the academic literature but with mixed results. Meanwhile, considerably less work has been done towards investigating the effects of FDI on poverty reduction. Evidence from the limited research linking on FDI and poverty levels is also mixed. Through a more comprehensive survey-based multi-scale method of assessing poverty, this empirical study investigates the contribution of FDI with respect to concurrent quantitative and qualitative assessment of changes in living standards and poverty reduction in Colombia, a country with one of the highest poverty rates in South America. Results indicate that FDI is perceived as a positive contributor to the wellbeing of employees working at foreign firms, and that FDI is generally beneficial to the economic development of Colombia. Interestingly, those who reported higher scores regarding perceptions of FDI’s contribution to their wellbeing also feel satisfied with their income. Eight percent of households surveyed in 2013 are classified as poor, who are deprived in 37% of the weighted indicators of the Multidimensional Poverty Index (MPI) Colombia assessment as developed by the National Planning Department of the Government of Colombia. The deprivation scores among employees at foreign firms are affected significantly by the number of years of education, household size and age.
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LIST OF ACRONYMS

National Administrative Department of Statistics……………………………………DANE
National Planning Department…………………………………………………………DNP
Foreign Direct Investment…………………………………………………………FDI
Gross Domestic Product……………………………………………………………GDP
Human Development Index…………………………………………………………HDI
Human Subjects Institutional Review Board………………………………………HSIRB
International Monetary Fund………………………………………………………IMF
Merger and Acquisition ……………………………………………………………M&A
Multinational Enterprise ……………………………………………………………MNE
Multidimensional Poverty Index……………………………………………………MPI
Micro, Small and Medium Enterprises …………………………………………..MSME
Organization for Economic Co-operation and Development……………………OECD
Registro Nacional de Valores y Emisores…………………………………………RNVE
Sustainable Development Goals…………………………………………………SGDs
United Nations Conference on Trade and Development…………………………UNCTAD
World Bank………………………………………………………………………………WB
I. INTRODUCTION

Overview of FDI

A fundamental goal of development is to reduce poverty and enhance quality of life for individuals and the communities where they live. In order for this to happen, economic growth and investment are essential. Due to resource and capital imbalances maintained since the first post-war international trade agreements, many nations seek support from investors from foreign countries (Kundan & Gu, 2010), and create a wide range of incentives to attract foreign direct investment (FDI). FDI may be defined as the investment of a company located in one country (country of origin) in another country (host country), where the foreign investor owns at least 10% of the company making the investment. Early on, FDI existed in the primary sector and to a certain extent in the manufacturing sector as part of colonial regimes. However, it was only after World War II as global trade networks expanded and capital flows accelerated that FDI became a significant topic of research (Sumner, 2005). Global FDI flows\(^1\) increased from about US $13 billion in 1970 to US $1,750 billion in 2016 (UNCTAD, 2017).

Over the last three decades, investors in most countries considerably increased their participation in global investments due to the reduction of trade barriers and subsequent growth of capital flows. In this context, FDI has become the largest source of external finance for developing countries (Aitken & Harrison, 1999) and has replaced international trade as the main driving force behind the integration of global markets (Raff, Ryan, & Stähler, 2012).

Since the second half of the twentieth century, one notable trend that has accelerated in the last two decades is an increase in the level and significance of global FDI to developing countries. Another remarkable trend is an increase in FDI liberalization and the adoption of FDI-

\(^1\) FDI flows are at current prices, unless stated otherwise.
friendly policies in all nations, but particularly in developing nations (Sumner, 2005). Taking into consideration those trends, one critical question for analysis is whether the growth in global FDI has contributed to economic growth and poverty reduction in host countries.

The relationship between FDI and economic growth has been extensively discussed in the academic literature (Wan, 2009). While most empirical results support the notion that FDI has positive effects on economic growth (De Gregorio, 2003; Jalilian & Weiss, 2002; Klein et al., 2001; Kundan & Gu, 2010; Zhang, 2003), other findings demonstrate that FDI does not exert an independent and robust exogenous influence on real economic growth (Carkovic & Levine, 2002).

Macro-economic and micro-economic studies are both used to study the impact of FDI on economic growth. Macro-economic studies usually find positive evidence that FDI contributes to economic growth. In contrast, micro-economic studies often find no positive results (Tambunan, 2005). This contrast is interesting and worthy of further exploration.

Meanwhile, a more limited number of empirical studies have been undertaken to determine whether FDI positively impacts poverty alleviation. Results from studies related to FDI and changes in per capita income, poverty, and inequality are even more mixed. Studies indicate either significant impacts of FDI on poverty reduction and/or income (Dollar & Kraay, 2001; Hemmer, Hoa & Thi, 2002; Jalilian & Weiss, 2002; Karim & Ahmad, 2002), no causal link between FDI and per capita income (Agénor, 2002; Milanovic, 2005) or adverse effects of FDI on mean income for those in low income groups (Huang, Teng & Tsai, 2010; Choi, 2006). This thesis then will seek to contribute to this important debate associated with these issues based on a case study of Bogota, Colombia, using a mixed methods approach combining the use of archival statistical data and GIS with a field-based survey of the employees of foreign firms.
**Conceptual Aspects**

According to the definitions adopted by the International Monetary Fund (IMF) and the Organization for Economic Co-operation and Development (OECD), FDI “reflects the aim of obtaining a lasting interest by a resident entity of one economy (i.e., direct investor) in an enterprise that is resident in another economy (i.e., the direct investment enterprise)” (Duce, 2003, p. 2). The investment reflects a potential long-term strategic relationship between the investor and the investment enterprise as well as a significant degree of influence on the management of the latter (OECD, 2011).

At the outset, some terms central to this research must be defined. A *direct investor* may be an individual, an incorporated or unincorporated private or public enterprise, a government, a group of related individuals, or a group of related enterprises which have a direct investment enterprise, operating in a country other than the country of residence of the direct investor. A *direct investment enterprise* is an incorporated or unincorporated enterprise in which a foreign investor owns 10% or more of the ordinary shares or voting power of an incorporated enterprise or the equivalent of an unincorporated enterprise (Duce, 2003). Direct investment enterprises may be subsidiaries, associates or branches. A *subsidiary firm* is an enterprise in which the foreign investor controls directly or indirectly (through another subsidiary) more than 50% of the voting shares. An *associate firm* is an enterprise where the direct investor and its subsidiaries control between 10% and 50% of the voting power. A *branch firm* is a wholly or jointly owned enterprise (Duce, 2003).

FDI strategies can be classified by investment mode (i.e., greenfield investment vs. merger and acquisition investment (M&A), and ownership mode (i.e., whole ownership of the subsidiary vs. joint venture) (Raff et al., 2012). While *greenfield investment* involves the creation
of new companies with their own production in host countries, M&A happens when a company takes over an existing foreign company which entails the acquisition of an existing plant and its assets rather than an entirely new investment. The investment may also take the form of an international strategic alliance, namely a joint venture, which involves an association between a foreign company and a company in the host country (Lahiri, 2009).

In Colombia, according to the formal governmental decree No. 2080 of 2000, art. 1, FDI is considered as foreign capital investment in Colombian territory, including Colombian zones, by non-residents in the country (Banco de la República, 2012). Residents are generally those natural individuals living in the country. Residents are also considered to be public law entities, legal entities, including nonprofit entities domiciled in Colombia and branches of foreign companies established in the country (Banco de la República, 2012). Non-residents are considered as individuals who do not live within the national territory but are also considered as legal entities including non-profit entities that have no domicile within the national territory. Neither are considered as resident foreigners whose stay in Colombia does not exceed six months, continuous or not, over a period of twelve months (Banco de la República, 2012).

In order for a transaction to qualify as a foreign direct investment in Colombia, the following criteria should be taken into account at the date of investment: a) the investor must meet the condition of being non-resident; b) contributions must correspond to any of the authorized forms; and c) the resources must be allocated effectively to the realization of the investment. These conditions must be legally demonstrated when required by control and monitoring entities of the government of Colombia (Banco de la República, 2012).
FDI in Colombia

Despite the conflicting empirical results found in the literature, many countries including Colombia continue to adopt specific strategies intended to attract investments from foreign companies while working to maximize the benefits of FDI within the domestic economy.

In Colombia, the FDI regime has gone through various historical phases, from being associated with onerous restrictions and protectionism in the 1970s to being more “open” through the promotion of “FDI-friendly” policies from the beginning of the 1990s to the present. Currently, the FDI framework is embarking on a new phase, with early tendencies reflecting a shift towards conditions for attracting only higher quality FDI including investments in non-traditional sectors, and in sectors with high value-added production (Kalin, 2009).

Since the early 1990s, Colombia’s economic planners appear to be more liberal in their economic policies in order to attract FDI. As of 2016, Colombia is one of the largest recipients of FDI in South America. According to figures from Colombia’s central bank (i.e., Banco de la República), flows into the country reached an amount of US $13.7 billion in 2016 and an accumulated amount of US $165.7 billion from 1994 to 2016 (Banco de la República, 2017).

The distribution of accumulated FDI from 1994 to 2016 by country of origin show that most FDI flows comes from the United States (20.4%), Panama (13.1%), England (11.4%), Spain (9.4%) and Bermuda (6.1%) (Banco de la República, 2017). It is important to note that a significant share of companies are headquartered within offshore financial centers because international investors seek such nations to manage their foreign investments as a way to reduce a variety of transaction costs. These countries include Panama, the Cayman Islands, Bermuda and the British Virgin Islands (Garavito, Iregui, & Ramirez, 2014).
On average, for the period 2000-2010, companies receiving FDI in Colombia are located mainly in the Bogota Capital District (73%), followed by investments in the cities of Medellin (9%) and Cali (7%) (Garavito, Iregui & Ramirez, 2012b).

During the period from 2010 to 2016, Colombia showed relative macroeconomic stability and good economic performance. Real GDP of Colombia grew more than 4% per year from 2010 to 2014, and grew by 3.1% and 2% in 2015 and 2016, respectively (World Bank, 2017). Nevertheless, poverty and inequality remain significant challenges in the country. As of 2016, Colombia has a Gini coefficient of 53.5, just behind countries such as Lesotho (54.2), Zambia (55.6), Central African Republic (56.2), Botswana (60.5), Haiti (60.8), Namibia (61.0), and South Africa (63.4) (UNCTAD, 2017b), making it the eighth most unequal country of reporting nations. It is worth noting that the income Gini coefficient is commonly known as a measure of the deviation of the distribution of income among individuals or households within a country from a perfectly equal distribution whereas a value of 0 represents absolute equality and a value of 100 represents absolute inequality.

More importantly, the incidence of poverty remains stubbornly quite high in the nation. The incidence of poverty measures the percentage of the population with a per capita household income below the poverty line, with respect to the total population, according to the geographic domain. For Colombia, the incidence of poverty was 27.8% in 2015 (DANE, 2016), one of the highest in Latin America. Furthermore, according to the 2016 DANE estimate, 20.2% of the total Colombian population faced multidimensional poverty in 2015 (DANE, 2016).

Given the fact that FDI flows into Colombia are likely to continue growing (UNCTAD, 2013), various questions arise regarding the implications of growth levels as well as the potential utility of FDI especially for the most vulnerable portions of the people of Colombia.
**Problem Statement**

FDI has been identified as an important factor in stimulating economic growth and decreasing poverty. In particular, the relationship between FDI and economic growth has been extensively researched but with mixed results. While there is some measure of consensus among scholars that FDI flows have a positive relationship with economic growth, not all agree. Meanwhile, considerably less work has been done towards investigating the effects of FDI on poverty reduction. Some researchers point to evidence of poverty-alleviating effects of FDI (Dollar & Kraay, 2001; Hemmer, Hoa & Thi, 2002; Jalilian & Weiss, 2002; Karim & Ahmad, 2002), while others find no causal link between FDI and poverty reduction (Agénor, 2002; Milanovic, 2005). In the meantime, other scholars find evidence that the negative effects of FDI on the poor outweigh any advantages (Huang, Teng & Tsai, 2010; Choi, 2006). Most importantly for this research, the studies on the relationship between FDI and poverty have concentrated solely on standardized indicators or measures of poverty. Hence, this study aims to fill the gap in current academic and policy literature by assessing the impact of FDI on different income groups through a more comprehensive multi-scale method of assessing poverty.

These conflicting results have induced a call for more convincing empirical evidence related to the link between FDI and poverty dynamics in Colombia (Dollar & Kraay, 2001; Hemmer, Hoa & Thi, 2002; Jalilian & Weiss, 2002; Karim & Ahmad, 2002). In response to this call, this research seeks to analyze the contribution of FDI with respect to concurrent quantitative and qualitative assessment of changes in living standards and poverty reduction in Colombia, a country with one of the highest poverty rates in South America and a nation with one of the greatest income inequality gaps in the world.
**Statement of Purpose**

This empirical mixed methods study investigates the spatial relationship between FDI and poverty reduction in Colombia. Using both primary survey data collected by the author in Bogota, Colombia and archived secondary data, this study incorporates the following four research objectives: (1) Collect data and calculate, the multidimensional headcount ratio (H), the intensity of poverty (A), the Multidimensional Poverty Index (MPI), and the deprivation scores of employees at foreign-owned companies; (2) Determine employees’ perceptions of FDI on their wellbeing on five specific dimensions; (3) Determine whether survey participants believe that FDI contributes to economic development in Colombia; and (4) Evaluate the patterns of spatial concentration of foreign-owned companies by sector, over time in Colombia.

Given the complexity of analyzing the relationship between FDI and poverty reduction, it is reasonable to conduct this research at various scales employing multiple methods including the use of geographic information system (GIS) data analysis and with survey and archival data analysis.

This research is of immediate relevance to the formulation of public and development policies. This study will not only contribute to the broader theoretical debate on the effect of FDI on poverty alleviation and income inequality in many nations, but will also generate concrete information specifically for Colombia. To capture the complexity of poverty, this study adopts a multidimensional measure that assesses broader aspects of poverty in five dimensions: (1) education, (2) childhood and youth, (3) labor, (4) health, and (5) access to household utilities and living conditions. Through the Colombian Multidimensional Poverty Index (MPI-Colombia) based on the Alkire Foster method (OPHI, 2013), this research will use the household as the unit
of analysis whereby poverty is assessed based on five dimensions incorporating 14 different variables.

Moreover, my research findings will also report on how workers at foreign firms perceive the relationship between their work at foreign firms and their own personal wellbeing.

This thesis is structured as follows. Chapter II reviews the existing literature on the trends in FDI and the determinants of FDI followed by a discussion of the conceptual factors and empirical evidence linking FDI, economic growth and poverty alleviation. Chapter II ends with a discussion of the multidimensional poverty assessment method. Chapter III provides a brief history and appropriate socio-economic context for the research in Colombia. Chapter IV discusses the methodology including all of the methods employed for data collection and analysis. Chapter V reports the results of the research data. Finally, Chapter VI discusses the major findings and provides conclusions and recommendations for further research.
II. LITERATURE REVIEW

Introduction

Prior to the 1940s, FDI targeted the primary sector of colonies and developing nations and to a certain extent the manufacturing sector. However, after post World War II, there was a rapid expansion of global trade and investment flows accelerated. As a consequence, FDI became a significant topic of international research interest (Sumner, 2005). In the 1950s and 1960s, FDI flows grew at twice the rate of global production as measured by GDP. Over the past 50 years, FDI flows have grown substantially in both developed and developing countries. Total global FDI inflows have increased from US $13 billion in 1970 to US $1,750 billion in 2016 (UNCTAD, 2017).

There is an extensive literature on the importance of FDI and a preponderance of descriptive research on FDI trends since the 1960s (Buckley et. al, 2007). Empirical studies have focused mainly on aggregate FDI flows (Yan, Hong & Ren, 2010) and on the predictors or determinants of FDI. There is also a growing literature on the impacts of FDI on host countries in terms of economic growth. However, there are only a limited number of empirical studies conducted to analyze the impact of FDI on poverty alleviation in any given nation or region. Generally, the existing literature has found diverse determinants of FDI and presents conflicting and/or mixed results related to the effects of FDI on economic growth and poverty reduction.

This literature review is formatted to address three areas of research: The first section provides background information about global trends in FDI and how they have differed by region. Given that the absolute amount of FDI does not appear to safeguard beneficial impacts equally on all citizens in any given nation, it is important to review the broad effects of FDI as
they vary by region, sector and income group. Thus, the second section discusses the determinants and drivers of FDI. The next third section discusses the effects of FDI in terms of economic growth and development. This is followed by the final fourth section, which discusses the multidimensional poverty assessment method.

**Trends in FDI**

Worldwide, the volume of capital and the composition of FDI have changed significantly over time. This simple fact has implications for how FDI affects economic growth and development. Effective evaluation is difficult as FDI then, is a moving target. This section of the chapter describes the evolution of FDI strategies and places them in an international context with an emphasis on how this context changes over time.

Direct investment plays a key role as a funding mechanism for the constantly evolving structure of the global economy. FDI flows have fluctuated drastically throughout the 20th century. Although FDI flows were relatively low during the 1970s and the 1980s, they increased considerably at the beginning of the 1990s. Since then, three main periods of FDI can be identified: The first period dates from about 1990 to 2000; the second period dates from about 2001 to 2011; and the third period dates from about 2012 to date. These periods are discussed in detail in the paragraphs below.
The first period: 1990 - 2000

Since the early 1990s, inflows of FDI have increased nominally about 6 fold. During the period from 1990 to 2000, FDI flows registered steady growth until 2000, with average annual growth rates of 26%, while the average growth rate of exports for the same period was 9% (UNCTAD, 2009b). At the same time, the number of investment enterprises increased from 35,000 to over 60,000. This is reflected in the increased importance of these firms in terms of gross economic productivity and global trade. As a consequence, FDI increased as a proportion of GDP and gross capital both in developed and developing countries (Garavito, Iregui & Ramirez, 2012). The strong growth of FDI was mainly determined by changes in four conditions: (1) the international investment regulatory framework, (2) technological advances, (3) increased competition between enterprises and (4) the generally strong performance of the world economy during this period (UNCTAD, 1995).

In addition to significant growth over this period, the recipient regions of FDI also shifted significantly and the M&As became important at the end of the decade as investment mechanisms. Analysis of FDI investment by region shows that countries classified as developed nations accounted for the bulk of FDI inflows and outflows during this period. Within this group, a group of select developed countries moved most of these resources as a few European nations were the main source of both origin and destination of FDI, followed by Canada and the United States, and Japan. However, towards the end of 2000, developing countries began to increase shares especially as recipients of these investments flows (Figure 2.1) (Garavito, Iregui & Ramirez, 2012).
Among developing countries, Asian nations were the largest recipients of FDI during the period from 1990 to 2000 with China becoming the major destination. Latin American nations and those of the Caribbean managed to increase their shares only in the late 1990s. Historically, Brazil is the Latin American country that has received the largest FDI inflows, followed by Mexico, Argentina and Chile (Table 2.1).

Figure 2.1. FDI inflows by country classification 1990-2016

Source: Created by author using data from UNCTAD 2017, UNCTADstat.
Table 2.1: Top 10 Developing Economies in Latin America and the Caribbean with the Highest Inward Flows of FDI from 1990 to 2000

| No. | Developing Economy         | Total FDI Inward Flows  
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Brazil</td>
<td>131,996</td>
</tr>
<tr>
<td>2</td>
<td>Mexico</td>
<td>103,770</td>
</tr>
<tr>
<td>3</td>
<td>Argentina</td>
<td>78,549</td>
</tr>
<tr>
<td>4</td>
<td>Chile</td>
<td>37,327</td>
</tr>
<tr>
<td>5</td>
<td>British Virgin Islands</td>
<td>30,205</td>
</tr>
<tr>
<td>6</td>
<td>Venezuela</td>
<td>26,123</td>
</tr>
<tr>
<td>7</td>
<td>Cayman Islands</td>
<td>23,885</td>
</tr>
<tr>
<td>8</td>
<td>Colombia</td>
<td>20,507</td>
</tr>
<tr>
<td>9</td>
<td>Peru</td>
<td>16,566</td>
</tr>
<tr>
<td>10</td>
<td>Panama</td>
<td>5,589</td>
</tr>
</tbody>
</table>

Source: Created by author using data from UNCTAD 2017, UNCTADstat.

The second period: 2001 - 2011

During this period, some trends observed in previous years were consolidated while there were significant changes in worldwide FDI flows as well. The most significant changes are related to the cyclical behavior of FDI, increasing investment in the exploitation of natural resources, and the appearance of new restrictions and regulations on foreign investment destined for strategic sectors in some recipient countries. Meanwhile, trends including the participation of developing nations in FDI flows, the concentration of investments in the services sector, the importance of foreign enterprises in all the world production and trade, the strengthening of economic globalization and the modification of national investment frameworks in support of FDI all remained and/or expanded (Garavito, Iregui & Ramirez, 2012).
According to the UNCTAD (2009b), the growth achieved in the 1990s was maintained through the beginning of this period and slowly recovered to 2006 or 2007. From 2008 to 2009, FDI was strongly affected by the global financial crisis originated in the United States and Europe. FDI declined for all sectors and activities including equity investments, loans and reinvested earnings. The severe decrease in access to capital negatively impacted FDI. Because FDI flows increased significantly in the boom period but decreased if remaining slightly positive in the crisis years, investment enterprises consolidated their position in the global economy.

During 2010 and 2011, FDI inward flows registered steady growth until 2011 for all recipient countries. Regionally, the trend of geographical redistribution of FDI shifted significantly in favor of developing countries in Latin America including Brazil, Chile and Colombia. Figure 2.2 shows the aggregate FDI flows into 10 Latin American countries from 2001 to 2016 including Brazil, Mexico, Chile, Colombia, Argentina, Peru, Panama, Venezuela, Costa Rica and Uruguay.
Figure 2.2. FDI flows into South American countries 2001-2016

Source: Created by author using data from UNCTAD 2017, UNCTADstat.
In general, during the period from 2001 to 2011, Latin American countries including Brazil, Mexico, Chile, Colombia and Argentina were the largest recipients of FDI in the region (Table 2.2).

Table 2.2: Top 10 Developing Economies in Latin America and the Caribbean with the Highest Inward Flows of FDI from 2001 to 2011

<table>
<thead>
<tr>
<th>No.</th>
<th>Developing Economy</th>
<th>Total FDI Inward Flows (In US Dollars at Current Prices in Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Brazil</td>
<td>386,718</td>
</tr>
<tr>
<td>2</td>
<td>British Virgin Islands</td>
<td>291,771</td>
</tr>
<tr>
<td>3</td>
<td>Mexico</td>
<td>276,340</td>
</tr>
<tr>
<td>4</td>
<td>Cayman Islands</td>
<td>140,174</td>
</tr>
<tr>
<td>5</td>
<td>Chile</td>
<td>108,848</td>
</tr>
<tr>
<td>6</td>
<td>Colombia</td>
<td>75,061</td>
</tr>
<tr>
<td>7</td>
<td>Argentina</td>
<td>63,283</td>
</tr>
<tr>
<td>8</td>
<td>Peru</td>
<td>46,920</td>
</tr>
<tr>
<td>9</td>
<td>Venezuela</td>
<td>22,315</td>
</tr>
<tr>
<td>10</td>
<td>Panama</td>
<td>17,048</td>
</tr>
</tbody>
</table>

Source: Created by author using data from UNCTAD 2017, UNCTADstat.

The third period: 2012 - 2016

There was a decline of global FDI flows in 2012 mainly due to continued macroeconomic fragility and policy uncertainty for investors (UNCTAD, 2013). According to the World Investment Report 2014, after the 2012 slump, global FDI returned to health with flows rising 9%, to US$1,452 billion by 2013 (UNCTAD, 2014).
From 1990 onwards, FDI flows to developing economies gained significant importance. Although global FDI flows to developing nations declined 4% in 2012 (US $703 billion) in comparison to 2011 (US $735 billion) (UNCTAD, 2013), FDI flows to developing countries in 2013 reached a new high of US $778 billion, or 54% of the total, exceeding developed economies by US $212 billion. It is worth noting that the balance of US$ 108 billion went to transition economies in 2013 (UNCTAD, 2014).

The decline in FDI for 2012 includes investment in Latin America and the Caribbean region, where FDI inflows decreased 2% to US $244 billion due mainly to a decline in Central America and the Caribbean. However, this decline was masked by an increase of 12% in South American nations.

In 2013, Latin America and the Caribbean saw mixed FDI growth, with an overall positive due to an increase in Central America, but with a 6% decline in South America (UNCTAD, 2014). FDI flows to the region reached US $292 billion in 2013. Excluding offshore financial centers, FDI flows to Latin America and the Caribbean reached US $176 billion in 2013 (UNCTAD, 2016). Although in previous years FDI was driven largely by South America, in 2013 flows to this subregion declined by 6% to US $133 billion, after three consecutive years of strong growth (UNCTAD, 2014). Among the main recipient countries, Brazil saw a slight decline by 2% while FDI in Chile and Argentina declined by 29% and 25% to US $20 billion and US $9 billion, respectively.

In contrast, FDI flows to Colombia increased by 8% to US $17 billion in 2013 (UNCTAD, 2014) (Figure 2.2).

In 2014, global FDI inflows fell by 16% to US $1,230 billion. The decline was influenced by the “fragility of the global economy, policy uncertainty for investors and elevated geopolitical
risks” (UNCTAD, 2015, p. 2). While developed nations and economies in transition saw a significant decrease, inflows to developing Asia remained at historically high levels. FDI flows to Latin America and the Caribbean, excluding the offshore financial centers, declined to US $170 billion in 2014 (UNCTAD, 2016).

In contrast to 2014, global flows of FDI rose by approximately 40%, to US $1,800 billion in 2015, the highest level since the global economic and financial crisis began in 2008 (UNCTAD, 2016). However, flows to Latin America and the Caribbean, excluding the offshore financial centers, remained relatively flat at US $168 billion in 2015.

In 2016, global FDI flows fell to US $1,750 billion. Investment in developing countries decreased even more, by 14%. FDI flows to Latin America and the Caribbean decreased as investment slowed throughout the region. FDI fell 14% to US $142 billion (UNCTAD, 2017b). In particular, the decline in FDI flows to South America reached an amount of US $101 billion (14%), intensified as the subregion experienced the effects of economic recession and weak commodity prices (UNCTAD, 2017b). Investment activity in Brazil, the region’s principal FDI destination, continued to contract in 2016. Meanwhile, in contrast to other oil exporters, Colombia saw FDI flows register a strong increase to US $14 billion in 2016 (UNCTAD, 2017b).

Overall, during the period from 2012 to 2016, Brazil, Chile, Colombia, Argentina and Peru remain among the largest recipients of FDI in South America (Table 2.3).
### Table 2.3: Top 10 Developing Economies in Latin America and the Caribbean with the Highest Inward Flows of FDI from 2012 to 2016

<table>
<thead>
<tr>
<th>No.</th>
<th>Developing Economy</th>
<th>Total FDI Inward Flows (In US Dollars at Current Prices in Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Brazil</td>
<td>325,190</td>
</tr>
<tr>
<td>2</td>
<td>British Virgin Islands</td>
<td>311,622</td>
</tr>
<tr>
<td>3</td>
<td>Cayman Islands</td>
<td>187,809</td>
</tr>
<tr>
<td>4</td>
<td>Mexico</td>
<td>156,025</td>
</tr>
<tr>
<td>5</td>
<td>Chile</td>
<td>97,292</td>
</tr>
<tr>
<td>6</td>
<td>Colombia</td>
<td>72,736</td>
</tr>
<tr>
<td>7</td>
<td>Argentina</td>
<td>47,715</td>
</tr>
<tr>
<td>8</td>
<td>Peru</td>
<td>41,163</td>
</tr>
<tr>
<td>9</td>
<td>Panama</td>
<td>20,940</td>
</tr>
<tr>
<td>10</td>
<td>Costa Rica</td>
<td>13,663</td>
</tr>
</tbody>
</table>

*Source*: Created by author using data from UNCTAD 2017, UNCTADstat.

Several factors contributed to the subregion’s stronger-than-average FDI performance. In the specific case of Colombia, the increase from 2012 to 2016 was largely due to cross-border M&As in the electricity and banking industries (UNCTAD, 2014).

**Determinants of FDI**

Scholars are progressively interested in investigating the determinants of FDI, and the associated growth effects of foreign investment in host countries. In order to more completely understand the impact of FDI on economic growth and development, it is crucial to comprehend the conditions and policies that attract FDI.
The “short hand” determinants of FDI derived from pre-existing theory include market-seeking forces, natural resource endowments, activities of asset-seeking firms, political risk (i.e., good host country institutions), cultural proximity, policy liberalization, exchange rates, host nation inflation rate, exports and imports, geographic distance, and government and societal openness to FDI (Buckley et al., 2007; Davidson, 1980). In particular, host country determinants play a key role in either attracting or discouraging FDI flows. These determinants encompass general and specific policy factors as well as macro-economic factors and will be addressed in the next section.

*General and specific policy factors*

Theory suggests that foreign investment benefits from national economic and political stability as this reduces risk for long-term investors. Politically stable nations tend to attract greater flows of FDI (Te Velde, 2006). Countries that exhibit certain degree of political instability tend to receive relatively small amounts of FDI. The exception to this rule are countries rich in natural resources which have managed to attract a great deal of FDI flows despite often unstable environments (Te Velde, 2006).

As of 2018, most countries are increasingly liberalizing trade and investment regimes, so as to create “market friendly” environments for investors with the aim of attracting more investment. Even though policy makers of many nations work to provide a welcoming investment climate, actual investment depends on a complex combination of factors that differ across regions and countries.

FDI-related domestic policies also play an important role in increasing investment levels. The global investment regulatory framework has seen many modifications over time that have generated more favorable environments for the attraction of FDI flows. Indeed, during the period
1991-1999, almost all of the 1,035 regulatory changes made by countries around the world sought to create a friendlier environment for FDI. Additionally, bilateral investment treaties increased from around 200 to 1,856 in the same period. Agreements to minimize double taxation amounted to 1,982 by late 1999 (UNCTAD, 2000).

It is worth noting that most governments have been increasingly open towards FDI, but the initiation of these policies has not occurred at the same time in different regions. South-East Asian economies were first, while other Asian countries (e.g., Republic of Korea, China and India) and Latin America countries began to liberalize in the 1980s and 1990s. Many African countries followed only in the latter years of the 1990s (Te Velde, 2006).

**Macro-economic factors**

Over time, policies gradually have become less restrictive with respect to inward FDI. With fewer barriers, other non-regulatory determinants have become more crucial with respect to increased FDI flows such as basic economic factors (e.g., market size, market potential) as well as the quality of human capital and infrastructure on the supply side (Te Velde, 2006).

Quite a few econometric studies highlight the importance of market size for attracting FDI. Chakrabarti (2001) investigated the determinants of FDI in a 135-country sample for 1994. Using sensitivity analyses with cross-country regressions, specifically Extreme Bound Analysis (EBA), Chakrabarti examines if any of the conclusions from several previous empirical studies are robust to small changes in the conditioning information set. Chakrabarti (2001) finds strong evidence the market size of the host country, as measured by per-capita gross domestic product (GDP), is a strong predictor of FDI. Moreover, results also reveal that a country’s openness to trade is more likely correlated with levels of FDI than any other potential explanatory variables (i.e., wage rate, exchange rate, tariff levels, growth rate of GDP, trade balance). Ramirez (2013)
also identifies some of the major economic and institutional determinants of FDI flows to nine major Latin American countries during the 1980-2001 period. After estimating a pooled (fixed-effects) FDI investment function based on a panel regression, results suggest that market size (proxied by lagged real GDP) has a consistent positive and statistically significant effect on FDI flows to countries within the region. Moreover, other factors such as the real exchange rate, credit provided by the private banking sector, government expenditures on education, and the level of economic freedom also have positive and significant effects.

Given that developing countries were once not considered to be destinations favorable for FDI vis-à-vis industrialized nations, Mottaleb and Kalirajan (2010) examine the determinants of FDI in 68 low-income and lower-middle income developing countries. Using panel data, they find that countries with “larger GDPs, higher GDP growth rates, higher proportion of international trade and a more business-friendly environment are more successful in attracting FDI” (Mottaleb & Kalirajan, 2010, p. 369). In addition, they find evidence that lower-middle income countries and Asian countries are very successful in attracting FDI as compared to low-income African and Latin American countries. Similarly, Nunnenkamp and Spatz (2002) analyze the traditional and non-traditional determinants of FDI in 28 developing countries. Using survey data, collected by the European Round Table of Industrialists on investment conditions in those developing countries since the late 1980s, and applying Spearman correlation analyses as well as panel-data regression models, they find that traditional market-related determinants remain the dominant factors shaping the distribution of FDI at a national scale.

Regarding the role of infrastructure and human resources for attracting FDI, some scholars argue that skilled workers and adequate infrastructure are extremely important determinants of FDI because these investments enable foreign companies to strengthen both their
ownership and location advantages (discussed in detail in the next subsection), thus allowing them to expand their market in the host country as well as in throughout the region (Ramasamy & Young, 2004). In particular, Wheeler and Mody (1992) study the locational determinants of US manufacturing FDI. Results reveal that infrastructure is a key determinant for developing countries, while the availability of specialized support services dominate the requirements for developed nations that already have adequate infrastructure. In the same way, Kumar (2002) analyzes sales of US and Japanese subsidiaries in 66 developing countries by factors such as income, distance, tax rates among others. The findings show that good infrastructure (e.g., transport, telecommunications, information and energy) is consistently a positive and significant determinant of FDI.

Firm specific factors

Since the 1950s, scholars have attempted to understand the evolution of FDI in specific locations through micro-economic studies (Te Velde, 2006). As an early attempt to explain the reasons a foreign firm would undertake cross-border investments, John Dunning (1977, 1981) developed the OLI framework. According to this theory, a firm must possess three advantages over local firms in order to justify foreign investments, each represented by one of the letters O, L and I: Ownership, Location, and Internalization. Regarding ownership advantages, the establishment of foreign subsidiaries gives the parent firms exclusive ownership rights over patents, trademarks, commercial secrets, production technique and returns to scale. Dunning (1981) emphasizes that foreign firms need some firm-specific assets that differentiate the international firm making investments from domestic firms to compensate for the extra costs in terms of local knowledge that a foreign firm must incur to operate abroad. Regarding locational advantages, foreign firms take into account any characteristics of the host country that makes it
more profitable for the foreign firms to produce there rather than to produce at home and simply exporting product to the foreign market. These advantages arise from direct access to growing markets, lower labor costs, reduced transportation and communication costs, avoidance of tariffs and non-tariff barriers, as well as direct access to raw materials. Finally, “internalization advantages” reflect the fact that foreign firms will make a direct investment in a foreign market only if potential gains are larger than those achieved by accessing the foreign market through other means. According to UNCTAD (1998), when evaluating the three conditions for the presence of FDI (i.e., ownership, location and internalization), the only one of the three that can be manipulated by the host economy to change is the locational advantage. The other conditions are up to the investing firm.

As an example of the locational factor, Garavito, Iregui and Ramirez (2012b) investigate the determinants of FDI in Colombia using a detailed database at the firm level for the period from 2000 to 2010. In particular, they compare the characteristics of 5,364 firms that receive FDI with another group of firms that do not receive this type of investment. From this sample, 30% of firms are targets of FDI. The results indicate that it is less likely for a firm to attract FDI if the company is located outside of Bogota. Moreover, the probability of investment decreases further if the firm is involved in economic sectors other than oil, and if it is a small or medium enterprise (SME). In contrast, the probability of FDI increases for companies listed on the Registro Nacional de Valores y Emisores (RNVE) (i.e., National Stock Registry in English) for those involved in foreign trade activities and also for companies involved in sectors with higher capital investment intensity.

Mortimore (2003), building on Dunning’s work, argues that the relative importance of location-specific determinants depends on the motivation of foreign firms for investing abroad
such as market-seeking, natural resource-seeking, efficiency-seeking, and strategic asset-seeking. While resource-seeking FDI aims to secure access to low-cost labor or natural resources, market-seeking FDI takes place when the investment attempts to penetrate new markets to keep the existing ones. Meanwhile, efficiency-seeking FDI aims to reconstruct existing production through taking advantage of a cheaper structure in the host economy. Strategic-asset seeking FDI relates to investment that enables the foreign firm to protect or develop its ownership specific advantage (Kalin, 2009).

In short, the determinants of FDI roughly explain why FDI flows disproportionately to some specific economies and regions at particular times. After examining those factors, additional questions arise about the impact of FDI on host countries, particularly developing economies. Not surprisingly, theories and existing literature provide conflicting arguments regarding the impact of FDI on host countries in terms of economic growth and poverty reduction.

**Effects of FDI**

The role of investment including FDI in driving economic growth and development has been greatly contested since the UN Development Decade of the 1960s (Te Velde, 2006). In particular, the relationship between FDI and economic growth has been extensively discussed in the literature (Wan, 2009). On one hand, numerous scholars and policy makers argue that FDI boosts economic growth for host countries through a variety of different channels such as increased employment, higher wages, and greater tax revenues (Klein et al., 2001). Those channels also stimulate technological change through the adoption of foreign technology and know-how resulting in technological spillovers, and increases to available capital stocks (Wan, 2009). On the other hand, other researchers claim that greater levels of FDI also bring about
negative localized effects with respect to decreased domestic investments while increasing external vulnerability and dependence (Aitken and Harrison, 1999; Lipsey, 2004).

**Effects of FDI on economic growth**

Abundant empirical studies have examined the relationship between FDI and economic growth in host countries. For instance, Kundan and Gu (2010) assess the relationship between economic growth and FDI in Nepal by using aggregate annual time series data based on results from Ordinary Least Squares (OLS) linear regression and the Granger causality test. They find that there is a positive relationship between FDI and economic growth in terms of GDP Growth Rate (GDPGR) for the period from 1980 to 2006. In the same way, De Gregorio’s (2003) study reveals that increasing aggregate investment by 1 percentage point of GDP increases economic growth of Latin American countries by 0.1% to 0.2% a year. However, increasing FDI by the same amount increased annual growth by approximately 0.6% during the period 1950-1985. Results show that FDI is up to three times more efficient than domestic investment in increasing GDP.

Additionally, Balasubramanyam, Mohammed and David (1996) examine the role of FDI in the growth process of developing countries characterized by differing trade policy frameworks. Using cross-section data relating to a sample of 46 developing countries from 1970 to 1985, they report that enhanced economic growth is stronger in countries with a highly-educated workforce that actively pursues a policy of export promotion rather than import substitution. Similarly, Zhang’s (2003) study of 11 Latin American and Asian countries between 1970 and 1997 finds that FDI was more likely to promote growth in Asia than in Latin America. Moreover, he argues that FDI tends to promote economic growth when the host country adopts
liberalized trade policies and educational reform while maintaining macroeconomic stability (Zhang, 2003).

Carkovic and Levine (2002), however, critique studies that report macroeconomic positive effects of FDI on economic growth. They argue that findings must be viewed with skepticism given that most of the “studies do not fully control for simultaneity bias, country-specific effects and the routine use of lagged dependent variables in growth regressions” (Carkovic and Levine, 2002, p. 2). Therefore, they reassess the relationship between economic growth and FDI for the period 1960-1995 by using the Generalized Method of Moments (GMM) panel estimator, which, they argue, exploits the time-series variation in the data, accounting for country-specific effects while allowing for the use of lagged dependent variables as regressors as well as for controls for endogeneity. These model results reveal that FDI does not exert an independent and robust exogenous influence on economic growth. Thus, their findings are inconsistent with more mainstream views that FDI exerts a positive impact on growth; independent of other growth determinants.

Carkovic and Levine (2002) further note that firm-level studies often find that FDI does not boost economic growth. For instance, Haddad and Harrison (1993) find no positive effect of FDI on the rate of economic growth in Morocco during the second half of the 1980s. Employing a unique firm-level dataset to test for spillovers to the manufacturing sector, they find no evidence that a foreign presence accelerated productivity growth in Moroccan domestic firms. In the same way, using panel data on Venezuelan plants, Aitken and Harrison (1999) find that foreign investment negatively affects the productivity of domestically owned plants for the period from 1979 to 1989. Influences of FDI on local economies may well vary over both time and place.
**Effects of FDI on development**

There are several impact areas by which FDI affects economic growth and development:

1) employment and income; 2) capital formation, market access; 3) structure of markets; 4) technology and skills; 5) fiscal revenues; and 6) political, cultural and social issues. For instance, FDI can affect economic growth by increasing the amounts of production (by increasing employment, directly or indirectly). A combination of indicators representing those channels is argued to provide an enabling or disabling environment, thereby alleviating or worsening poverty respectively (UNCTAD, 1999).

Sumner (2005) argues that for FDI to be “good” for economic growth, there must be a positive net transfer by one or more of three macro-economic accounts (i.e., capital account, current account and government revenues) and one micro-economic account (i.e., local spillovers to indigenous firms). Additionally, he argues that for FDI to be considered influential with respect to poverty reduction, three other conditions can be identified such as net positive impacts on employment (directly or indirectly), income and wages, and income inequality. In addition, Sumner (2005) says that the scale of benefits depends on the kind of FDI and its mode of entry (e.g., greenfield investment), its function (e.g., raw-material seeking, market-seeking) and the source of financing. Regarding the functions of FDI, Sumner claims that raw-material seeking FDI may create benefits of exports but provide little employment and few local spillovers. In contrast, market-seeking FDI may bring benefits with respect to percentage of local content while increasing employment opportunities.

It is often assumed that what is good for growth is naturally also good for the poor. However, scholar’s views on the relationship between growth and poverty are far more contentious than this assumption would suggest (White & Anderson, 2001). As noted above,
there is a substantial body of empirical evidence on the impact of FDI on economic growth. However, relatively little has been written about the impact of FDI vis-à-vis growth in per capita incomes, poverty reduction and inequality (Sumner, 2005). From the available empirical literature on the FDI-development relationship and/or the reduction of income inequality, some scholars argue that growth is the principal driver of poverty reduction, which will lead to poverty decline (Dollar & Kraay, 2001; Hemmer et al., 2002). For instance, Dollar and Kraay (2001) demonstrate the existence of a positive relationship between FDI and income per capita for 73 countries for the period from 1975 to 1997. Results show that a 1% increase in FDI inflows as a share of GDP leads to a 10-13% increase in income per capita over a decade. Similarly, Hemmer et al. (2002) analyze the impact of FDI on poverty reduction in Vietnam through direct and indirect impacts based on panel data covering 61 provinces of Vietnam over the ten years from 1990 to 2000. Results show economic growth exerts significant and positive impacts on the magnitude of poverty reduction. Thus, it can be argued FDI has indirectly helped reduce poverty in Vietnam at least for this time period. In like manner, Jalilian and Weiss (2002) investigate the FDI-growth-poverty relation based on a sample of 5 countries from the ASEAN region for the period from 1981 to 1997. Using data from the World Bank, the IMF, and other sources, they find that FDI inflows are associated with higher economic growth. However, it is in countries with higher educational levels where FDI impact on economic growth is strongest. In terms of the relationship between growth and poverty, findings suggest that there is a close link between the mean income growth and growth of the income of the poor. Karim and Ahmad (2002) also examine the significance of FDI in poverty reduction across all the states and federal territories of Malaysia using panel data obtained from national reports assessing Malaysia’s Five-Year and Outline Perspective Plans. Their analysis covers eight sub-periods for the period from
1984 to 2005 and uses a cross-sectional, time series log-linear model. Findings indicate the strong long-term significance of FDI for reducing poverty in the Malaysian states.

Increasing levels of FDI is also viewed as promoting economic growth in Colombia. According to Fedesarrollo (2007), FDI favors capital formation, generates potential technology transfers and has an impact on tax revenues. A comparative study of GDP growth in Colombia was conducted in 2007 taking into account two scenarios, one with FDI and one without FDI. The study found that the growth of the Colombian economy for that year would be 1.7% lower in the absence of FDI. Furthermore, the study found that FDI contributed, on average, an additional point to the rate of annual economic growth for the period 2002-2007 (Proexport, 2008).

In contrast to Dollar and Kraay (2001), Hemmer et al. (2002), Jalilian and Weiss (2002), and Karim and Ahmad (2002), Agénor (2002) finds no robust link between FDI and poverty alleviation when looking at a sample of 11 low and middle-income countries from the late 1980s to the 1990s. Agénor based his results on linear cross-country regressions linking several measures of real and financial integration of poverty. Similarly, evidence from household surveys suggests no redistributive effect from FDI. Using pooled OLS regression with fixed effects and a GMM estimator, Milanovic (2005) used household budget survey data for more than 80 countries for three years (i.e., 1988, 1993 and 1998). His findings show no significant effect of FDI on income distribution for any level of income.

On the other hand, some scholars even find negative effects of increased FDI on poverty rates and the growth of income. Using panel data for 12 middle-income countries in East Asia and Latin America, Huang et. al. (2010) find that although economic growth remains the main driver for poverty alleviation, outward and inward FDI adversely affect mean income for the poorest quintile of the population. In analyzing the relationship between poverty and various
aspects of “openness”, the authors use unbalanced panel data sets with both time series and cross-section dimensions following the basic empirical model of Dollar and Kraay (2002, 2004) using two techniques including a fixed-effect (FE) method and a 2-stage-least-squares fixed effect (FE/2SLS) method. These results clearly challenge the optimistic views about the merits of inward FDI in helping reduce poverty in host countries. Similarly, using 1993-2002 data for 119 countries from the World Development Indicators Report of 2004, Choi (2006) find that income inequality increases as FDI stocks (as a percentage of total GDP) increase.

Although there are arguably strong conceptual reasons for believing FDI is good for economic growth, Sumner claims that the evidence from more than three decades of evaluation is rather inconclusive overall (Sumner, 2005). There are different explanations for the mixed empirical results found in the literature. For instance, the findings actually reflect a number of different conceptual and methodological factors such as heterogeneity in both FDI policy environments and FDI characteristics (e.g., mode of entry, function), as well as other unique host country factors. Furthermore, data comparability, consistency and controversies related to the methodology of cross-country econometric studies are a further difficulty (Sumner, 2005). As argued by Görg and Greenaway (2003), it is more appropriate to use panel-data than cross-sectional data when examining spillovers.

Another possible explanation for the conflicting results in the literature is that the effect of FDI may differ between sectors and across scales. Given data limitations, researchers do not control for the sector in which FDI is observed, and thus it is likely that the general results of the impact of FDI on an economy become ambiguous (Kalin, 2009). One of a few empirical studies on the impact of FDI across sectors shows that the benefits of FDI vary greatly across sectors. By

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2 Openness is defined as the degree to which nondomestic transactions take place and affect the size and growth of a national economy.
examining the effect of investment on growth in the primary, manufacturing, and services sectors for the period 1981-1999, Alfaro (2003) finds that total FDI exerts an ambiguous effect on growth. More specifically, while FDI in the primary sector tend to have a negative effect on growth, investment in manufacturing has a positive impact. Meanwhile, she finds that FDI in the service sector has an ambiguous effect. Alfaro (2003) concludes that not all forms of FDI seem to be beneficial to host countries and suggests that FDI policies should target sectors that tend to generate positive effects on the host economy.

In short, empirical studies on the relationship between economic growth and FDI most generally support the notion that FDI is good for economic growth. However, it may be dependent on different factors, many of which are missing in developing nations (e.g., human capital, trade policies, and level of economic development).

Meanwhile, evidence from the limited research linking on FDI and per capita income, poverty levels, and social inequality is even more mixed. Results show either significant impact of FDI on poverty or income (Dollar & Kraay, 2001; Hemmer et. al., 2002; Jalilian & Weiss, 2002; Karim & Ahmad, 2002), no causal link between FDI and per capita income (Agénor, 2002; Milanovic, 2005) or adverse effects of FDI on mean income for the poor (Huang et al., 2010; Choi, 2006).

**About the Multidimensional Poverty Approach**

Poverty is generally defined in a unidimensional way using measures of per capita income or consumption levels. However, poor people go beyond income in defining their experience of poverty including dimensions that often include a lack of education, low employment or underemployment, poor health, and many more actual conditions. No one indicator is uniquely able to capture the multiple aspects that constitute poverty (OPHI, 2013).
To capture the complexity of poverty, a multidimensional measure can be adopted that incorporates a range of indicators that constitute poor people’s experience of deprivation (e.g., poor health, lack of education, lack of income) (OPHI, 2013).

Even though considering poverty as multidimensional has been traditionally ignored by studies based solely on metric measures of poverty, recently, the literature on multidimensional poverty measurement has bloomed. The 1997 *Human Development Report* as well as the 2000/1 *World Development Report* introduced poverty as a multidimensional phenomenon while the Millennium Declaration and Millennium Development Goals (MDGs) also highlighted numerous dimensions of poverty since 2000 (OPHI, 2013).

New multidimensional poverty measurement methodologies are being created and the number of countries conducting household surveys that provide the required inputs for the construction of multidimensional measures have increased to around 130 developing countries (OPHI, 2013). While most applications of counting measures tend to report a headcount ratio, the Alkire Foster (AF) method uses a counting approach to identifying ‘who is poor’ by considering the range of deprivations they suffer. The resulting measure aggregates information to reflect systemic poverty that can be broken down by dimension and indicator to show “how” people are poor not just “if” people are relatively poor (OPHI, 2013).

The flexibility of the AF method means that different dimensions and indicators can be selected to create measures specific to particular contexts such as the global Multidimensional Poverty Index (MPI), an international measure of acute poverty covering over 100 developing countries; MPI-Colombia; and the Women’s Empowerment in Agriculture Index (OPHI, 2013).

Colombia is a pioneering nation in the use of multidimensional poverty measurements for aiding poverty reduction. In 2011, the Government of Colombia announced a National
Development Plan and adopted a poverty-reduction strategy as the centerpiece. Devised by Colombia’s Ministry of Planning, it is the first National Development Plan to use the AF method for measuring multidimensional poverty through the Colombian Multidimensional Poverty Index (MPI-Colombia) (OPHI, 2013).

The MPI-Colombia index uses the household as the unit of analysis. Household members are considered to be deprived or not according to the achievements of all household members simultaneously (e.g. a person is considered to be deprived if any of the household members are deprived in any indicator) (OPHI, 2013). Three criteria based on the Colombian context were used to select this unit of analysis. The first criterion draws on the Colombian Constitution, which claims that the guarantee of living conditions and rights is the joint responsibility of the family, society and the state. The second criterion draws on “academic evidence relating to Colombia which shows that households historically respond to adverse situations collectively” (OPHI, 2013, p. 4). The final criterion relates to the social policy context of the country, which draws on existing policies, programs and instruments in the nation, all of which use the household as the unit of analysis.

Building on the flexibility intrinsic in the AF method, the MPI-Colombia assesses broader aspects of poverty in five dimensions and across fifteen indicators. These five dimensions are: (1) education, (2) childhood and youth, (3) labor, (4) health, and (5) access to household utilities and living conditions. The indicators include: 1) educational achievement, 2) literacy, 3) school attendance, 4) no school lag, 5) access to child care services, 6) absence of child employment, 7) absence of long-term unemployment, 8) formal employment, 9) health insurance, 10) access to health services, 11) access to improved drinking water, 12) adequate elimination of sewer waste, 13) adequate flooring, 14) adequate walls, and 15) No overcrowding.
The MPI-Colombia uses a weighting structure where each of the five dimensions has the same weight (20%), and each indicator has the same weight within each dimension. This set of weights was selected to reflect the equal importance of each dimension as an essential element of quality of life (OPHI, 2013). The poverty cutoff of the MPI-Colombia (i.e., the share of dimensions in which a person must be deprived in order to be considered multidimensionally poor) was set at one-third of the weighted dimensions (33.3%).

**Summary of the Literature**

Since World War II, there have been two main trends that have accelerated in the last two decades. First, there has been a steady increase in the level of FDI globally with an even greater share going to developing countries. Second, there is an increase in FDI liberalization and FDI-friendly policy by most nations (Sumner, 2005). While FDI flows were low in the middle part of the 20th century, they were growing and high towards the end. Global FDI flows increased from approximately US $13 billion in 1970 to US $1,750 billion in 2016 (UNCTAD, 2017). In particular, FDI flows to developing economies have gained significant importance from 1990 to date. In 2012, FDI flows to developing countries accounted for a record 52% of global FDI flows, exceeding developed economies for the first time ever, by US $142 billion (41.5%). Even though FDI flows to developing countries were especially hit in 2016 with a decline of 14% to US $646 billion, FDI remains the largest and most constant external source of finance for developing economies (UNCTAD, 2017b).

Different factors have affected flows of FDI to developed and developing nations. In particular, host country determinants have played a key role in attracting or discouraging FDI. Existing literature cites numerous host country determinants including FDI policies, political stability, infrastructure quality, human resources, market size, a nation’s openness to trade, and
other market-related determinants. Firm specific factors are also found in the literature such as ownership, location, and internalization as well as market-seeking, natural resource-seeking, efficiency-seeking, and strategic asset-seeking.

Much of the published research on the relationship between FDI and economic growth generally provide evidence that FDI is good for economic growth. However, it may be dependent on different factors for the benefits of FDI, many of which are missing in developing nations (e.g., human capital, infrastructure).

Meanwhile, the evidence on the impact of FDI on poverty is both theoretically and empirically mixed. Results show either a significant impact of FDI on poverty or income, no causal link between FDI and per capita income, or adverse effects of FDI on mean income for the poor. Given these opposed and conflicting empirical results, it is difficult to draw general conclusions.

One clear conclusion is that the effects of FDI on economic growth and development are not necessarily homogenously positive or negative, consistent with the view that the impact of FDI depends on firm characteristics, host country conditions, and policies.

Moreover, these conflicting results do indicate that the relationship between FDI and poverty reduction is far from straightforward. Effects may not only vary across countries and time periods, but also may depend on the type of data and methods used.

It is important to note that much of the empirical work on the effects of FDI have concentrated on cross-country or national-level analysis. As a result, little is known about the spatial impact of FDI on absolute and relative regional poverty reduction. More importantly, the impact of FDI on multidimensional poverty measures and conditions is a major gap in current academic literature.
In short, the economic and development literature generally provide ambiguous evidence on the effects of FDI upon poverty. Therefore, more convincing empirical results on the link between FDI and poverty dynamics are needed for the particular case of Colombia, a country with one of the highest poverty rates in South America and one with one of the greatest income inequality gaps in the world.
III. A HISTORY OF FDI AND SOCIO-ECONOMIC CONDITIONS IN COLOMBIA

This chapter presents a brief overview of Colombia, including its economic performance, the current investment environment as it relates to FDI, a history of FDI in the country from 1960 to the present. The chapter concludes with a summary of the development challenges facing the nation at the present time.

Overview of Colombia

Colombia, officially the Republic of Colombia, is located in the northwest of South America, bordered to the northwest by Panama; to the north by the Caribbean Sea; to the east by Venezuela and Brazil; to the southwest by Peru and Ecuador; and to the west by the Pacific Ocean. Colombia is the only South American country with coastlines bordering both the North Pacific Ocean and the Caribbean Sea. With a land area of 1,141,748 km$^2$, Colombia is approximately three times the size of California and twice the size of Texas. Colombia is divided into thirty-two departments and one capital district, Bogota (Figure 3.1). Departments are subdivided into 1,123 municipalities, each of which is headed by a mayor and council. In addition to the capital district, nine other cities have been designated districts including: Cartagena, Santa Marta, Cúcuta, Barranquilla, Popayán, Bucaramanga, Tunja, Turbo, Buenaventura and Tumaco. Bogota, the capital district, is divided into 20 localities (districts) and encompasses more than 1,200 neighborhoods within the urban area of the city.
Colombia is recognized worldwide for its production of coffee, flowers and emeralds as well as having significant deposits of coal and petroleum. The nation’s consistently sound economic policies and aggressive promotion of free trade agreements in recent years have bolstered its ability to face external shocks. Real GDP of Colombia grew more than 4% per year from 2010 to 2014, and it grew 3.1% and 2% in 2015 and 2016, respectively (World Bank, 2017), continuing almost a decade of relative strong economic performance. Even so, the Human Development Index (HDI), which is a measure of average achievement in dimensions of human development (i.e., a long and healthy life, being knowledgeable and have a decent standard of
living) for Colombia decreased from 0.719 in 2012 to 0.711 in 2013 (UNDP, 2014). This ranks the nation 98th of 187 countries with comparable data (UNDP, 2014). The HDI of the Latin American and the Caribbean region slightly increased from 0.739 in 2012 to 0.740 in 2013, placing Colombia below the regional annual average (UNDP, 2014).

**Colombian Economic Performance**

According to Proexport (2014b), Colombia is ranked as having the third best business environment in Latin America and is one of the largest non-OECD economies. The nation is one of the fastest growing economies because of advances in national security and peace with neighbors, and with free trade agreements with around 50 countries including the United States, Canada, Brazil, and Switzerland, among others. Moreover, as noted earlier, Colombia has recorded rapid FDI growth since 2005.

Colombia has exhibited macroeconomic stability and strong economic performance in the long run (Figure 3.2). In particular, 2013 was a year of great economic achievements for Colombia: Real GDP growth was 4.9%, a rate higher than expected and above the average for Latin America (3.2%) (Proexport, 2014). The inflation rate for Colombia was 2% in 2013, the lowest in 15 years and the lowest in Latin America (Proexport, 2014).
According to Banco de la República’s figures, the GDP per capita (PPP) at current prices in Colombia was recorded at US $7,284 in 2011. Nevertheless, the GDP per capita varies across departments. Figure 3.3 illustrates that GDP per capita is higher for the departments of Casanare, Meta, Arauca, Santander and Bogota Capital District. In contrast, the lowest GDP per capita were recorded in Vaupes, Putumayo, Guaviare, and Guainía.
Figure 3.3. GDP per capita in US dollars at current prices by Colombian departments

Source: Map by Geocurrents Maps of GDP per capita using data from Banco de la República of Colombia.

Investment Environment

Historically there have been several obstacles facing investors in Colombia including complex rules for establishing a new business and also a complicated legal framework (Kalin, 2009). By the late 1980s and early 1990s, the Colombian government started to show a strong willingness to improve the historically modest business climate (Kalin, 2009). The Colombian government’s growing commitment to regulatory reform has led to substantial improvements in
the quality of the business environment and a more solid foundation for private sector development. In recognition of Colombia’s progress in pursuing policy reforms to promote investment liberalization and improvement to the business climate, Colombia became the 43rd country to adhere to the OECD Declaration on International Investment and Multinational Enterprises in 2011. As an adherent to the Declaration, the country commits to treating foreign investors in the same way as domestic investors and to promoting responsible business conduct, in line with the official UN document of the Guidelines for Multinational Enterprises. As a consequence of these efforts, Colombia benefits from similar assurances from other adherents to treat Colombian investors fairly (Proexport, 2013).

By 2014, Colombia was considered an attractive nation for foreign investors given factors such as a sound economy, a privileged geographical location and high supply chain connectivity (Proexport, 2014). According to the World Bank’s Doing Business ranking, Colombia has climbed 23 spots between 2008 and 2014 in terms of the ease of doing business and is now third in Latin America (Proexport, 2014). Furthermore, international agencies like Standard & Poor’s and Fitch ratings are assessing the nation favorably due to these many macroeconomic improvements.

Although numerous obstacles still remain (e.g., narcotrafficking, others), in recent years the government has been successful in improving the security situation, which in turn has encouraged foreign investors who earlier found the risks and security costs excessively high thus limiting FDI in Colombia.
FDI Policy in Colombia

The FDI regime in Colombia has gone through various historical phases, from being associated with restrictions and protectionism in the 1970s to being more “open” (seeking FDI), and finally shifting to “FDI-friendly” policies from the beginning of the 1990s. Nowadays, the FDI framework is embarking on another phase with tendencies reflecting a shift towards policies dedicated to attracting only high-quality FDI (Kalin, 2009). This section of the chapter provides a historic overview of the three different phases of the Colombian investment framework from 1960 to 2014.

Period I: Restrictive regulatory framework (1960-1992)

During what might be called the first phase of the FDI regime from 1960 to early 1990s, Colombia like many other Latin American countries, followed an import substitution industrialization strategy (ISI) (Kalin, 2009). In accordance with this strategy, economic development was to be derived from the local production of industrialized products and foreign investment was only allowed in a limited number of non-strategic sectors (Fedesarrollo, 2007). Particularly in the 1980s and early 1990s, much of the focus was government on macroeconomic management of the domestic economy. As progress was made in laying a foundation of macroeconomic stability, the focus shifted to other areas (World Bank, 2013).

The regulatory framework of this period included the enactment of Decree Law 444 of 1967 and Decree 1265 of 1988 which restricted capital inflows. For example, Decree Law 1900 of 1973 prohibited foreign investment in particular strategic economic sectors, limiting foreign participation in domestic enterprises, and limiting foreign access to domestic credit. Over time, especially since the late eighties, this restrictive regulatory framework for FDI began to change in the face of adverse economic conditions facing Colombia that emerged since the late seventies.
possibly due to these policies. Statistically, economic activity contracted 1.4% in 1982 and 0.8% in 1983 while access to foreign credit fell sharply and the domestic fiscal situation deteriorated. As a result, policies related to FDI regulation were redesigned, giving way to a new stage that began in 1987 with the adoption of Decision 220 of the Cartagena Agreement (Garavito, Iregui & Ramirez, 2012).

Period II: Structural reforms and a different approach to FDI (1993-2004)

At the end of the 1980s and the early 1990s, Colombia’s economic leaders introduced a trade and economic liberalization process, known as “Opening”. This can be viewed as the second phase of FDI regime in Colombia. The new development model was based on the implementation of state-led structural reform programs and was characterized by liberalization of investment regimes and foreign exchange markets (De Lombaerde & Pedraza Guevara, 2004). The reforms also included a policy of privatization and labor market flexibility, among other reforms.

The Constitution of 1991 further reformed and refined FDI-related policies. Most importantly, foreign capital flows were permitted in sectors that historically were reserved for national investors (Kalin, 2009). Officially, the investment framework of Colombia is mainly determined by law 9 of 1991, which was promulgated simultaneously with the new Constitution. The law is primarily interpreted and administered through decree 2080 of 2000, which has been subject to various modifications throughout the years.

The main principles governing the new FDI regime include the following:

- Equality: Foreign investment is not given preferential or discriminatory treatment over domestic investment.
• Universality: With the exception of defense, national security activities and toxic waste, all sectors are open to foreign investment.

• Automatic approval for investment: Although foreign investors may invest without prior authorization in all permitted sectors, some sectors that are considered strategic need approval prior to investment including those in financial services, hydrocarbon production and mining.

Apart from those principles, the investment framework in Colombia includes legal stability contracts (LSCs), the establishment of free trade zones (FTZs), and fiscal incentives in service export activities and some other strategic sectors (Kalin, 2009).

The liberalization of the FDI regime was combined with an extensive privatization process throughout the main sectors of the economy (Fedesarrollo, 2007). Nevertheless, this phase was characterized by somewhat passive politics largely based on comparative advantages and importantly lacking incentives for attracting FDI to strategic sectors (Kalin, 2009).

It is also worth noting during this period that there was an increase in the signing of international investment agreements, and the creation of Proexport (Mejia, 1998), a government agency in charge of promoting Colombian non-traditional exports, international tourism and foreign investment to Colombia. This sort of changes sparked new investment opportunities, especially access to the domestic market and gave way to a third phase of FDI regime which roughly began in 2005.
Period III: Consolidation of FDI policies (2005-present)

Colombia’s FDI legislation has gone through a series of reforms to facilitate and encourage foreign capital investments and to simplify the administrative procedures related to them. The third phase of FDI can be characterized by promotion of more active policies for attracting FDI to Colombia. Given that some concerns arose about the quality of FDI, since 2005 Proexport aims at attracting high quality FDI to non-traditional investment sectors and to specific sectors with high value-added production (Kalin, 2009). In addition, income tax exceptions are granted in some sectors of special interest (e.g., tourism, forestry).

Additionally, the government further institutionalized its commitment to regulatory reform by establishing the Private Council for Competitiveness in 2007. More recently, several governmental programs for enhancing productivity and competition, which are not directly part of the FDI legislation, show additional support from the government to connect FDI policy with other national development goals. These programs include the Colombia Compite and Transformación Productiva programs (Colombia Competes and Productive Transformation in English). While Colombia Compite aims at promoting interaction among enterprises, local and national governments, trade unions and civil society in order to build a competitiveness culture, Transformación Productiva importantly aims to strengthen the capacity of local firms to produce high quality products which can compete effectively in global markets (Kalin, 2009).

Recent administrations have continued to use national development plans to establish a more focused economic agenda. In 2009, President Alvaro Uribe highlighted Colombia’s progress and his government’s plans for new regulatory reforms aimed at further gains in competitiveness. And since the change of legislature in 2010, the current government led by
President Juan Manuel Santos has been pushing forward an economic reform agenda through the National Development Plan for 2010–2014 and the National Development Plan for 2014–2018. The 2010–2014 Plan’s overall goals were to “reduce poverty, increase income, generate employment, improve security, ensure the sustainable use of natural resources and improve the quality of the business environment” (World Bank, 2013, p. 26). Meanwhile, the Plan of 2014-2018 is aligned with the Sustainable Development Goals (SGDs) with emphasis on: (1) peace building and good governance, (2) reducing inequalities, and (3) education. Following the end of a 52-year conflict in 2016, Colombia is making efforts to consolidate definitive peace and carry out its own national development plan.

In short, a wide range of policies have played an important role in attracting FDI to Colombia over time. The FDI regime in Colombia has gone through a modernization process in which entry and protection rules have been improved since the early 1990s. Recent reforms have eased business establishment and improved guarantees to foreign investors. Furthermore, initiatives such as the establishment of the free trade zones along with legal reforms have also improved the attractiveness of Colombia as a FDI host country (Kalin, 2009).

**Patterns of FDI in Colombia**

In part due to these recent policy shifts, Colombia is currently one of the main recipients of FDI in South America. FDI flows into Colombia\(^3\) have grown significantly since the 1990s mainly as a result of the liberalization process of the economy. After facing a drop in FDI flows in the late 1990s, Colombia experienced renewed growth. Since 2005, the FDI flows are growing at the fastest historical rates (Kalin, 2009). This section briefly examines the patterns, development and distribution of FDI flows into Colombia from 1980 to the present.

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\(^3\) I believe that FDI flows into Colombia are at current prices, but the data is not clear on this.
Limited capital inflows (1980-1992)

Despite Colombia’s size and economic potential, during this early period, FDI flows were relatively low due mainly to the restrictive legislation discussed earlier. Between 1980 and 1992, the share of FDI as a percentage of GDP averaged 0.9%/year. FDI flows were also concentrated in the exploitation of natural resources and to a lesser extent in some industrial activities. Nevertheless, since the late 1980s, the restrictive regulatory framework for FDI began to change and gave way to a new stage for capital flows (Garavito, Iregui & Ramirez, 2012).

Increasing levels of FDI and diversification (1993-2004)

In the second period, between 1993 and 2004, as a result of the liberalization process of the Colombian economy, FDI flows consistently increased. The share of FDI as percentage of GDP averaged 2.3%/year during this period, which is 1.4% higher than the period 1980-1992 (Garavito, Iregui & Ramirez, 2012). FDI flows reached a peak at US $5.56 billion in 1997 (Figure 3.3), which is equivalent to 5% of GDP. However, these flows were unstable and declined to 1.6% of GDP in 1999 and to 3% of GDP in 2000. The drop in FDI flows after 1997 can be explained by various factors including the end of the privatization era in the late 1990s, the international financial crisis of the 1990s, the intensification of violence in Colombia due to the internal conflicts, and the economic recession that Colombia experienced between 1999 and 2001 (Fedesarrollo, 2007). During the economic recovery from 2000 to 2003, FDI flows grew steadily, peaking at US $2.5 billion in 2001 (Figure 3.4). By the end of this period (1993-2004), FDI flows reached US $3.1 billion in 2004 (Betancourt, 2012).
Figure 3.4. FDI flows in Colombia 1994-2016 (US dollars in millions)

Source: Created by author using data from Banco de la Republica, Balance of Payments, 2017.

It is important to note that the government made important efforts to diversify the sectorial distribution of foreign capital investment as it remains concentrated in the extractive industries (Betancourt, 2012). Figure 3.5 shows the fluctuation of FDI flows between 1994 and 2016.
Figure 3.5. FDI flows into Colombia by sector 1994-2016 (US dollars in millions)

Source: Created by author using data from Banco de la Republica, Balance of Payments, 2017.

As shown in Figure 3.6, between 1994 and 2004 FDI largely targeted the following sectors: financial and business services, manufacturing, mining and quarrying, and electricity, gas and water. According to Banco de la República’s figures, the cumulative participation of the financial and business services sector was 21.3% of total investment between 1994 and 2004 and the manufacturing sector added up to 19.3%. Meanwhile, the cumulative participation of the
mining and quarrying sector amounted to 15.2% and the electricity, water and gas sector added up to 15% between 1994 and 2004.

Figure 3.6. FDI flows by sector (% of cumulative participation)

Source: Created by author using data from Banco de la Republica, Balance of Payments, 2017.

During the period between 1993 and 2004, the source of FDI was very concentrated. Most FDI came from the United States, Spain and a limited number of tax-sheltered financial centers including Panama, Cayman Islands, Virgin Islands and Bermuda (Garavito, Iregui & Ramirez, 2012). According to 2017 Banco de la Republica’s figures, between 1994 and 2004
20% of cumulative flows was coming from the United States, 14% from Spain, 13% from Panama, 10% from Cayman Islands, 8% from Virgin Islands, and 6% from Bermuda.

**Increased levels of FDI and consolidation (2005-2016)**

The third period, post 2005, was characterized by higher levels of FDI, the consolidation of investments in some specific sectors (e.g., oil, mining and quarrying), the dynamism of capital flows to mining and oil, and the “exhaustion” of policy reforms as a means of attracting FDI (Garavito, Iregui & Ramirez, 2012). In 2005, the Colombian economy received US $10.2 billion of FDI (or 8.3% of the country’s GDP) and US $6.8 billion in 2006 (Betancourt, 2012). Foreign investment increased from 4.1% of GDP in 2006 to 4.5% in 2008, but then declined to 2.3% of GDP in 2010. In 2011 there was a recovery, reaching above 4% of GDP (Garavito, Iregui & Ramirez, 2012). In 2012, FDI reached a 4.3% of GDP (Proexport, 2013). In 2013, the best year for Colombia during this period, investment reached a peak at US $16.2 billion (Proexport, 2013) representing an increase of 7.7% when compared to 2012. By the end of this period (2005-2016), FDI flows reached US $13.7 billion in 2016 (Banco de la Republica, 2017) (Figure 3.3).

Generally, between 2005 and 2016, FDI averaged 4.3% of GDP in Colombia (The World Bank, 2017b) but still was largely focused on oil and mining activity.

It is important to highlight that several firms with foreign capital in Colombia were consolidated between 2005 and 2016. In sectorial terms, FDI in Colombia during this period was mainly driven by firms associated with the exploitation of natural resources (e.g., oil, coal) followed by manufacturing. According to Banco de la Republica’s figures, the cumulative participation of the oil sector was 29.2%, the manufacturing sector was 17.7%, and the participation of the mining and quarrying sector, other than oil, represented 15.6% (Figure 3.6).
This composition was the result of a more favorable regulation for foreign capital flows, based on the new development model.

As also shown in Figure 3.6, FDI flows in the oil sector increased from 8.7% during the period 1994-2004 to 29.2% during the period 2005-2016. Meanwhile, the manufacturing sector decreased slightly by 1.6%, changing from 19.3% during the period 1994-2004 to 17.7% during the period 2005-2016. The financial and business services sector decreased a total of 9.9%, going from 21.3% during the period 1994-2004 to 11.4% during the period 2005-2016. These changes in levels of FDI and the relative consolidation has been driven by diverse factors including changes to national economic stability and regulation reforms (e.g., free trade zones) (Garavito, Iregui & Ramirez, 2012).

Between 2005 and 2016, most of FDI cumulative flows came from the United States (20.4%), Panama (13.2%), England (12.6%), Spain (8.4%), Switzerland (6.5%), Bermuda (6.1%), and Chile (4%) (Banco de la República, 2017) (Figure 3.7).
Figure 3.7. Main investor countries in Colombia from 2005 to 2016

Source: Created by author using data from Banco de la Republica, Balance of Payments, 2017.

As FDI flows increased over the past few years, the number of foreign firms also increased significantly from 1,230 in 2000 to 2,167 firms in 2011 (Figure 3.8).
Figure 3.8. Total foreign firms in Colombia 2000 - 2011

Source: Created by author using data from Superintendencia de Sociedades Colombia.

According to Garavito, Iregui and Ramirez (2012b), for the period from 2000 to 2010, on average companies receiving FDI are mainly located in Bogota (73%), followed by other large cities including Medellin (9%), Cali (7%) and Barranquilla (4%) (Figure 3.9).
Figure 3.9. Main location of companies receiving FDI in Colombia 2000-2010
Map by Mayra Alejandra Yat Aguilar.

Even though Colombia recorded rapid FDI growth since 2005 and has evidenced macroeconomic stability and strong economic performance over the past few years, issues related to poverty and inequality continue to be major issues in the nation. These are further discussed in the next section.
Development and Social Equity Challenges

Endemic inequality and poverty remain significant challenges in the country. As of 2016, as noted earlier, Colombia is considered the eighth most “unequal” nation in terms of income distribution with a Gini coefficient of 53.5 (UNCTAD, 2017b). According to the Human Development Report 2016, for the period from 2010 to 2015, the Gini coefficient for Colombia is just behind countries such as Lesotho (54.2), Zambia (55.6), Central African Republic (56.2), Botswana (60.5), Haiti (60.8), Namibia (61.0), and South Africa (63.4).

Moreover, the incidence of poverty in Colombia is one of the highest in South America (DANE, 2014). According to the National Administrative Department of Statistics (DANE), approximately 27.8% of Colombian citizens live under the official poverty threshold (DANE, 2016). Although the poverty incidence was lower in Colombia’s capital cities (24.1%), it is higher for the rest of the country (40.3%), as shown on Figure 3.10.

![Incidence of Poverty in Colombia 2008 - 2015](image)

*Figure 3.10. Poverty incidence in Colombia 2008 - 2015*

*Source:* Created by author using data from DANE, 2017.

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In 2011, a new strategy for poverty reduction was developed when the government of Colombia adopted the Alkire Foster method for measuring multidimensional poverty through the Colombian Multidimensional Poverty Index (MPI-Colombia). This index assesses broader social and health-related aspects of poverty in five dimensions: (1) educational conditions, (2) childhood and youth conditions, (3) labor conditions, (4) health conditions and (5) household and public services. These five dimensions involve 15 indicators, and households that have deprivation in at least 33.3% of the indicators are considered as ‘multidimensionally’ poor. More about this methodology will be forthcoming in Chapter Four.

According to the 2016 DANE estimate based on the 2014-2015 National Quality of Life survey, 20.2% of the total Colombian population faced multidimensional poverty in 2015 in contrast with 24.8% in 2013. Meanwhile, in the department capital cities, the percentage of population in poverty reached 14.4% in 2015, decreasing by 4.1% in comparison to 2013 (18.5%). In Bogota, Capital District of Colombia, only 4.7% of the population faced multidimensional poverty in 2015, decreasing 4% in comparison to 2013 (8.7%) (DANE, 2016) (Table 3.1).

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Source: Created by author using data from DANE, 2016.
Figure 3.11 illustrates how the incidence of poverty (H) varies across municipalities in Colombia. In particular, the proportion of people living in Bogota who experience deprivations is one of the lowest in Colombia.

Figure 3.11. Incidence of poverty (H) in Colombia by municipality.
Map by Dirección de Ingreso Social using data from Census 2005.

Bogotá has 20 districts (localities) forming an extensive network of neighborhoods (Figure 3.12).
Figure 3.12. Administrative division of Bogota by localities

Map by Mayra Alejandra Yat Aguilar

Figure 3.13 illustrates how the population in Bogotá is distributed by socioeconomic strata, ranging from one through six. According to the DANE, socioeconomic stratification allows the population to be classified into different strata or groups of people who have similar social and economic characteristics. The population of strata one through three have a low
capacity to pay, so they receive subsidies. The population of stratas five and six have high economic resources, therefore, they pay extra costs towards the value of public services. Finally, the population of strata four neither receive subsidies nor pay extra costs. Areas of higher economic status tend to be located in the north, close to the Eastern Hills in the localities of Chapinero, Usaquén and to the east of Suba.

Figure 3.13. Socioeconomic stratification of Bogota by locality

Map by Planeacion Distrital of Colombia

In 2011, Chapinero, Teusaquillo and Usaquen per capita incomes were the highest in comparison to rest of localities in Colombia (Table 3.2). In terms of unemployment, Chapinero reports the lowest unemployment rate at 3.67 in 2007 (Table 3.2).
Table 3.2: Income Per Capita, Unemployment Rate & Prosperity Index

<table>
<thead>
<tr>
<th>No.</th>
<th>Locality</th>
<th>Income Per Capita (US$)</th>
<th>Unemployment Rate</th>
<th>Prosperity Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chapinero</td>
<td>$7,578.39</td>
<td>3.67</td>
<td>0.658</td>
</tr>
<tr>
<td>2</td>
<td>Teusaquillo</td>
<td>$4,828.03</td>
<td>5.44</td>
<td>0.664</td>
</tr>
<tr>
<td>3</td>
<td>Usaquen</td>
<td>$4,492.19</td>
<td>5.52</td>
<td>0.613</td>
</tr>
<tr>
<td>4</td>
<td>Barrios Unidos</td>
<td>$2,844.88</td>
<td>6.36</td>
<td>0.550</td>
</tr>
<tr>
<td>5</td>
<td>Fontibon</td>
<td>$2,640.45</td>
<td>5.93</td>
<td>0.562</td>
</tr>
<tr>
<td>6</td>
<td>Suba</td>
<td>$2,464.57</td>
<td>6.68</td>
<td>0.561</td>
</tr>
<tr>
<td>7</td>
<td>La Candelaria</td>
<td>$2,307.88</td>
<td>8.59</td>
<td>0.465</td>
</tr>
<tr>
<td>8</td>
<td>Santa Fe</td>
<td>$1,898.75</td>
<td>10.39</td>
<td>0.428</td>
</tr>
<tr>
<td>9</td>
<td>Engativa</td>
<td>$1,863.32</td>
<td>8.74</td>
<td>0.560</td>
</tr>
<tr>
<td>10</td>
<td>Puente Aranda</td>
<td>$1,820.87</td>
<td>7.54</td>
<td>0.541</td>
</tr>
<tr>
<td>11</td>
<td>Los Martires</td>
<td>$1,675.69</td>
<td>7.82</td>
<td>0.436</td>
</tr>
<tr>
<td>12</td>
<td>Antonio Nariño</td>
<td>$1,653.37</td>
<td>8.52</td>
<td>0.489</td>
</tr>
<tr>
<td>13</td>
<td>Kennedy</td>
<td>$1,479.15</td>
<td>7.54</td>
<td>0.501</td>
</tr>
<tr>
<td>14</td>
<td>Tunjuelito</td>
<td>$1,262.88</td>
<td>7.99</td>
<td>0.462</td>
</tr>
<tr>
<td>15</td>
<td>Rafael Uribe</td>
<td>$1,075.95</td>
<td>10.45</td>
<td>0.411</td>
</tr>
<tr>
<td>16</td>
<td>Bosa</td>
<td>$931.77</td>
<td>7.79</td>
<td>0.403</td>
</tr>
<tr>
<td>17</td>
<td>San Cristobal</td>
<td>$890.81</td>
<td>6.73</td>
<td>0.385</td>
</tr>
<tr>
<td>18</td>
<td>Usme</td>
<td>$821.72</td>
<td>9.05</td>
<td>0.349</td>
</tr>
<tr>
<td>19</td>
<td>Ciudad Bolivar</td>
<td>$821.38</td>
<td>11.94</td>
<td>0.369</td>
</tr>
<tr>
<td>20</td>
<td>Sumapaz</td>
<td>N/A</td>
<td>5.22</td>
<td>N/A</td>
</tr>
</tbody>
</table>


As might be expected, there are different levels of prosperity in the city, ranging from high, medium high, medium low, and low. According to Secretaría Distrital de Planeación’s study (2013), the prosperity index for Teusaquillo, Chapinero, Usaquén and Fontibón are the highest among the localities in Bogotá. This index is composed of 8 dimensions (dependent
variables) and 70 independent variables. These categorical dimensions are: economy, education, infrastructure, security, environment, social capital, health, and inclusion. Results show that the variables that have a greater positive impact on prosperity through income are related to education, the economy, access to health services and new technologies. Figure 3.14 shows how the prosperity in Bogota varies significantly across different localities between the north and south of the city.
Figure 3.14. Prosperity index of Bogota by district (locality)

Map by Secretaría Distrital de Planeación
Table 3.3 illustrates the prosperity index and the scores for each dimension. Teusaquillo tops the list regarding economy, education, infrastructure and the environment. Meanwhile, Chapinero is the first in terms of health and security. Usaquén has the best position in social capital (Secretaría Distrital de Planeación, 2013).

Table 3.3: Index of Prosperity of Bogotá 2011 by Dimensions

<table>
<thead>
<tr>
<th>Position</th>
<th>Locality</th>
<th>Economy</th>
<th>Inclusion</th>
<th>Education</th>
<th>Health</th>
<th>Infrastructure</th>
<th>Environment</th>
<th>Security</th>
<th>Social capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Teusaquillo</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Chapinero</td>
<td>3</td>
<td>15</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Usaquén</td>
<td>4</td>
<td>19</td>
<td>3</td>
<td>7</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Fontibón</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Engativa</td>
<td>5</td>
<td>13</td>
<td>8</td>
<td>4</td>
<td>5</td>
<td>8</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>Suba</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>10</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Barrios Unidos</td>
<td>8</td>
<td>10</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>5</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>Puente Aranda</td>
<td>7</td>
<td>18</td>
<td>9</td>
<td>10</td>
<td>6</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>Kennedy</td>
<td>9</td>
<td>3</td>
<td>13</td>
<td>6</td>
<td>10</td>
<td>11</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>10</td>
<td>Antonio Nariño</td>
<td>10</td>
<td>5</td>
<td>10</td>
<td>14</td>
<td>9</td>
<td>9</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>11</td>
<td>La Candelaria</td>
<td>11</td>
<td>4</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>12</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>12</td>
<td>Tunjuelito</td>
<td>16</td>
<td>9</td>
<td>14</td>
<td>12</td>
<td>13</td>
<td>10</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>13</td>
<td>Los Mártires</td>
<td>14</td>
<td>14</td>
<td>11</td>
<td>17</td>
<td>11</td>
<td>13</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>14</td>
<td>Santa Fe</td>
<td>12</td>
<td>2</td>
<td>12</td>
<td>11</td>
<td>14</td>
<td>18</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>15</td>
<td>Rafael Uribe U</td>
<td>15</td>
<td>11</td>
<td>15</td>
<td>13</td>
<td>15</td>
<td>16</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>16</td>
<td>Bosa</td>
<td>13</td>
<td>8</td>
<td>16</td>
<td>15</td>
<td>17</td>
<td>15</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>17</td>
<td>San Cristóbal</td>
<td>19</td>
<td>12</td>
<td>17</td>
<td>16</td>
<td>16</td>
<td>14</td>
<td>17</td>
<td>13</td>
</tr>
<tr>
<td>18</td>
<td>Ciudad Bolivar</td>
<td>17</td>
<td>16</td>
<td>18</td>
<td>19</td>
<td>19</td>
<td>17</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>19</td>
<td>Usme</td>
<td>18</td>
<td>17</td>
<td>19</td>
<td>18</td>
<td>18</td>
<td>19</td>
<td>19</td>
<td>19</td>
</tr>
</tbody>
</table>

Source: Secretaría Distrital de Planeación 2013
**Background Summary**

Many countries have considerably increased their participation in global markets due to the reduction of trade barriers and the growth of financial flows. In this context, FDI has become a funding mechanism for participation in the global economy and expanding the economic base. In Colombia, the FDI regime has transitioned, gone through various phases, from a highly restricted protectionist economic environment during the 1970s to a more open and “FDI-friendly” situation from the beginning of the 1990s. In 2005, the FDI framework began a third phase, a neo-liberal regime creating very different conditions and policies for attracting high-quality FDI (Kalin, 2009).

Consistent with a more open and “friendly” policy framework, over the past 3 decades, FDI in Colombia has increased dramatically. The share of FDI as a percentage of GDP can also be divided into three periods. In the first period from 1980 and 1992, FDI averaged 0.9% of GDP driven by the exploitation of natural resources and to a lesser extent by low-end manufacturing. In the second period, from 1993 and 2004, the FDI ratio averaged 2.3% of GDP. Manufacturing and other non-extractive sectors gained importance as destinations for investment. Finally, between 2005 and 2016, FDI averaged 4.3% of GDP in Colombia (World Bank, 2017b), but still was largely focused on oil and mining activity. As of 2016, Colombia continues to be one of the main recipients of FDI in South America. During the period from 2005 to 2016, most of FDI cumulative flows to Colombia came from the United States, Panama, England, Spain, and Switzerland.

Despite higher flows of FDI into Colombia and macroeconomic stability and strong economic performance over the last few years, development and social inequality persist. More
specifically, there are important differences across districts of the city in terms of incidence of poverty, socioeconomic strata, income per capita, unemployment rates, and prosperity levels.
IV. MULTI-METHOD, MULTIPLE SCALE RESEARCH ON FDI IN COLOMBIA

As described in Chapter I, the purpose of this study is to investigate the spatial and statistical relationships between FDI and poverty reduction in Colombia. Utilizing the theoretical constructs of the reviewed literature, as well as the Multidimensional Poverty Index (MPI) developed by the National Planning Department of the Government of Colombia that was generally based on the Alkire and Foster methodology (2007, 2011a), this field-based study collected information about employees' perceptions of the effects of FDI on several aspects of poverty.

The research uses a multi-scale approach joining household survey completed by the author to an official data set provided by the Chamber of Commerce of Bogota (CCB). This chapter describes the study area and scale of the research as well as the methods and procedures used for the project. Sections detail research design, research questions, and the sample population. Next, the conceptual framework, instrumentation, and data collection methods are presented. Finally, the chapter briefly discusses the data analysis methods employed in this research.
Survey of Employees at Foreign-Owned Firms

Study area and scale

Again, the location of the study area was Bogota, the capital district of Colombia. Meanwhile, the spatial scale of analysis for the study is a sample of households living within survey areas within the city of Bogota, Colombia. Bogota was chosen as the study area because the city has the largest number of foreign companies in the country. As of 2013, 1,492 foreign companies had either registered or renewed their commercial registration before the Chamber of Commerce of Bogota (CCB) within the 20 administrative divisions of Bogotá (Chamber of Commerce of Bogota, 2013).

Research design

Given that surveys can provide much more detailed information than general estimates made at more aggregate levels of analysis, a household survey was conducted to obtain key information for the current study. The Survey of Employees at Foreign-Owned Firms was conducted in Spanish during July and August 2013 in Bogota, Colombia with the aim of documenting the perceived impact of foreign investment by employees working in foreign firms on their wellbeing. A copy of the survey in English and Spanish may be found as Appendix A at the end of the thesis. The survey was revised by the WMU Office of Research to assure compliance with all HSIRB regulations (HSIRB documentation may be found as Appendix B).

The survey was used to collect both quantitative and qualitative data from employees working at foreign firms to allow for statistical analyses of the data. The survey’s 60 questions assess how employees perceive the impact of FDI on their wellbeing across five dimensions: education, childhood and youth conditions, employment conditions, health, and household
utilities and living conditions. These categories cover a total of 14 different indicators, which are further explained later in the chapter.

**Context of the study**

Contact was made with over one hundred foreign companies in various localities in Bogota through means of "cold-calling" (e.g., telephone, face-to-face visits), and e-mail. A structured survey questionnaire (Appendix A) was administered to a representative sample of employees at 84 foreign-owned companies in more than 10 localities in Bogota. All respondents participated on a volunteer basis. Participants were asked to complete a printed or online questionnaire, which on average took approximately between 15 and 30 minutes. Information included in this study is focused on collecting the ideas of participating employees who work at firms receiving foreign direct investments (FDI).

The representative sample population for this research study was a total of 202 employees who completed the survey and worked at firms utilizing FDI. Foreign-owned companies within the group were located mainly in Bogota and surrounding areas. The survey was conducted during the summer of 2013.

The survey gathered not only quantitative responses to questions, but also qualitative points of view and the opinions of the respondents regarding the effects of foreign investment on their wellbeing. The survey's purpose was to evaluate the perceived impact on their wellbeing of FDI by employees at foreign-owned firms. More specifically, the survey aimed to assess how employees perceive the impact of FDI on their wellbeing in the context of educational conditions, health conditions, household conditions and the quality of public utilities, childhood and youth conditions, and labor conditions.
Survey participants

Employees at foreign-owned companies were asked to complete the anonymous survey instrument. The instrumentation section addresses the validity of the survey instrument. Specific demographic information about the participants will be presented in Chapter V. Two hundred two out of 202 respondents completed the survey face to face. No one actually completed the survey available online.

Instrumentation

Again, the Survey of Employees at Foreign-Owned Firms (Appendix A) consisted of 60 questions. The first part of the survey dealt with job information and employee’s perception on the impact of FDI. This section consisted of 26 questions. The second part of the survey dealt with housing quality information which consisted of 7 questions. The third part of the survey dealt with household information. This consisted of 20 questions. The remaining 7 questions dealt with the demographic characteristics of the household. Again, a copy may be found as Appendix A. It is important to note that the survey was designed by the author after taking into consideration the MPI-Colombia methodology. The final version of the survey was tested on a small sample of the target respondents before the real survey period. A few adjustments to the survey were made accordingly.

Data collection

The data contained within this study were collected using the Survey of Employees at Foreign-Owned Firms that I developed for the project. Information regarding employee perceptions on FDI impact on poverty alleviation focusing on five dimensions was collected from a self-administered online (0%) and printed survey instrument (100%). The survey was administered during the summer of 2013.
The survey took participants approximately between 15 and 30 minutes to complete. Participants in the study included employees of 84 foreign-owned companies. Before completing the survey, participants were notified that all responses were strictly anonymous and confidential.

The survey results were collected by the researcher, who then compiled the data and entered them into SPSS 23.0 statistical software in order to analyze the information utilizing statistical methods further discussed in the last section of this chapter.

**MPI methodology**

The methodology used in this thesis is the MPI-Colombia instrument developed by the National Planning Department of the Government of Colombia, which is based on the Alkire and Foster (2007, 2011a) methodology developed by the Oxford Poverty & Human Development Initiative (OPHI). The MPI-Colombia uses an innovative adaptation of the AF method, customizing the dimensions and indicators to Colombia’s specific needs and public policy priorities. The data used in this study is the 2013 Survey of Employees in Foreign Firms. The unit of analysis chosen for the MPI is the household. This means that deprivations may be simultaneously experienced by the people who comprise a household. For example, if a reported deprivation is the presence of child labor, this deprivation will not only characterize the child who experiences it, but the entire household as well.

*Dimensions of the MPI.* The MPI used in this research assesses broader social and health-related aspects of poverty in five dimensions: (1) Educational conditions, (2) childhood and youth conditions, (3) labor, (4) health, and (5) household conditions and public utilities. These five dimensions are measured by 14 different indicators as summarized in Table 4.1.
Table 4.1: *MPI Dimensions and Variables*

<table>
<thead>
<tr>
<th>No.</th>
<th>MPI Dimension (weight in brackets)</th>
<th>MPI Variable (weight in brackets)</th>
<th>MPI Indicator</th>
<th>Indicator National Development Plan</th>
<th>Cut-off</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Educational conditions (0.2)</td>
<td>1.1 Educational achievement (0.1)</td>
<td>Average education level for people 15 years and older</td>
<td>Low educational achievement</td>
<td>9 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2 Literacy (0.1)</td>
<td>Percentage of household members aged 15 and over who can read and write</td>
<td>Illiteracy rate for population 15 and older</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>2.1 School Attendance (0.05)</td>
<td></td>
<td>Percentage of children between 6 and 16 years in the household who attend school</td>
<td>Non-assistance rate for population from 6 to 16</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>Childhood and youth conditions (0.2)</td>
<td>2.2 No School lag (0.05)</td>
<td>Percentage of children and young people (7-17) in the home school without school lag (according to national standard)</td>
<td>School lag for population from 7 to 17</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>2.3 Access to child care services (0.05)</td>
<td></td>
<td>Percentage of children aged zero to five years with simultaneous access to health, nutrition and initial education</td>
<td>Barriers to access of child care services</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>2.4 Absence of child employment (0.05)</td>
<td></td>
<td>Percentage of children between 12 and 17 years who are outside of the labor market</td>
<td>Child work for children from 12 to 17 years old</td>
<td>100%</td>
</tr>
</tbody>
</table>
Table 4.1-Continued

<table>
<thead>
<tr>
<th>No.</th>
<th>MPI Dimension (weight in brackets)</th>
<th>MPI Variable (weight in brackets)</th>
<th>MPI Indicator</th>
<th>Indicator National Development Plan</th>
<th>Cut-off</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Labor conditions (0.2)</td>
<td>3.1 Absence of long-term unemployment (0.1)</td>
<td>Percentage of economically active population (EAP) who are long-term unemployed (more than 1 year)</td>
<td>Long-term unemployment</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.2 Formal employment (0.1)</td>
<td>Percentage of economically active population (EAP) who are working with pension benefits (proxy of informality)</td>
<td>Informal employment</td>
<td>100%</td>
</tr>
<tr>
<td>4</td>
<td>Health conditions (0.2)</td>
<td>4.1 Health insurance (0.1)</td>
<td>Percentage of household members older than 5 years with affiliation to health</td>
<td>No health insurance</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.2 Access to health services (0.1)</td>
<td>Percentage of household members accessing institutional health services over the past 12 months</td>
<td>Barriers to health services</td>
<td>100%</td>
</tr>
<tr>
<td>5</td>
<td>Housing conditions and public utilities (0.2)</td>
<td>5.1 Access to improved drinking water (0.05)</td>
<td>No access to improved drinking water</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.2 Adequate elimination of sewer waste (0.05)</td>
<td>Inadequate elimination of sewer waste</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.3 Adequate Flooring (0.05)</td>
<td>Inadequate Flooring</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.4 Adequate walls (0.05)</td>
<td>Inadequate walls</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

*Source*: Created by author using data from DANE Colombia.
The main results in the study are presented using equal weights for all the five dimensions. Each dimension has the same weight (0.2) and each variable has the same weight within each dimension. This set of weights was selected to reflect the equal importance of each dimension as a basic element of quality of life (OPHI, 2014). Definitions for each of the variables are provided below.

1. Educational conditions

   1.1 Educational achievement: This scale is measured based on the average educational level for people aged 15 years and older in the household. It is considered that a household experiences deprivation when the mean educational attainment of all people aged 15 years and over living in the home is less than 9 academic years.

   1.2 Literacy: This indicator is defined as the percentage of people aged 15 years and over who are literate. A household experiences deprivation when less than 100% of people aged 15 and older do not know how to read or write.

2. Childhood and youth conditions

   2.1 School attendance: The indicator is calculated as the proportion of children of school age (6-16 years) in a household who regularly attend an educational institution. A household experiences deprivation when less than 100% of children between the ages of 6 and 16 attend school. If there are no children in the household within this age range, the household is not experiencing deprivation on this dimension.

   2.2 No school lag: The school lag is defined as the difference between the number of compulsory years of education and the number of years for formal education completed by a child between 7 and 17 years old. Compulsory years are defined in the Education Sector Plan
2006-2010 of the Ministry of National Education, which provides a scale for the number of successful years that each individual should complete (Table 4.2).

Table 4.2: Number of Compulsory Years of Education by Age

<table>
<thead>
<tr>
<th>Age</th>
<th>Number of compulsory years passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>12</td>
<td>6</td>
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<tr>
<td>13</td>
<td>7</td>
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<tr>
<td>14</td>
<td>8</td>
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<td>15</td>
<td>9</td>
</tr>
<tr>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>17</td>
<td>11</td>
</tr>
</tbody>
</table>

Source: Colombian Ministry of National Education

Based on the above, the school lag indicator is calculated as the percentage of children between 7 and 17 who did not experience any school lag in this educational history. In other words, the desired result is 100% of children in the household to have no school lag. It is considered that a household experiences deprivation if at least one child between ages 7 and 17 is lagging in school (i.e., approved school years are less than the normative number of school years). If there are no children between 7 and 17 years in the household, there is no school lag.

2.3 Access to child care services: This indicator includes the percentage of children between 0 and 5 years in the household who have access to child care services (health, proper nutrition, early childhood education and initial care) simultaneously. It is considered that a
household faces deprivation in this variable if at least one child between 0 and 5 years does not have access to child care services. If there are no children between 0 and 5 years in the household, the household is not experiencing deprivation on this dimension.

2.4 Absence of child employment: This indicator includes the proportion of children in the household between 12 and 17 years who are not working (employed). The indicator is expressed as the percentage of children who are outside the labor market. It is considered that a household faces deprivation if there is at least one child between 12 and 17 who is working. If there are no children between 12 and 17 years in the household, it is considered that the household does not face deprivation.

3. Labor conditions

3.1 Absence of long-term unemployment: This indicator measures the percentage of the economically active population (EAP) of the household who are unemployed for over 12 months. The indicator is calculated as follows: A household where there is at least one economically active person experiencing long-term unemployment is considered deprived for this indicator. In the case there are no economically active members of the household, it is assumed that the household is facing deprivation, excluding households composed exclusively of pensioners.

3.2 Formal employment: This indicator incorporates takes the proportion of the economically active population in the household who are employed or have pension membership benefits (this EAP membership is taken as proxy of formality). Deprivation is considered in a household where less than 100% of the economically active population have formal employment. For this indicator, as for the former, deprivation is found in households without EAP.
4. Health conditions

4.1 Proportion of household members with health insurance: This indicator considers the proportion of household members older than 5 years with access to health insurance. A household is in deprivation if even one of its members does not have access to formal health insurance. This indicator is measured only for the population aged 5 years and over as another scale collected the data for children below five years old.

4.2 Access to health services: This indicator is measured as the proportion of people in the household with access to health services when a need for health care arises. It is considered that a household is not facing deprivation in this variable if one or more members in the last year had an illness or any other health problem and could visit a general practitioner, specialist, or health institution. If nobody in the households reported a health problem, it is considered that the household did not experience deprivation in this indicator. On the other hand, it is considered that a household is facing deprivation in this variable if the indicator is less than 100%.

5. Housing conditions and public utilities

5.1 Access to drinking water: An urban household without tap water is facing deprivation. In rural areas, a household without access to a well or any other source of drinking water is also facing deprivation.

5.2 Adequate elimination of sewer waste: An urban household without (flush) septic system is facing deprivation. A rural household without a sewer connection or toilet is also facing deprivation.

5.3 Adequate flooring: A household is experiencing deprivation if it does not have adequate floors (e.g., only packed earth floor, no flooring materials).
5.4 Adequate walls: It is considered that a household is facing deprivation if it does not have adequate walls. More specifically, a rural or urban household is facing deprivation if the walls are made of cardboard fabric, rubbish, plants, corrugated iron, or is a dwelling without walls.

It is important to note that even though the MPI-Colombia methodology originally has 15 indicators, this study includes only 14 of those indicators given that the data on the indicator representing overcrowding was not collected in the survey.

**Poverty threshold / cutoff**

The overall poverty threshold – ‘k’ – was set at one-third of the weighted dimensions: 33.3%. The ‘k’ parameter represents the share of dimensions in which a person must be deprived in order to be considered multidimensionally poor (OPHI, 2014). If the sum of the weighted deprivations is 33.3% or more of possible deprivations (i.e., deprivation score), the person is considered to be multidimensionally poor. The deprivation “score increases as the number of deprivations a person experiences increases, and reaches its maximum when the person is deprived in all dimensions. A person who is not deprived in any dimension has a deprivation score equal to 0” (Alkire, et. al., 2015, p. 9).

**Calculation of the index**

The MPI-Colombia combines two pieces of information: 1) the proportion or incidence of people who are multidimensionally poor (incidence of poverty), formally, the multidimensional headcount ratio (H), and 2) the intensity of their deprivation (A): The average intensity of (weighted deprivation) across the poor (%). In other words, the intensity of poverty
denotes the proportion of indicators in which they are deprived (Santos & Alkire, 2015). The
MPI is calculated as follows:

\[ MPI = M_0 = H \times A \]

where \( MPI = M_0 = \) An ‘adjusted Headcount’. This reflects both the incidence of poverty
\((H)\) and the intensity of reported poverty \((A)\). Thus, the MPI is the product of \( MPI = H \times A \). The
incidence of poverty (the percentage of the population who are poor) is calculated as:

\[ H = \frac{q}{n} \]

In this formula, \( q \) is the number of people who are multidimensionally poor and \( n \) is the
total population. Meanwhile, \( A \) is the average deprivation score of the multidimensionally poor
people and can be expressed as:

\[ A = \frac{\sum_{i=1}^{n} c_i(k)}{q} \]

where \( c_i(k) \) is the censored deprivation score of individual \( i \) and \( q \) is the number of
people who are multidimensionally poor.

As noted earlier, people are considered ‘poor” if they are deprived in at least 33.3\% of the
weighted indicators. Table 4.3 provides an example of how the MPI is calculated.
Table 4.3: Example of the MPI Calculation using hypothetical data

<table>
<thead>
<tr>
<th>Household Number</th>
<th>Household Size</th>
<th>Indicators</th>
<th>Deprivation score*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>0.10 0.00 0.05 0.05 0.00 0.10 0.10 0.00 0.00 0.00 0.00 0.00 0.00 0.40</td>
<td>0.35</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>0.00 0.10 0.00 0.00 0.05 0.05 0.00 0.00 0.10 0.00 0.05 0.00 0.00 0.35</td>
<td>0.55</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>0.10 0.10 0.00 0.00 0.05 0.05 0.00 0.00 0.00 0.10 0.00 0.05 0.05 0.55</td>
<td></td>
</tr>
</tbody>
</table>

*Note. People with a deprivation score of at least 33.3%, are considered ‘poor’.

*Source: Created by author using Santos & Alkire’s methodology, 2015.

\[
H = (7 + 5 + 4) / 4 + 7 + 5 + 4 = 16 / 20 = 0.80
\]

where

\[
A = (7 \times 0.40) + (5 \times 0.35) + (4 \times 0.55) / 4 + 7 + 5 + 4 = 2.8 + 1.75 + 2.2 / 20 = 6.75 / 20
\]

\[A = 0.34\]

\[MPI = M_0 = H \times A = 0.80 \times 0.34 = 0.27\]

In this example, 80% of people are poor (MPI Headcount). On average, the poor are deprived in 34% of the weighted indicators. Thus, the MPI score is 0.27.

Given that the MPI satisfies the dimensional breakdown property, it can be expressed as a weighted sum of the dimensional deprivations after identification, commonly referred to as the censored headcount ratio (Alkire et. al., 2015). This property allows analyzing the composition of multidimensional poverty. The censored headcount ratio of any given dimension is defined as the percentage of the population who are both multidimensionally poor and simultaneously deprived in that dimension (Alkire et. al., 2015, p. 27). Analyses based on the censored
headcount ratios can be complemented by considering the percentage contribution of each dimension to overall poverty. The contribution not only depends on the censored headcount ratio but also on the weighted score calculated for each dimension. The sum of the contributions of all indicators is 100%.

**Limitations of the MPI**

It is important to note that the MPI, though superior to univariate measures of poverty, has some drawbacks. Although the MPI indicators are selected with the aim of guaranteeing cross-country comparability as much as possible, comparability of indicators is still imperfect due to the fact that the information and scoring may differ across surveys. Furthermore, even when the collected information is the same, the lowest acceptable standards on certain indicators may vary greatly according to the culture (Santos & Alkire, 2015).

**Secondary Data: Individual Firm Level Data**

In addition to the household survey data I collected, individual foreign firm level data from a large database was also procured in August 2013 while completing fieldwork in Bogota, Colombia. The data is a subset of an even larger database produced by the Chamber of Commerce of Bogota (CCB), a private, non-for-profit organization. The database includes business information for all foreign enterprises within Bogota. For the purpose of the present research, the data were used to create a database of all foreign firms operating in Bogota in 2013 with variables indicating both the size and sector of each firm. Regarding firm size, companies are classified as follows: a) Microenterprise (assets equivalent to 0-500 minimum current monthly wages); b) small business (assets equivalent to 501-5,000 minimum current monthly wages); c) medium business (assets equivalent to 5,001-30,000 minimum current monthly wages); and d) large business (assets > 30,000 minimum current monthly wages). The final
dataset consists of information on 1,492 firms, which were grouped into 8 sectors including: 1) oil; 2) mining and quarrying; 3) manufacturing; 4) transport, storage and communications agriculture; 5) financial and business services; 6) retail, wholesale, restaurants and hotels; 7) construction; and 8) other type of activities.

The dataset was purchased from the CCB after completing the business information request form. The data was readily available for reformatting, so it could be incorporated into ArcGIS using the addresses for each firm which were included in the database. The data includes company information such as name, number of employees in 2013, tax identification number and firm size. It also includes spatial elements such as firms' address, as well as neighborhood and locality name where the company is located. The final number of observations gathered for the 2013 year is 1,492 firms. A summary of all the variables in the database may be found in Table 4.4.
Table 4.4: *Chamber of Commerce of Bogota (CCB) Database Fields*

<table>
<thead>
<tr>
<th>Column No.</th>
<th>Column Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Registration number</td>
</tr>
<tr>
<td>2</td>
<td>Type of identification</td>
</tr>
<tr>
<td>3</td>
<td>Tax Identification Number (TIN)</td>
</tr>
<tr>
<td>4</td>
<td>Business name</td>
</tr>
<tr>
<td>5</td>
<td>Type of society (foreign)</td>
</tr>
<tr>
<td>6</td>
<td>Category</td>
</tr>
<tr>
<td>7</td>
<td>Registration status (active)</td>
</tr>
<tr>
<td>8</td>
<td>Regime</td>
</tr>
<tr>
<td>9</td>
<td>Registration date</td>
</tr>
<tr>
<td>10</td>
<td>Date of renewal</td>
</tr>
<tr>
<td>11</td>
<td>Year of renewal</td>
</tr>
<tr>
<td>12</td>
<td>Address</td>
</tr>
<tr>
<td>13</td>
<td>Municipality</td>
</tr>
<tr>
<td>14</td>
<td>Postal code</td>
</tr>
<tr>
<td>15</td>
<td>Neighborhood</td>
</tr>
<tr>
<td>16</td>
<td>Locality</td>
</tr>
<tr>
<td>17</td>
<td>Phone</td>
</tr>
<tr>
<td>18</td>
<td>Fax</td>
</tr>
<tr>
<td>19</td>
<td>Commercial email</td>
</tr>
<tr>
<td>20</td>
<td>ISIC code</td>
</tr>
<tr>
<td>21</td>
<td>Economic activity</td>
</tr>
<tr>
<td>22</td>
<td>Legal representative</td>
</tr>
<tr>
<td>23</td>
<td>Employees</td>
</tr>
<tr>
<td>24</td>
<td>Size</td>
</tr>
</tbody>
</table>

*Source*: Created by author using CCB database fields.

Note: For data or contact information, visit [www.ccb.org.co](http://www.ccb.org.co)

**Data structure and database development**

The data acquired from the Chamber of Commerce of Bogota was subsequently “cleaned” and properly formatted in order to allow input into ESRI ArcGIS. Similarly, the data obtained from the household surveys was properly formatted to allow analyses with ESRI ArcGIS and SPSS statistical software as well. Both datasets required some manual editing and
re-organization to create a workable schema that would allow for further normalization. Once cleaned and properly formatted, the data was aggregated both by locality and industry for 2013. ESRI's ArcMap 10.1 was chosen to perform all of the necessary data management tasks and to geocode the spatial data. The process of geocoding was performed with the help of the Microsoft Bing Maps geocoder to determine the latitude and longitude of each firm. 1,340 out of the 1,492 firms had complete addresses available. The 1,340 addresses were geocoded without significant editing and some of them were manually geocoded. The remaining points (152) were not geocoded due mainly to missing or incorrect addresses. Once all possible geocoding and error checking was complete, the data was then ready to be processed and organized into several geodatabases for aggregations by type, locality, and size of firm. Unfortunately, copies of the CCB dataset used in my analyses cannot be shared as an appendix given that it is an unauthorized reproduction, so distribution or commercial use is forbidden.

**Analyses of Survey and Secondary Data**

Both primary survey data and secondary archived data were analyzed to answer the following questions: 1) What is the multidimensional headcount ratio (H), the intensity of poverty (A), the Multidimensional Poverty Index (MPI), and the deprivation scores of employees at foreign-owned companies?; (2) What are the employees’ perceptions of FDI regarding their wellbeing?; (3) Do survey participants believe that FDI contributes to economic development in Colombia?; and (4) What are the patterns of spatial concentration of foreign-owned companies in Colombia?

In order to answer those questions based on the collected data, this empirical study used the following statistical analysis techniques: 1) descriptive analysis including frequencies, percentages, measures of central tendency, and standard deviation; 2) correlational analyses
including Pearson correlation $r$, Spearman correlation $\rho$, Chi-square, simple and multiple OLS linear regression; and 3) group differences techniques including One-way ANOVA. Moreover, spatial statistics techniques in ArcGIS were used to understand the distribution of the foreign-firm location of the secondary data and their respective relationships vis-à-vis other firms. A brief explanation of the use of these techniques on this study is given below.

**Analysis of research question 1: What is the multidimensional headcount ratio (H), the intensity of poverty (A), the Multidimensional Poverty Index (MPI) and the deprivation scores of employees at foreign-owned companies?**

Based on the MPI-Colombia methodology, the multidimensional headcount ratio (H), the intensity of poverty (A), the MPI and deprivation scores of employees at foreign-owned companies were calculated. To check if the deprivation score (i.e., dependent variable) is approximately normally distributed, some tests for normality were performed including the calculation of measures of skewness, kurtosis and the Shapiro-Wilk statistic. By dividing the skewness (1.592) by its standard error (0.171), the result was greater than 1.96 (9.30). Similarly, by dividing the kurtosis statistics (2.343) by its standard error (0.341), the result was greater than 1.96 (6.87). Thus, the deprivation score data are not normally distributed. Moreover, given that the p-value of the Shapiro-Wilk test statistic is below 0.05, the null hypothesis that the data are normally distributed is rejected. In short, in terms of skewness, kurtosis and Shapiro-Wilk test statistic, the deprivation data are not normally distributed. Therefore, non-parametric methods including Spearman’s correlation and Median Test will be used to perform several analyses related to research question One in Chapter V.

Spearman’s rank correlation test is a nonparametric test that measures the degree of association between two variables for which only rank-order data are available (Kholer, 2002). Meanwhile, the Mood’s Median Test is a true non-parametric alternative to a One-way ANOVA
that has fewer assumptions than Kruskall-Wallace, and does not assume equal variances across groups.

In addition to non-parametric methods, multiple regression techniques were used. Regression analysis is a statistical method that seeks to establish an equation that allows the unknown value of one variable (dependent variable) to be estimated from the known value of one or more variables. In all types of regression analysis, the variable whose value is unknown is called the dependent variable and is symbolized by $Y$. Alternative names for dependent variable are explained variable, response variable and predicted variable (Kholer, 2002). A variable whose value is known is referred as an independent variable and is symbolized by $X$. Alternative names for independent variable are explanatory variable, regressor and predictor variable. Some independent variables are qualitative in nature and cannot be measured numerically though. They can only be described categorically. Under such circumstances, qualitative variables can be incorporated into regression analysis by creating one or more dummy variables and can be symbolized by $D$. There are also known as binary variables, categorical variables or indicator variables with a value of zero or one. Those values are used to indicate the absence or presence of a particular qualitative characteristic.

Simple OLS linear regression analysis is a technique that establishes an equation that allows the unknown value of one variable to be estimated from the known value of one other variable. Meanwhile, multiple regression analysis is a technique in which “several independent variables are used to estimate the value of an unknown dependent variable. Hence, each of these predictor variables explains part of the total variation of the dependent variable” (Kholer, 2002, p. 788). Predictions with the help of the multiple regression equation are typically better than those made with the help of simple regression (Kholer, 2002). In this study, multiple regression
was conducted to test whether and how the value of the dependent variable (i.e., deprivation score) is affected by the values of two or more independent variables. This involved the establishment of the following equation:

\[ \hat{Y} = a + b_1 X_1 + b_2 D_2 \ldots + b_n X_n \]

When using nominal variables with more than two levels, recoding was conducted to convert these data into dummy variables.

**Analysis of research question 2: What are the employees’ perceptions of FDI regarding their wellbeing?**

Incorporated in the survey, five Likert items were used to analyze employees’ perceptions of FDI on their wellbeing, comprising an item pool from which a finalized Likert scale on FDI could be developed. The five statements in this pool can be viewed in Table 4.5.
Table 4.5: *Five Statements Pertaining to Perceptions of FDI on Employees’ Wellbeing*

<table>
<thead>
<tr>
<th>Statement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statement 1</td>
<td>Your current employment and respective salary have contributed to improve educational conditions of your household (schooling, literacy).</td>
</tr>
<tr>
<td>Statement 2</td>
<td>Your current employment and respective salary have contributed to improve the childhood and youth conditions of your household (access to child care services, no school lag, school attendance, absence of child employment).</td>
</tr>
<tr>
<td>Statement 3</td>
<td>Your current employment and respective salary have contributed to improve the labor conditions of your household (economic independence, formal employment).</td>
</tr>
<tr>
<td>Statement 4</td>
<td>Your current employment and respective salary have contributed to improve the health conditions of your household (insurance health, access to health services).</td>
</tr>
<tr>
<td>Statement 5</td>
<td>Your current employment and respective salary have contributed to improve access to housing conditions and public services (access to improved drinking water, proper sewage disposal, adequate floors and walls).</td>
</tr>
</tbody>
</table>

Notes: The five response categories (1 = ‘Strongly disagree’, 2 = ‘Disagree’, 3 = ‘No opinion’, 4 = ‘Agree’, and 5 = ‘Strongly Agree’ were arranged vertically on the survey.

Source: Prepared by author.

In order to analyze the employees’ perceptions towards FDI’s contribution on the five dimensions of wellbeing, the mean scores of each group of dimensions are computed and then grouped using the ‘visual binning’ option in SPSS 23.0. A visual inspection of the histogram, normal Q-Q plot and box plot show that the mean scores of perceptions towards FDI are approximately normally distributed with a skewness of -0.180 (SE = 0.171) and a kurtosis of 0.410 (SE = 0.341). Therefore, parametric statistical methods including One-way ANOVA are used to perform several analyses related to research question Two in Chapter Five. The “analysis of variance, generally known by the acronym ANOVA, is a statistical technique designed to test whether the means of more than two quantitative populations are equal” (Kholer, 2002, p. 653).
ANOVA examines variability amongst the means and compares it against the variability within each mean in terms of the individuals within each group. This technique assumes that the sampled populations are normally distributed and have identical variances. To help answer research question Two, one-way ANOVA is used to compare the mean scores of perceptions of FDI among continents of origin and to check whether the differences in mean scores are statistically significant.

On the other hand, the non-parametric Chi-square test statistic will be used to compare the distribution of responses in a set of contingency tables. The Chi-square test statistic, $X^2$, is used to test the alleged independence of two qualitative variables and is “the sum of all the ratios that can be constructed by taking the difference between each cell’s observed and expected frequency in a contingency table, squaring the difference, and then dividing the squared deviation by the expected frequency” (Kholer, 2002, p. 600).

**Analysis of research question 3: Do survey participants believe that FDI contributes to economic development in Colombia?**

In one survey item, employees were asked their opinion regarding whether FDI is beneficial to the economic development of Colombia. The choices were: (1) Yes, FDI is beneficial, (2) No, FDI is not beneficial, and (3) I have no opinion. Given that several participants chose Yes and No at the same time, a new category was created: (4) Mixed (Beneficial & Not Beneficial) to reflect this ambivalence. To answer research question Three, marginal frequencies, mean scores, and standard deviations were calculated. Moreover, one-way ANOVA is conducted to determine whether the differences among the means between deprivation scores and opinion of FDI on economic development are statistically significant. Similarly, one-way ANOVA is used to find out whether the difference among the means
between perceptions scores of FDI on wellbeing and opinion of FDI on economic development are statistically significant.

**Analysis of research question 4: What are the patterns of spatial concentration of foreign-owned companies in Colombia?**

Spatial statistics techniques in ArcGIS 10.1 are used to understand the distribution of the foreign-firm location of the data and their respective relationships vis-à-vis other firms. These spatial statistics tools include: mean center, median center, and directional distribution. The mean center location of the firms was determined by calculating the average latitude and longitude values of the dataset. The median center was calculated by ordering the latitude and longitude coordinates for each of the foreign-firm locations and then picking the middle value (pr spatial median) from the ranked list. Meanwhile, the directional distribution was calculated to determine the general orientation (marked by an ellipse) of the data based on the rotation of the ellipse. Moreover, the directional distribution was used to summarize the spread of the data based on the standard deviation of geo-referenced coordinates.

To help answer research question Four, mean scores and standard deviations of firms by size and age in Colombia are calculated. Moreover, one-way ANOVA is used to determine whether the differences among the means firms’ age and size are statistically significant. Additionally, frequency distributions of FDI by types of activities and localities will be computed.
V. RESULTS

With the purpose of investigating the relationship between FDI and poverty reduction in Colombia, this empirical mixed methods study used both primary survey data and secondary archived data in conjunction with a project-specific GIS. Again, I posit the following research questions: 1) What is the multidimensional headcount ratio (H), the intensity of poverty (A), the Multidimensional Poverty Index (MPI), and the deprivation scores of employees at foreign-owned companies?; (2) What are the employees’ perceptions of FDI regarding their wellbeing?; (3) Do survey participants believe that FDI contributes to economic development in Colombia?; and (4) What are the spatial distributions of foreign-owned companies in Colombia by sector, over time?

Survey Results

Before discussing the survey results, the respondent profiles and related demographics will be presented. Again, 202 persons completed the snowball convenience sample I conducted during the months of July and August in 2013.

Respondent profile and demographics

The participants in the survey were from diverse ethnic backgrounds. Fifty percent of participants identify themselves as Mestizo Colombian; followed by White Colombian (39.6%) and Afro-Colombian (5.9%). The remaining 4.5% claimed other ethnic groups. Forty seven percent of the survey participants were male and 53% were female. Almost half of the respondents were between the ages of 25 and 40 (48.5%). 36.6% of respondents were between 18 and 24 years old and 14.9% claimed to be between 41 and 65 years old. Of all respondents, 44.1% had technical or technological education, 27.2% had completed higher education, while
23.3% completed high school. Three percent of participants completed middle school (6-9 grades) and 2.5% completed only primary school (1-5 grades).

In terms of employment tenure, 36.1% of respondents have been working for the foreign firm between 1 and 5 years, and 32.7% less than one year, while 5.9% of participants worked for their company for more than 10 years. Four and one-half percent have been working for their foreign firm between 6 and 10 years and 20.8% of participants declined to state the number of years working for the foreign company. Of all respondents, 41.6% have been working in foreign firms situated in the locality of Chapinero, 12.9% in the Teusaquillo locality and 6.4% in the Fontibon locality. The remaining 39.1% of participants have been working in foreign firms situated in other localities of Bogota.

Thirty nine percent of respondents reported monthly incomes between $600,000 and $1,000,000 Colombian pesos (US $212-US $353), 25.2% between $1,000,001 and $2,000,000 (US $353-US $705), 18.8% reported monthly incomes of less than $600,000 (US $212), and 7.9% reported incomes of more than 2,000,000 pesos (>US $705). Meanwhile, 8.9% declined to say their current income level.

The 202 respondents work for 84 different foreign firms. These 84 foreign firms are located in the districts of Chapinero (50.0%), Usaquen (9.5%), Fontibon (7.1%), Los Mártires (6.0%), Santa Fe (6.0%), Teusaquillo (6.0%), and Puente Aranda (4.8%). The remaining 10.6% of foreign companies are located in other districts. Figure 5.1 illustrates the location of participant firms.
Figure 5.1. Location of participant foreign firms

Map by Mayra Alejandra Yat Aguilar
Of all respondents, 25.2% work for firms from the United States, 10.9% work for French firms, 9.4% work for Peruvian companies, and 9.4% work for companies from Spain. Almost eight percent of respondents work for Chilean firms while 6.9% work for Chinese companies (Figure 5.2).

Figure 5.2. Origin of participant foreign firms

Map by Mayra Alejandra Yat Aguilar
More broadly, by world region, of respondents to my survey, 38.1% work for North American companies, 29.7% work for European firms, 19.8% work for South American firms and the remaining 12.4% work for Asian companies.

**Research question 1: What is the multidimensional headcount ratio (H), the intensity of poverty (A), the Multidimensional Poverty Index (MPI) and the deprivation scores of employees at foreign-owned companies?**

Eight percent of households surveyed are classified as poor (H) based on the MPI index defined in Chapter Four. They are deprived either a) due to a combination of factors across dimensions or b) because of low scores for all the indicators of a single dimension.

On average, the poor are deprived in 37% of the weighted MPI indicators, thus the intensity of poverty is 37% (A) for those defined as “poor”.

On average, households are deprived in 3% of the total potential deprivations they could experience using the MPI assessment tool.

Breaking MPI scores down by dimension reveals how the structure of deprivations differs for the poor when compared across the fourteen indicators. Table 5.1 and Figure 5.3 show the contribution of the different dimensions to the overall MPI score (i.e., Adjusted Headcount Ratio). Formal employment deprivations contribute the most to multidimensional poverty (27%) followed by health insurance deprivations (20%).
Table 5.1: *Compositions of MPI*

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Indicators</th>
<th>Censored Headcount Ratio</th>
<th>Percentage contribution per indicator</th>
<th>Percentage contribution per dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>1.1 Educational achievement</td>
<td>0.03</td>
<td>9%</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>1.2 Literacy</td>
<td>0.02</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Childhood and youth</td>
<td>2.1 School attendance</td>
<td>0.00</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.2 No school lag</td>
<td>0.04</td>
<td>7%</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>2.3 Access to child care services</td>
<td>0.01</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.4 Absence of child employment</td>
<td>0.02</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td>3.1 Absence of long term unemployment</td>
<td>0.01</td>
<td>4%</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>3.2 Formal employment</td>
<td>0.08</td>
<td>27%</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>4.1 Health insurance</td>
<td>0.06</td>
<td>20%</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>4.2 Access to health services</td>
<td>0.04</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Housing conditions and public services</td>
<td>5.1 Access to improved drinking water</td>
<td>0.01</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.2 Adequate elimination of sewer waste</td>
<td>0.00</td>
<td>0%</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>5.3 Adequate flooring</td>
<td>0.02</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.4 Adequate walls</td>
<td>0.05</td>
<td>8%</td>
<td></td>
</tr>
</tbody>
</table>

*Source:* Calculated by author from survey results.
Figure 5.3. Percentage contribution of indicators to the MPI score

Source: Calculated by author from survey results.

In Table 5.2, the number of deprivations experienced by those who are poor as assessed by MPI was compared with the number of deprivations among those who are not scored as multidimensionally poor:
Table 5.2: Median, Mean and Standard Deviation of Number of Deprivations among Employees at Foreign-Owned Companies, 2013

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>12</td>
<td>4.67</td>
<td>5</td>
<td>0.65</td>
</tr>
<tr>
<td>Not poor</td>
<td>190</td>
<td>0.71</td>
<td>0</td>
<td>0.91</td>
</tr>
<tr>
<td>All</td>
<td>202</td>
<td>0.95</td>
<td>0.50</td>
<td>1.30</td>
</tr>
</tbody>
</table>

Source: Calculated by author from survey results.

Those identified as poor based on MPI on average have more than four deprivations while the non-MPI scored poor face less than one deprivation.

The percentage of households with deprivations in each dimension varies between those identified as poor based on the MPI instrument and those who are not. For instance, among the non-poor as determined by MPI score, only 3.7% face deprivation in educational achievement, while 41.7% among the MPI poor are deprived in this indicator (Figure 5.4).
Figure 5.4. Percentage of households with deprivations between the poor and not poor.

Source: Calculated by author from survey results.

Deprivation scores were computed for each survey participant to reflect the breadth of each person’s deprivations across all dimensions. Again, each person’s deprivation score is the
sum of his/her weighted deprivations. Respondents who are not deprived in any dimension have a deprivation score equal to zero (Figure 5.5)

![Deprivation Score Frequency](image)

**Figure 5.5.** Frequency of deprivation scores

**Source:** Calculated by author from survey results.

A Shapiro-Wilk’s test (p<0.05) and a visual inspection of the histogram, normal Q-Q plot and box plot show that the deprivation scores are not normally distributed with a skewness of 1.592 (SE = 0.171) and a kurtosis of 2.343 (SE = 0.341).
The distribution of deprivation scores among survey respondents is highly skewed with only 12 employees being assigned a deprivation score of 0.35 or more. The median deprivation score is approximately 0.025. Because the distribution is highly skewed to the right, the mean ($m = 0.08$) is higher than the median (Table 5.3).

**Table 5.3: Descriptives of Deprivation Scores**

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Statistic</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>.0800</td>
<td>.00750</td>
</tr>
<tr>
<td>95% Confidence Interval for</td>
<td>Lower Bound</td>
<td>.0652</td>
</tr>
<tr>
<td>Mean</td>
<td>Upper Bound</td>
<td>.0947</td>
</tr>
<tr>
<td>5% Trimmed Mean</td>
<td>.0675</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>.0250</td>
<td></td>
</tr>
<tr>
<td>Variance</td>
<td>.011</td>
<td></td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>.10654</td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>.50</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>.50</td>
<td></td>
</tr>
<tr>
<td>Interquartile Range</td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td>Skewness</td>
<td>1.592</td>
<td>.171</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.343</td>
<td>.341</td>
</tr>
</tbody>
</table>

*Source: Calculated by author from survey results.*

Given that the deprivation score data are not normally distributed, Spearman’s $\rho$ was chosen to investigate the directional strength of relationship between the associated variables with the deprivation score and household size. The value of Spearman’s $\rho$ is 0.353, revealing a significant correlation at the 0.01 level between deprivation scores and household size (Table 5.4). In other words, there is a positively moderate relationship between deprivation scores and the size of survey respondent’s household.
Table 5.4: * Spearman’s rho – Correlations between Deprivation Score and Household Size *

<table>
<thead>
<tr>
<th></th>
<th>Household size</th>
<th>Deprivation Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household size</td>
<td>Correlation Coefficient</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>202</td>
</tr>
<tr>
<td>Deprivation Score</td>
<td>Correlation Coefficient</td>
<td>.353**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>202</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

*Source*: Calculated by author from survey results.

The scattergram in Figure 5.6 indicates that the relationship between deprivation scores and household size is undoubtedly positive if very moderate. As the household size increases, the deprivation score also increases. In other words, those with a larger household size tend to have high deprivation scores.
Figure 5.6. Scattergram for the relationship between deprivation scores and household size.

Source: Calculated by author from survey results.

The relationship between the variables associated with the deprivation score and the years of education for each study participant was also investigated. Results show that there is a negative moderate relationship between deprivation score and years of education \((\rho = -0.211)\) at the 0.01 level (Table 5.5).
Table 5.5: *Spearman’s rho – Correlations between Deprivation Score and Years of Education*

<table>
<thead>
<tr>
<th></th>
<th>Household size</th>
<th>Deprivation Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deprivation score</td>
<td>Correlation Coefficient</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>202</td>
</tr>
<tr>
<td>Years of Education</td>
<td>Correlation Coefficient</td>
<td>-.211**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>202</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

*Source:* Calculated by author from survey results.

The scattergram in Figure 5.7 reflects a negative moderate relationship exists between deprivation score and education.
Figure 5.7. Scattergram for the relationship between deprivation scores and years of education.

*Source:* Calculated by author from survey results.

Using the Median Test, it can be observed that the deprivation scores greater than the median of 0.025 occurred more times for the employees working at South American-owned firms, followed by employees working at European-owned companies (Figure 5.8). In contrast, deprivation scores equal or lower to the median occurred most frequently for the employees working at North American-owned firms, followed by those scores for employees at Asian-owned companies.
Figure 5.8. Frequencies of deprivation scores among employees working at different continents of origin of firms.

Source: Calculated by author from survey results.

The medians of deprivation score are not the same across the continents of origin. Therefore, there is a statistically significant difference among the groups ($X^2 = 9.613, p = .02$) (Table 5.6).
Table 5.6: Test Statistics\textsuperscript{a} – Deprivation Score & Continent of Origin

<table>
<thead>
<tr>
<th>Source</th>
<th>Deprivation Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>202</td>
</tr>
<tr>
<td>Median</td>
<td>.0250</td>
</tr>
<tr>
<td>Chi-Square</td>
<td>9.613\textsuperscript{b}</td>
</tr>
<tr>
<td>df</td>
<td>3</td>
</tr>
<tr>
<td>Asymp. Sig.</td>
<td>.022</td>
</tr>
</tbody>
</table>

\textsuperscript{a} Grouping Variable: Continent of Origin

\textit{Source}: Calculated by author from survey results.

Given the previous results, a multiple regression was performed to estimate the value of deprivation score (dependent variable) with continents of origin as predictor dummy code variables (independent variables), leaving out North America. Results show that employees at Asian firms as compared to North American firms realize a 0.007 increase on the deprivation score. Furthermore, workers at European firms as compared to North American companies see a 0.027 increase. However, for both Asia and Europe differences in the deprivation score were not statistically significant at .05. In contrast, South America as compared to North America realizes a 0.091 deprivation score increase. The deprivation score for the group emphasis South America as compared to North America is statistically significant ($p=.0001$) (Table 5.8).
Table 5.7: *OLS Linear Multivariate Regression Model Summary – Deprivation Score and Continents of Origin*

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.316&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.100</td>
<td>.086</td>
<td>.10184</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), South America, Asia, Europe

*Source*: Calculated by author from survey results.

Table 5.8: *Coefficients<sup>a</sup> – Deprivation Score & Continents of Origin*

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>(Constant)</td>
<td>.053</td>
<td>.012</td>
</tr>
<tr>
<td>Asia</td>
<td>.007</td>
<td>.023</td>
</tr>
<tr>
<td>Europe</td>
<td>.027</td>
<td>.018</td>
</tr>
<tr>
<td>South America</td>
<td>.091</td>
<td>.020</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Deprivation Score

*Source*: Calculated by author from survey results.
Additionally, a multiple regression was performed to estimate the value of deprivation score with income levels as predictor dummy code variables, leaving out employees earning less than $600,000 (US $212). Results show that employees earning $600,000 - $1,000,000 Colombian pesos (US $212- $353) as compared to those earning less than $600,000 (US $212) realize a 0.009 decrease on the deprivation score. However, differences in the deprivation score were not statistically significant at .05. Furthermore, workers earning $1,000,001 - $2,000,000 Colombian pesos (US $353-$705) as compared to those earning less than $600,000 (US $212) see a 0.043 decrease. Moreover, employees earning more than $2,000,000 Colombian pesos (US $705) as compared to those earning less than $600,000 (US $212) realize a 0.062 decrease on the deprivation score. For both employees earning $1,000,001 - $2,000,000 Colombian pesos (US $353-$705) and those earning more than $2,000,000 Colombian pesos (US $705), differences in the deprivation score are statistically significant (p=.035 and p=.04 respectively) (Table 5.10).

Table 5.9: OLS Linear Multivariate Regression Model Summary – Deprivation Score and Income Levels

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.196a</td>
<td>.038</td>
<td>.024</td>
<td>.10526</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), More than $2,000,000 Colombian pesos (US $705), $1,000,001 - $2,000,000 Colombian pesos (US $353-$705), $600,000 - $1,000,000 Colombian pesos (US $212-$353)

Source: Calculated by author from survey results.
Table 5.10: *Coefficients*\(^a\) – Deprivation Score & Income Levels

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>.099</td>
<td>.014</td>
</tr>
<tr>
<td>$600,000 - $1,000,000 Colombian pesos (US $212-$353)</td>
<td>-.009</td>
<td>.018</td>
</tr>
<tr>
<td>$1,000,000 - $2,000,000 Colombian pesos (US $353-$705)</td>
<td>-.043</td>
<td>.020</td>
</tr>
<tr>
<td>More than $2,000,000 Colombian pesos (US $705)</td>
<td>-.062</td>
<td>.030</td>
</tr>
</tbody>
</table>

\(^a\) Dependent Variable: Deprivation Score

*Source:* Calculated by author from survey results.
Furthermore, a multiple regression was again employed to test whether and how the value of deprivation score is affected by the values of the following predictor variables: (1) $X_1$: years of education; (2) $X_2$: household size; (3) $D_1$: age group: 18-24 years; (4) $D_2$: age group: 25-40 years; (5) $D_3$: race: white Colombian; (6) $D_4$: race: Afro-Colombian; (7) $D_5$: type of FDI: transport, storage, communications; (8) $D_6$: type of FDI: retail, wholesale, hotels, and business services; and (9) $D_7$: type of FDI: other type of FDI. The multiple regression left out the following variables: age group: 41-65 years, race: mestizo Colombian, and type of FDI: manufacturing. Therefore, their respective estimates of deprivation score would be estimated as $\hat{Y} = a$. The estimated multiple regression equation (5) is as follows ($Adj. R^2 = .212$, $F=5.132$, $p=.0001$) (Table 5.11 and Table 5.12):

$$
(5) \quad \text{Deprivation score} = 0.083 - 0.008 \text{ years of education} + 0.02 \text{ household size} + 0.021 \text{ Age 18-24 years} + 0.056 \text{ Age 25-40 years} - 0.02 \text{ white Colombian} + 0.012 \text{ Afro-Colombian} + 0.033 \text{ other ethnic group} - 0.004 \text{ transport, storage, communications} + 0.000 \text{ retail, wholesale, hotels, and business services} - 0.024 \text{ other type of FDI} \quad (Table 5.13).
$$

The probability of being deprived equals to 0.083 with zero education, zero household size, and all others held constant. An estimated deprivation score decrease of 0.008 is associated with each additional year of education, if household size and other factors are held constant at any level. An estimated deprivation score increase of 0.02 is associated with each additional household member, if education and other factors are held constant at any level. A projected deprivation score increase of 0.056 is associated with a person of 25-40 years of age. These three
coefficients are statistically significant: education \((p=.001)\), household size \(p=.0001\), and group age of 25-40 \((p=.007)\).

Table 5.11: *OLS Linear Multivariate Regression Model Summary - Deprivation Score & Predictor Variables*

<table>
<thead>
<tr>
<th>Model</th>
<th>(R)</th>
<th>(R) Square</th>
<th>Adjusted (R) Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.460(^a)</td>
<td>.212</td>
<td>.171</td>
<td>.09703</td>
</tr>
</tbody>
</table>

\(^a\) Predictors: (Constant), Other type of FDI, 25-40 years, Afro-Colombian, Household size, Other ethnic group, White Colombian, Years of education, Transport, storage, communications, Retail, wholesale, hotels and business services, 18-24 years.

*Source:* Calculated by author from survey results.

Table 5.12: *ANOVA\(^a\) - Deprivation Score & Predictor Variables*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>(F)</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>.483</td>
<td>10</td>
<td>.048</td>
<td>5.132</td>
<td>.0001(^b)</td>
</tr>
<tr>
<td>Residual</td>
<td>1.798</td>
<td>191</td>
<td>.009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2.281</td>
<td>201</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Dependent Variable: Deprivation Score

\(^b\) Predictors: (Constant), Other type of FDI, 25-40 years, Afro-Colombian, Household size, Other ethnic group, White Colombian, Years of education, Transport, storage, communications, Retail, wholesale, hotels and business services, 18-24 years.

*Source:* Calculated by author from survey results.
Table 5.13: Coefficients $^a$ – Deprivation Score & Predictor Variables

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.083</td>
</tr>
<tr>
<td></td>
<td>Years of education</td>
<td>-.008</td>
</tr>
<tr>
<td></td>
<td>Household size</td>
<td>.020</td>
</tr>
<tr>
<td></td>
<td>18-24 years</td>
<td>.021</td>
</tr>
<tr>
<td></td>
<td>25-40 years</td>
<td>.056</td>
</tr>
<tr>
<td></td>
<td>White Colombian</td>
<td>-.020</td>
</tr>
<tr>
<td></td>
<td>Afro-Colombian</td>
<td>.012</td>
</tr>
<tr>
<td></td>
<td>Other ethnic group</td>
<td>.033</td>
</tr>
<tr>
<td></td>
<td>Transport, storage, communications</td>
<td>-.004</td>
</tr>
<tr>
<td></td>
<td>Retail, wholesale, hotels and business services</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Other type of FDI</td>
<td>-.024</td>
</tr>
</tbody>
</table>

$a$. Dependent Variable: Deprivation Score

**Source**: Calculated by author from survey results.

Even though the remaining predictor variables may increase or decrease the estimated deprivation score, the coefficients are not statistically significant in terms of this linear relationship with the dependent variable Deprivation score.
Research question 2: What are the employees’ perceptions of FDI on their wellbeing?

In order to answer this question, the marginal frequencies were calculated for each statement pertaining to perceptions of FDI on employees’ wellbeing. Results show that in general employees agree that FDI has contributed to improve employee’s self-reported wellbeing on the dimensions of education, childhood and youth, employment, health, and housing conditions and public services. More specifically, 70.8% of employees agree that FDI has contributed to improve employment conditions, 63.9% agree that FDI has contributed to improve educational conditions, 60.9% agree that FDI has contributed to improve health conditions 43.6% agree that FDI has contributed to housing conditions and public services, and 43.1% agree that FDI has contributed to improve childhood and youth conditions (Figure 5.9).

Figure 5.9. Frequencies of employees’ perceptions of FDI on their wellbeing per dimension.

Source: Calculated by author from survey results.
In order to analyze the employees’ perceptions towards FDI’s contribution on the five dimensions of wellbeing, the mean scores of each variable on each on each dimension are computed and then grouped using the ‘visual binning’ option in SPSS. Results show that 66.8% of employees agree and 17.8% strongly agree that FDI has contributed to improve their wellbeing on the following five dimensions: education, health, childhood and youth, employment, and housing conditions and public utilities (Figure 5.10).

Figure 5.10. Mean score of employees’ perceptions of FDI on their wellbeing

Source: Calculated by author from survey results.

In other words, perceptions of FDI’s contribution to individual wellbeing as measured by responses to the associated survey questions were measured on a scale with possible scores ranging from 1.0 to 5.0. The mean score was 3.72 and the median score was 3.80 with a standard deviation of 0.61 (Table 5.14).
Table 5.14: Descriptives of Perceptions Towards FDI on Wellbeing

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Statistic</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>3.7198</td>
<td>.04311</td>
</tr>
<tr>
<td>95% Confidence Interval</td>
<td>Lower Bound</td>
<td>3.6348</td>
</tr>
<tr>
<td>Mean</td>
<td>Upper Bound</td>
<td>3.8048</td>
</tr>
<tr>
<td>5% Trimmed Mean</td>
<td>3.7273</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>3.8000</td>
<td></td>
</tr>
<tr>
<td>Variance</td>
<td>.375</td>
<td></td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>.61272</td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>2.00</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>Interquartile Range</td>
<td>.80</td>
<td></td>
</tr>
<tr>
<td>Skewness</td>
<td>-.180</td>
<td>.171</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>.410</td>
<td>.341</td>
</tr>
</tbody>
</table>

*Source*: Calculated by author from survey results.

The distribution of perceptions scores towards FDI among employees is normally distributed (Figure 5.11).
Figure 5.1. Mean scores of perceptions towards FDI on wellbeing

Source: Calculated by author from survey results.

A visual inspection of the histogram, normal Q-Q plot and box plot show that the mean scores of perceptions towards FDI are normally distributed with a skewness of -0.180 (SE = 0.171) and a kurtosis of 0.410 (SE = 0.341).

On a scale from 1 to 5, the group of employees working for North American companies reported a better perception of the influence of FDI on the five dimensions of wellbeing \((m = 3.82, sd = 0.56, n = 77)\), followed by opinions for employees working for European firms \((m = 3.76, sd = 0.53, n = 60)\). Employees of South American-owned firms were next \((m = 3.57, sd = 0.69, n = 40)\), finally followed by the lowest ratings; those for employees of Asian firms \((m = 3.57, sd = 0.77, n = 25)\) (Table 5.12). However, the differences among the means based on ANOVA are not statistically significant at the 0.05 level \([F (3, 198) = 2.054]\) (Table 5.16). While
respondents generally view FDI in positive terms, there is no difference in the degree of support across the world region origin of the firms they work for.

Table 5.15: *Means and Standard Deviations of Perceptions of FDI Among Continents of Origin*

<table>
<thead>
<tr>
<th>Continent of Origin</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>25</td>
<td>3.5680</td>
<td>.77175</td>
</tr>
<tr>
<td>Europe</td>
<td>60</td>
<td>3.7600</td>
<td>.52825</td>
</tr>
<tr>
<td>North America</td>
<td>77</td>
<td>3.8156</td>
<td>.56079</td>
</tr>
<tr>
<td>South America</td>
<td>40</td>
<td>3.5700</td>
<td>.68918</td>
</tr>
</tbody>
</table>

*Source:* Calculated by author from survey results.

Table 5.16: *Oneway ANOVA - Perceptions Towards FDI on Wellbeing*

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>2.277</td>
<td>3</td>
<td>.759</td>
<td>2.054</td>
</tr>
<tr>
<td>Within Groups</td>
<td>73.184</td>
<td>198</td>
<td>.370</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>75.461</td>
<td>201</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source:* Calculated by author from survey results.

Again, the format of the employees’ perceptions regarding FDI’s contribution on wellbeing originally was a 5-point Likert scale ranging from ‘Strongly Disagree’ to ‘Strongly Agree’. For the purpose of testing for the statistical significance of the relationship between employees’ perceptions of FDI and dimensions of wellbeing, the five categories were collapsed into three: 1) Disagree, 2) Neutral, and 3) Agree. Using a Chi-square test statistic comparing the
distribution of responses in a contingency table presenting responses across the continents of origin of firms and perceptions of efficacy (the groups Agree, Neutral, Disagree). Table 5.17 shows the opinions of employees at foreign-owned companies on FDI’s contribution on the dimensions of education, childhood and youth, employment, health, and housing conditions.

Table 5.17: Employees’ Perceptions Regarding FDI’s Contribution on Five Dimensions

<table>
<thead>
<tr>
<th></th>
<th>Asia</th>
<th>Europe</th>
<th>North America</th>
<th>South America</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>((X^2 = 12.893 \ p = 0.045) )</td>
<td>Neutral: 24.0%</td>
<td>13.3%</td>
<td>7.8%</td>
<td>17.5%</td>
</tr>
<tr>
<td></td>
<td>Disagree: 12.0%</td>
<td>5.0%</td>
<td>5.2%</td>
<td>17.5%</td>
</tr>
<tr>
<td></td>
<td>Agree: 64.0%</td>
<td>81.7%</td>
<td>87.0%</td>
<td>65.0%</td>
</tr>
<tr>
<td>2. Childhood and youth conditions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>((X^2 = 9.003 \ p = 0.173) )</td>
<td>Neutral: 52.0%</td>
<td>38.3%</td>
<td>31.2%</td>
<td>27.5%</td>
</tr>
<tr>
<td></td>
<td>Disagree: 16.0%</td>
<td>8.3%</td>
<td>13.0%</td>
<td>22.5%</td>
</tr>
<tr>
<td></td>
<td>Agree: 32.0%</td>
<td>53.3%</td>
<td>55.8%</td>
<td>50.0%</td>
</tr>
<tr>
<td>3. Labor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>((X^2 = 11.617 \ p = 0.071) )</td>
<td>Neutral: 4.0%</td>
<td>6.7%</td>
<td>3.9%</td>
<td>7.5%</td>
</tr>
<tr>
<td></td>
<td>Disagree: 12.0%</td>
<td>0.0%</td>
<td>1.3%</td>
<td>7.5%</td>
</tr>
<tr>
<td></td>
<td>Agree: 84.0%</td>
<td>93.3%</td>
<td>94.8%</td>
<td>85.0%</td>
</tr>
<tr>
<td>4. Health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>((X^2 = 8.641 \ p = 0.195) )</td>
<td>Neutral: 32.0%</td>
<td>15.0%</td>
<td>13.0%</td>
<td>17.5%</td>
</tr>
<tr>
<td></td>
<td>Disagree: 16.0%</td>
<td>6.7%</td>
<td>7.8%</td>
<td>12.5%</td>
</tr>
<tr>
<td></td>
<td>Agree: 52.0%</td>
<td>78.3%</td>
<td>79.2%</td>
<td>70.0%</td>
</tr>
<tr>
<td>5. Housing conditions and public services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>((X^2 = 11.45 \ p = 0.075) )</td>
<td>Neutral: 40.0%</td>
<td>35.0%</td>
<td>23.4%</td>
<td>32.5%</td>
</tr>
<tr>
<td></td>
<td>Disagree: 20.0%</td>
<td>6.7%</td>
<td>14.3%</td>
<td>25.0%</td>
</tr>
<tr>
<td></td>
<td>Agree: 40.0%</td>
<td>58.3%</td>
<td>62.3%</td>
<td>42.5%</td>
</tr>
</tbody>
</table>

Source: Calculated by author from survey results.

Of these five dimensions, responses for only one dimension (Education) was found to be statistically significant at the .05 level based on the regional origin of the FDI. The contribution
of FDI to the educational dimension, most common among employees at North American firms (87%) and European firms (81.7%), is perceived as the most critical dimension vis-à-vis the other dimensions. However, labor conditions \((p=.071)\) as well as housing conditions and public services \((p=.075)\) were close-to-significant.

In terms of the influence of relative incomes, the group of employees earning more than $2,000,000 pesos (US$ 705) reported a better perception of FDI’s contribution to their overall wellbeing \((m = 4.11, sd = 0.41, n = 16)\), followed by the group of employees that earn between $1,000,001 and $2,000,000 (US$ 353-705) \((m = 3.73, sd = 0.67, n = 51)\). For those employees earning less than $600,000 (US$ 212) \((m = 3.73, sd = 0.56, n = 48)\), and the group that earn between $600,000 and $1,000,000 (US$ 212-353) \((m = 3.64, sd = 0.64, n = 79)\), there is less importance attached to the perceived positive benefits of FDI (Table 5.18). The differences among the means are significant at .085 \([F (4, 197) = 2.076]\) (Table 5.19).
Table 5.18: Means and Standard Deviations of Perceptions of FDI According to Monthly Income Level

<table>
<thead>
<tr>
<th>Monthly Income Level</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $600,000 pesos (&lt;US $212)</td>
<td>38</td>
<td>3.7316</td>
<td>.56238</td>
</tr>
<tr>
<td>$600,000 - $1,000,000 (US $212-$353)</td>
<td>79</td>
<td>3.6456</td>
<td>.64047</td>
</tr>
<tr>
<td>$1,000,001 - $2,000,000 (US $353-$705)</td>
<td>51</td>
<td>3.7333</td>
<td>.67488</td>
</tr>
<tr>
<td>More than $2,000,000 (&gt;US $705)</td>
<td>16</td>
<td>4.1125</td>
<td>.41292</td>
</tr>
<tr>
<td>I'd rather not say</td>
<td>18</td>
<td>3.6333</td>
<td>.44590</td>
</tr>
</tbody>
</table>

Source: Calculated by author from survey results.

Table 5.19: Oneway ANOVA - Perceptions Towards FDI on Wellbeing & Income Level

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3.052</td>
<td>4</td>
<td>.763</td>
<td>2.076</td>
</tr>
<tr>
<td>Within Groups</td>
<td>72.409</td>
<td>197</td>
<td>.368</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>75.461</td>
<td>201</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Calculated by author from survey results.

Those employees working in the Other sector (i.e., oil, mining & quarrying, electricity, water & gas) reported more positive perception of FDI’s contribution to their wellbeing ($m = 3.85, sd = 0.50, n = 33), closely followed by the those working in the manufacturing sector ($m = 3.82, sd = 0.69, n = 42). Respondents working in the retail, wholesale trade, hotels, financial and business services industries ($m = 3.66, sd = 0.57, n = 81) and the group that work in transport, storage and communications industries ($m = 3.64, sd = 0.67, n = 46) (Table 5.20) have slightly
lower mean scores as compared to those in the two former sectors. Nonetheless, the differences among the means are not statistically significant at the 0.05 level \( F (3, 198) = 1.438 \) (Table 5.21).

Table 5.20: *Means and Standard Deviations of Perceptions of FDI & Type of FDI*

<table>
<thead>
<tr>
<th>Type of FDI</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>42</td>
<td>3.8190</td>
<td>0.6883</td>
</tr>
<tr>
<td>Transport, storage and communications</td>
<td>46</td>
<td>3.6391</td>
<td>0.6702</td>
</tr>
<tr>
<td>Retail, wholesale trade, hotels, financial and business services</td>
<td>81</td>
<td>3.6593</td>
<td>0.5714</td>
</tr>
<tr>
<td>Other</td>
<td>33</td>
<td>3.8545</td>
<td>0.5032</td>
</tr>
</tbody>
</table>

*Source:* Calculated by author from survey results.

Table 5.21: *Oneway ANOVA - Perceptions Towards FDI on Wellbeing & Type of FDI*

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1.609</td>
<td>3</td>
<td>0.536</td>
<td>1.438</td>
</tr>
<tr>
<td>Within Groups</td>
<td>73.852</td>
<td>198</td>
<td>0.373</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>75.461</td>
<td>201</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source:* Calculated by author from survey results.
Turning to a comparison of income satisfaction and opinions regarding the perceived benefits of FDI, there are statistically significant differences. The group of employees who are most unsatisfied with their income reported the worst perception of FDI’s contribution to their wellbeing ($m = 2.86, sd = 0.91, n = 7$), followed by those who report being ‘Somewhat Dissatisfied’ with their wages ($m = 3.36, sd = 0.56, n = 22$). In contrast, the group of employees with no opinion on income satisfaction ($m = 3.64, sd = 0.79, n = 13$), the group who are ‘Somewhat Satisfied’ ($m = 3.73, sd = 0.57, n = 109$), and the group that feel ‘ Totally Satisfied’ with their wages ($m = 3.98, sd = 0.44, n = 51$), recorded higher score on this metric (Table 5.22).

As noted, the differences among the means are statistically significant at the 0.001 level [$F (4, 197) = 8.906$] (Table 5.23).

Table 5.22: Means and Standard Deviations of Perceptions of FDI & Income Satisfaction

<table>
<thead>
<tr>
<th>Income Satisfaction</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very unsatisfied</td>
<td>7</td>
<td>2.8571</td>
<td>.91443</td>
</tr>
<tr>
<td>Somewhat dissatisfied</td>
<td>22</td>
<td>3.3636</td>
<td>.56446</td>
</tr>
<tr>
<td>No opinion</td>
<td>13</td>
<td>3.6462</td>
<td>.79227</td>
</tr>
<tr>
<td>Somewhat satisfied</td>
<td>109</td>
<td>3.7339</td>
<td>.57029</td>
</tr>
<tr>
<td>Totally satisfied</td>
<td>51</td>
<td>3.9804</td>
<td>.43682</td>
</tr>
</tbody>
</table>

*Source:* Calculated by author from survey results.
Research question 3: Do survey participants believe that FDI contributes to economic development in Colombia?

Results show that 60.9% of employees feel that FDI is beneficial to the economic development of Colombia, while 20.3% reported opposite opinion. Approximately 8.4% of respondents are conflicted in that they think that FDI may be both beneficial and not beneficial to the economic development of the region and nation. Meanwhile, 10.4% of participants had a neutral opinion (Figure 5.12).

Table 5.23: Oneway ANOVA - Perceptions Towards FDI on Wellbeing & Income Satisfaction

| Source: Calculated by author from survey results. |

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>11.556</td>
<td>4</td>
<td>2.889</td>
<td>8.906</td>
</tr>
<tr>
<td>Within Groups</td>
<td>63.905</td>
<td>197</td>
<td>.324</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>75.461</td>
<td>201</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The group of employees who have a mixed opinion on FDI regarding economic development of the country, reported lower deprivation scores ($m = 0.03, sd = 0.05, n = 17$), followed by the group of employees who think that FDI is beneficial to the economic development ($m = 0.07, sd = 0.10, n = 123$). On the other hand, those reporting a neutral opinion on FDI ($m = 0.10, sd = 0.14, n = 21$), and the group that think that FDI is not beneficial to economic development recorded higher deprivation scores ($m = 0.11, sd = 0.12, n = 41$) (Table 5.24). The differences among the means are statistically significant at the 0.05 level [$F (3, 198) = 2.775$] (Table 5.25).
Table 5.24: Means and Standard Deviations of Deprivation Score & Opinion of FDI on Economic Development

<table>
<thead>
<tr>
<th>Opinion of FDI on Economic Development</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, FDI is beneficial</td>
<td>123</td>
<td>0.0736</td>
<td>0.09986</td>
</tr>
<tr>
<td>No, FDI is not beneficial</td>
<td>41</td>
<td>0.1073</td>
<td>0.11595</td>
</tr>
<tr>
<td>No opinion</td>
<td>21</td>
<td>0.1048</td>
<td>0.14134</td>
</tr>
<tr>
<td>Mixed (Beneficial &amp; Not Beneficial)</td>
<td>17</td>
<td>0.0294</td>
<td>0.04697</td>
</tr>
</tbody>
</table>

Source: Calculated by author from survey results.

Table 5.25: Oneway ANOVA - Deprivation Scores & Opinion of FDI on Economic Development

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>0.092</td>
<td>3</td>
<td>0.031</td>
<td>2.775</td>
</tr>
<tr>
<td>Within Groups</td>
<td>2.189</td>
<td>198</td>
<td>.011</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2.281</td>
<td>201</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Calculated by author from survey results.

Interestingly, the group of employees who think that FDI is beneficial to the economic development of Colombia also recorded higher scores regarding perceptions of FDI’s contribution to their personal wellbeing ($m = 3.89$, $sd = 0.51$, $n = 123$). Those survey participants who have a mixed opinion on FDI, ($m = 3.64$, $sd = 0.30$, $n = 17$), those reporting a neutral opinion on FDI ($m = 3.46$, $sd = 0.57$, $n = 21$), and the group that think that FDI is not beneficial to economic development ($m = 3.35$, $sd = 0.78$, $n = 41$), all reported lower scores for this
measure (Table 5.26). The differences among the means are statistically significant at the .0001 level \( F (3, 198) = 10.998 \) (Table 5.27)

Table 5.26: Means and Standard Deviations of Perceptions of FDI on wellbeing & Opinion of FDI on Economic Development

<table>
<thead>
<tr>
<th>Opinion of FDI on Economic Development</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, FDI is beneficial</td>
<td>123</td>
<td>3.8959</td>
<td>.51301</td>
</tr>
<tr>
<td>No, FDI is not beneficial</td>
<td>41</td>
<td>3.3561</td>
<td>.78423</td>
</tr>
<tr>
<td>No opinion</td>
<td>21</td>
<td>3.4571</td>
<td>.57321</td>
</tr>
<tr>
<td>Mixed (Beneficial &amp; Not Beneficial)</td>
<td>17</td>
<td>3.6471</td>
<td>.29605</td>
</tr>
</tbody>
</table>

Source: Calculated by author from survey results.

Table 5.27: One-way ANOVA - Perceptions Towards FDI on Wellbeing & Opinion of FDI on Economic Development

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>10.778</td>
<td>3</td>
<td>3.593</td>
<td>10.998</td>
</tr>
<tr>
<td>Within Groups</td>
<td>64.683</td>
<td>198</td>
<td>.327</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>75.461</td>
<td>201</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Calculated by author from survey results.

Results of Analyses Using Archival Secondary Data

This section analyzes the dynamics of foreign firms in Bogota, their main characteristics and behaviors circa 2013 as well as their locations within Bogota. Foreign-firms within the study area are highly concentrated mainly in the northern portion of the city of Bogota.
Research question 4: What are the patterns of spatial concentration of foreign-owned companies in Colombia?

The urban perimeter of Bogota is found in the northern area of the city (Figure 5.13 in grey color).

Figure 5.13. Urban area of Bogota in grey color

Map by CC BY-SA 3.0

As of 2013, the majority of foreign-owned companies are found within the northern most districts of the sprawling city of Bogota within the urban perimeter (Figure 5.14). These locations are characterized by the availability of horizontal business services required by these foreign firms such as finance, legal firms, logistics, institutional services and so forth.
A spatial pattern can be observed whereby the data are oriented along a northeast to southwest axis (Figure 5.15). Taking all locations into account, the mean center (latitude and longitude) of the location of foreign firms falls roughly in the center of downtown Bogota. More specifically, the mean center is located in the district of Teusaquillo. Meanwhile, the median latitude and longitude is very close to the location of the mean centroid latitude and longitude, although officially, it falls in another district, namely Barrios Unidos. The general directional distribution axis of the data is northeast-southwest.
Figure 5.15. Spatial distribution of FDI in Bogota

Map by Mayra Alejandra Yat Aguilar

Approximately 49.7% of foreign companies are located within the district of Chapinero. One possible reason for this highly-concentrated pattern has to do with Article 23 of the Decree 190 of 2004 where the zoning law establishes that two out of the 21 centralities of integration in Bogota are located within the Chapinero locality: (1) international and national integration: Calle 72 – Calle 100, and (2) urban integration: Chapinero. The first centrality’s main purpose is to
consolidate global services, virtually integrate Bogota with the world, and attract foreign investment and tourism. The second centrality aims to balance housing demands with economic activities, while improving mobility within the area through improvements to road intersections and in public spaces (Ayala, 2009, p. 28).

Another possible reason for this pattern is that Chapinero’s zoned area is classified into three major areas of activity: (1) residential (59.5%), (2) commercial area and services (33.8%), and (3) land for public uses and services (6.6%) (Ayala, 2009, p. 15). Another possible reason for having a significant amount of foreign companies is the fact that Chapinero records the highest income per capita, the lowest unemployment rate, and has areas of higher economic status, as discussed in Chapter Three. In terms of prosperity, Chapinero ranks second among all the 20 localities of Bogota.

Almost 22% of foreign companies are located within the locality of Usaquen, which is also included in the list of centralities of international and national integration in Decree 190. The remaining foreign-owned firms are located in the localities of Suba (centrality of urban integration) (5.3%), Fontibon (centrality of international and national integration) (5%), Teusaquillo (3.2%), Barrios Unidos (2.4%), Santa Fe (1.4%), and others (2.6%). It is important to note that 8.4% of foreign firms have no data regarding street address and location in the database.

In terms of asset categories, as of 2013, 40.8% of foreign-owned firms in Bogota are micro-enterprises, 24% are small enterprises, 16.1% are medium enterprises, and 19.2% are large enterprises (Figure 5.1).
Figure 5.16. Foreign firms in Bogota by size

Map by Mayra Alejandra Yat Aguilar

Approximately 56.8% of micro-enterprises are located in Chapinero, 21% in Usaquén, 6.8% in Suba, 6.5% in Fontibon, and 8.9% in the remaining localities of Bogota. Similarly, 53% of small enterprises are located in Chapinero, 19.9% in Usaquén, 8.5% in Suba, 5% in Fontibon, and 13.6% in the remaining localities of Bogota. Meanwhile, 53% of medium enterprises are
located in Chapinero, 29.2% in Usaquén, 6.6% in Fontibon, and 11.2% in the remaining localities of Bogota. Finally, 54.5% of large enterprises are located in Chapinero, 32.4% in Usaquén, 4.3% in Fontibon, and 8.8% in the remaining localities. Regardless of the size of the firm, Chapinero is hosting the majority of foreign-owned firms in Bogota. One possible explanation for this pattern is there are high quality infrastructural services including sanitary sewer, electric power, garbage collection, and aqueduct pipes, reaching almost 100% coverage in Chapinero (Ayala, 2009, p. 15).

Using the variable “registration date” of the CCB database, the number of years in Colombia for each company was computed. The average operating period for large foreign-owned firms is over 10.6 years ($m = 10.61, sd = 7.89, n = 286$), followed by the tenure of medium firms ($m = 9.43, sd = 9.39, n = 240$). On the other hand, small firms ($m = 6.14, sd = 7.11, n = 358$), and micro-enterprises reported much shorter operating longevity ($m = 3.32, sd = 0.456, n = 608$) (Table 5.28). The differences among the means are statistically significant at the .0001 level [$F (3, 1488) = 81.430$] (Table 5.29).
Table 5.28: Means and Standard Deviations of Foreign Firms by Size & Years in Colombia

<table>
<thead>
<tr>
<th>Company Size</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro</td>
<td>608</td>
<td>3.3181</td>
<td>4.56202</td>
</tr>
<tr>
<td>Small</td>
<td>358</td>
<td>6.1433</td>
<td>7.11861</td>
</tr>
<tr>
<td>Medium</td>
<td>240</td>
<td>9.4392</td>
<td>9.39610</td>
</tr>
<tr>
<td>Large</td>
<td>286</td>
<td>10.6136</td>
<td>9.89826</td>
</tr>
</tbody>
</table>

Source: Calculated by author from secondary data.

Table 5.29: Oneway ANOVA - Foreign Firms by Size & Years in Colombia

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>13092.439</td>
<td>3</td>
<td>4364.146</td>
<td>81.430</td>
</tr>
<tr>
<td>Within Groups</td>
<td>79747.329</td>
<td>1488</td>
<td>53.594</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>92839.768</td>
<td>1491</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Calculated by author from secondary data.

The following time series plot illustrates a trend pattern of foreign-owned firms registered per year in Colombia, progressively increasing in absolute number especially since 2004 (Figure 5.17). One possible reason for this pattern is the consolidation of FDI policies since 2005 and the substantial improvements in the quality of the investment environment, as discussed in Chapter III.
Results depicted in Figure 5.17 indicate that there is a positive strong relationship between year and number of registered foreign firms per year \( (n = \text{number of years}, r = .701, p = .0001) \). As the time passes, the number of foreign-owned firms increases.

Given the previous results, a regression line was calculated from data by the method of least squares in order to estimate GDP per capita (dependent variable) based on the number of foreign firms registered per year (independent variable). Figure 5.18 illustrates the regression line suggesting that GDP per capita can be estimated as $1,254.25 plus an additional $30.74 for each new registered foreign company in Colombia. The diagram suggests the existence of a
strong direct relationship between both GDP per capita and number of registered firms ($r = .951$) at the .0001 level (Table 5.30) That is, higher GDP per capita is associated with increasing number of foreign companies.

![Graph showing the relationship between GDP per capita and number of foreign firms](image)

*Figure 5.18. Foreign firms registered in Colombia and GDP per capita*

*Source: Calculated by author from secondary data.*
Table 5.30: *Coefficients*<sup>a</sup> – GDP Per Capita and Number of Registered Firms

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>1,254.253</td>
<td>104.779</td>
</tr>
<tr>
<td>Number of foreign firms</td>
<td>30.745</td>
<td>1.601</td>
</tr>
</tbody>
</table>

* a. Dependent Variable: GDP per capita (current US$)

Note: *n* = 41 years (1972-2012), *r*<sup>2</sup> = .902, *F* = 368.745, *p* = .0001

*Source*: Calculated by author from secondary data.

*Foreign direct investment by types of activities*

Approximately 34.3% of foreign companies in Bogota are involved in activities related to financial and business services, 20.7% in the extraction of crude oil, 13.2% in construction activities, 12.5% in retail, wholesale trade, restaurants and hotels, 6.6% in activities related to transport, storage and communications, 4.6% in mining and quarrying industries, 3.8% in manufacturing, 0.8% in agriculture, hunting, forestry and fishing, and 3.6% in other undesignated activities (Table 5.31).
Table 5.31: FDI by Types of Activities in Bogotá.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial and business services</td>
<td>512</td>
<td>34.3</td>
<td>34.3</td>
</tr>
<tr>
<td>Oil</td>
<td>309</td>
<td>20.7</td>
<td>55.0</td>
</tr>
<tr>
<td>Construction</td>
<td>197</td>
<td>13.2</td>
<td>68.2</td>
</tr>
<tr>
<td>Retail, wholesale trade, restaurants &amp; hotels</td>
<td>186</td>
<td>12.5</td>
<td>80.7</td>
</tr>
<tr>
<td>Transport, storage and communications</td>
<td>98</td>
<td>6.6</td>
<td>87.3</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>68</td>
<td>4.6</td>
<td>91.8</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>56</td>
<td>3.8</td>
<td>95.6</td>
</tr>
<tr>
<td>Other</td>
<td>66</td>
<td>4.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>1,492</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

*Source*: Calculated by author from secondary data.

Figures 5.19 through 5.22 present the spatial pattern of FDI firms by type of activity. These patterns could be described as ranges from dispersed to highly concentrated. Figure 5.19 illustrates the spatial pattern of FDI firms involved in financial and business services, which are highly concentrated in the localities of Chapinero, Usaquen and Suba.
Figure 5.19. Foreign firms involved in financial and business services

Map by Mayra Alejandra Yat Aguilar

Approximately 54.2% of foreign financial firms are located in Chapinero where the Central Business District is located. The largest proportion of companies in Chapinero is located geographically in the northwestern part of the district, near the main streets of the city. One possible explanation for this pattern is that the "Chapinero Diversidad Positiva" Development
Plan amounts to $40,410.65 million Colombian pesos (US$ 14,246,272) for the period from 2009 to 2012 (Ayala, 2016, p. 25), which aims at maximizing the comparative advantages that Chapinero offers as commercial, financial and service epicenter. This budget is intended to be used in different economic and social programs and public works to achieve the following objectives: 1) city of rights, 2) right to the city, 3) global city, 4) participation, and 5) effective and transparent public management. Meanwhile, the remaining foreign financial firms are located in Usaquen (20.9%), Suba (7.6%) and Fontibon (6.1%).

Historically, both Usaquen and Chapinero have been hosting foreign firms involved in oil-producing activities for a very long time since 1972. Figure 5.20 illustrates the spatial pattern of FDI firms involved in this industry. Firms are mainly concentrated in Chapinero (54.4%), followed by those in Usaquen (38.3%) and Suba (2.1%). One possible explanation for this trend is that although exploration and production operations are conducted throughout Colombia, it is within the main commercial areas of Bogota that firms close business deals, raise capital and plan and execute nation-wide activities.
Figure 5.20. Foreign firms involved in oil-producing activities

Map by Mayra Alejandra Yat Aguilar

Figure 5.21 illustrates the spatial pattern of FDI firms involved in construction activities. Again, as with finance and oil, foreign firms are highly concentrated in Chapinero (62%), followed by Usaquen (17.4%) and Suba (6%). One possible explanation for this pattern is that the Chapinero’s area is mostly residential (59.5%), followed by commercial area and services.
Moreover, according to the Chamber of Commerce of Bogota (CCB), there are a high number of national and foreign companies dedicated to real estate activities in the locality of Chapinero.

*Figure 5.21. Foreign firms involved in construction*

Map by Mayra Alejandra Yat Aguilar

In fact, approximately 47.3% of foreign firms involved in retail, wholesale, hotels and restaurants are located in Chapinero, with 26.6% in Usaquen, 7.7% in Fontibon and 5.9% in Suba (Figure 5.22). One possible reason for this pattern is that the quality and access to services,
level of educational and human capital, and the quality of housing is higher in Chapinero than the rest of Bogota (Ayala, 2016, p. 20).

*Figure 5.22.* Foreign firms involved in retail, wholesale trade, restaurants and hotels activities

Map by Mayra Alejandra Yat Aguilar
VI. DISCUSSION

FDI has been identified as an important factor in stimulating economic growth and decreasing poverty. In particular, the relationship between FDI and economic growth has been extensively researched but this large body of work draws mixed conclusions. While there is some measure of consensus among scholars that FDI flows have a positive relationship with economic growth, not all agree. Meanwhile, considerably less work has been done investigating the effects of FDI on poverty reduction. Evidence from the limited research linking on FDI and poverty levels is also mixed. Most importantly for this research, the studies on the relationship between FDI and poverty have concentrated solely on standardized univariate indicators or measures of poverty. Through a more comprehensive multi-scale method of assessing poverty, this empirical mixed methods study investigates the contribution of FDI with respect to concurrent quantitative and qualitative assessments of changes in living standards and poverty reduction in Colombia.

With the intent of filling a gap in current literature and offer further research, this study uses primary survey data and secondary data from archived not-for-profit organization and government data, different statistical analysis techniques in SPSS, and incorporating spatial statistics techniques in ArcGIS. The major findings of the study are further discussed in the following section.

Major Findings

Eight percent of households surveyed in 2013 are classified as poor based on the MPI index (incidence of poverty). Interestingly, DANE’s MPI calculation of poverty incidence in Bogota is 8.7% in the same year, only 0.7% lower as discussed in Chapter III.
On average, the poor are deprived in 37% of the weighted MPI indicators (intensity of poverty). On average, households are deprived in 3% of the total potential deprivations they could experience (MPI). Formal employment deprivations (lack of formal employment) contribute the most to multidimensional poverty followed by health insurance deprivations (lack of health insurance). Those identified as poor on average have more than four different instances of deprivation while the non-poor face only one or none. The median deprivation score is approximately 0.025 and the mean score is 0.08 among survey participants. Because the distribution is highly skewed to the right, the mean, is higher than the median. Investigating the imbalances, a multiple regression was employed to test how the value of the deprivation score is affected by the values of the following factors: years of education, household size, age, race, and type of FDI. Results show that the probability of being deprived equals to 0.083 with zero education, zero household size, and all others held constant. An estimated deprivation score decrease of 0.008 is associated with each additional year of education, if household size and other factors are held constant. An estimated deprivation score increase of 0.02 is associated with each additional household member, if education and other factors are held constant. A projected deprivation score increase of 0.056 is associated with all persons ages from 25 to 40 years of age. These three variables are all statistically significant. Even though the remaining predictor variables may increase or decrease the estimated deprivation score, the other independent variables tested in the analysis were not found to have statistical significance.

Regarding how workers at foreign-owned firms perceive the relationship between their work at foreign firms and their own personal wellbeing, the great majority of employees agree that FDI has contributed to improve their wellbeing on the following five dimensions: education, health, childhood and youth, employment, and housing conditions and public utilities. Turning to
a comparison of income satisfaction by sector and the perceived benefits of FDI, there are statistically significant differences. The group of employees who are most unsatisfied with their income also reported the worse perception of FDI’s contribution to their wellbeing. This group is followed by those who report being ‘Somewhat Dissatisfied’ with their wages. In contrast, the group of employees with no opinion on income satisfaction, the group who are ‘Somewhat Satisfied’, and the group that feel ‘Totally Satisfied’ with their wages, recorded higher score on this metric.

Moreover, most employees feel that FDI is beneficial to the economic development of Colombia (60.9%), but 20.3% report the opposite opinion, 10.4% of participants have a neutral opinion, and 8.4% think that FDI is both beneficial and not beneficial to the economic development. The group of employees who have a mixed opinion on FDI regarding economic development reported lower deprivation scores, followed by the group of employees who think that FDI is beneficial to the economic development. Those reporting neutral opinions about FDI, and the group that thinks that FDI is not beneficial for overall economic development recorded higher deprivation scores. The differences among the means are statistically significant. The group of employees who think that FDI is beneficial to the economic development of Colombia also recorded higher scores regarding perceptions of FDI’s contribution to their personal wellbeing. Those who have a mixed opinion on FDI, those reporting a neutral opinion on FDI, and the group that thinks that FDI is not beneficial for economic development; all report lower scores for this measure. The differences among the means are also statistically significant.

Foreign-firms within the study area are highly concentrated within the urban core of Bogota. The mean center of the foreign-firm locations falls roughly in the center of downtown Bogota and the general directional distribution of the data is northeast-southwest. This makes
sense given that the horizontal services required by these firms such as finance, legal firms and so on are also located in these districts.

There has been a progressively upward trend in the number of registered firms per year in Bogota, especially since 2004. One possible reason for this pattern is the coordination of FDI policies since 2005 and substantial improvements in the quality of the investment environment since that time. Given this trend, a regression line was calculated to estimate GDP per capita based on the number of foreign firms registered per year. Results show that GDP per capita can be estimated as a base value of US $1,254.25 plus an additional US $30.74 for each new registered foreign company in Colombia, clearly indicating the existence of a strong positive linear relationship between GDP per capita and number of registered firms. That is, higher GDP per capita is associated with an increasing presence of foreign companies.

Most of foreign companies in Bogota circa 2013 are involved in activities related to financial and business services (34.3%), followed by those involved in the extraction of crude oil (20.7%), construction activities (13.2%), and retail, wholesale trade, restaurants and hotels (12.5%). In terms of size, 40.8% of foreign-owned firms in Bogota are micro-enterprises, 24% are small enterprises, 16.1% are medium enterprises, and 19.2% are large enterprises. Approximately 49.7% of foreign companies are located in Chapinero and 22% are located in Usaquen. The remaining foreign-owned firms are located in Suba (5.3%), Fontibon (5%), Teusaquillo (3.2%), Barrios Unidos (2.4%), Santa Fe (1.4%), and other localities (2.6%). Regardless of type and size of FDI, Chapinero is the preferred district for foreign firms. Chapinero may be characterized as having the highest income per capita, the lowest unemployment rate, and the highest economic status as measured by per capita GDP. Furthermore, Chapinero ranks second in terms of prosperity, and tops the list regarding the
dimensions of health and security. Moreover, Chapinero ranks second in the dimensions of education, infrastructure, environment and social capital as discussed in Chapter Three.

**Limitations**

It is important to note that there are several limitations related to the study. The first limitation is associated with the sample size. It was expected that 300 employees of foreign-owned firms would complete the survey. However, only 202 employees were available to complete it. A second limitation has to do with the disaggregation of data into smaller subpopulations. The survey employed in this study conducted in Bogota did not request participants to indicate the locality of their households, which may have allowed an in-depth look at trends across different population groups and space or place. The third limitation is that this study did not measure the extent FDI that has contributed to employees’ wellbeing on each of the five dimensions, or how FDI has impacted these people over time. A fourth limitation is related to some of the variables of the dataset obtained from the CCB. The number of employees and address information for each firm is often incomplete. While most firms list the number of employees, a large number of companies do not specify the number of employees for the entire year. Moreover, the location (street address) of 126 firms out of 1,492 firms is missing in the dataset (8.4%). Finally, there are limits to the effectiveness of any possible cross-country comparison of MPI due to the fact that the information may vary across surveys or according to the culture as discussed in Chapter Four. Thus, the results of this study may be only useful for analysis at the country level of Colombia and perhaps for a very limited comparison at the international level.
**Recommendations for Future Research**

Based on the results of this study, there are several recommendations for future research. First, some of the limitations outlined previously may be minimized or even eliminated by using an improved data collection instrument which could include requesting information at a more disaggregated level, for example by locality or even a smaller subdivision than that of the localities. Second, future research studies on FDI should measure the extent that FDI has contributed to employees’ wellbeing on each of the specific dimensions over time. Third, it would be desirable to develop standardized surveys with a set of relevant dimensions of development and implement the surveys at the exact same period of time within different nations. This would lead to a better analysis and allow international comparisons of the results. Fourth, in order to improve the snowball convenience sample I employed in this study, I would recommend a reduction in the number of questions in the survey. This could help to convince more potential respondents to participate in the survey, resulting in a larger sample. Fifth, with the aim of correcting selection bias, I would recommend using the respondent-driven sampling method which may help in the selection of representative respondents by imposing a mathematical model. Sixth, with the aim of reducing gatekeeper bias (i.e., gatekeepers may be those reticent or protective individuals toward potential respondents who are very likely to hinder access), I would recommend soliciting the help of a known community member to escort the survey team and thus addressing barriers of mistrust and enhancing familiarity of respondents. Finally, for further studies I would recommend a study that incorporates employees at foreign and non-foreign firms, and also at different cities around Colombia. If resources are available, I would encourage a longitudinal study to analyze change over time.
Conclusions

Eleven major conclusions can be made from this study in Bogota. The first conclusion is that eight percent of households surveyed in 2013 are classified as poor. This is determined by those respondents who are deprived in 37% of the weighted indicators. The absence of formal employment and health deprivations contribute the most to poor MPI scores. The second conclusion is that the deprivation score is affected significantly by the number of years of education, the household size and the age of the respondents. The third conclusion is that the great majority of employees at foreign firms perceive the relationship between their work at foreign firms and their own personal wellbeing to be positive in terms of the dimensions of the education, health, childhood and youth, employment, housing conditions and public utilities. It is important to note though that the group of employees who are most unsatisfied with their income reported the worst perception of FDI’s contribution to their wellbeing. The fourth conclusion is that most of employees feel that FDI is beneficial to the economic development of Colombia. Interestingly, these most optimistic employees also recorded higher scores regarding perceptions of FDI’s contribution on their personal wellbeing. The fifth conclusion is that foreign-firms within the study area are highly concentrated within the urban core of Bogota in the northern part of the city. The sixth conclusion is that there has been a progressively upward trend in the number of registered firms per year in Bogota, especially since 2004, most likely due to the consolidation of FDI policies and the substantial improvements in the quality of the investment environment. The seventh conclusion is that most of foreign companies are involved in activities related to financial and business services, followed by those involved in the extraction of crude oil, or construction, or retail, wholesale trade, restaurants and hotels. In terms of size, the majority of foreign-owned firms are micro-enterprises, followed by small enterprises, large
enterprises, and medium enterprises. This is logical given available investment capital. The eighth conclusion is that regardless of type and size of FDI, Chapinero is the preferred locality for foreign firms, characterized by having the highest income per capita, the lowest unemployment rate, those neighborhoods with higher economic status, while ranking second in terms of prosperity. The ninth conclusion is that when I conducted the study in 2013, my opinion was that the MPI was weighted properly to identify some causes of poverty and the role that FDI plays in reducing poverty. However, at the moment, I think that income and asset ownership should be incorporated into the MPI because I believe that both will add value to the estimate. Thus, I would re-weight the dimensions as follows: education (16.67%), childhood and youth (16.67%), employment (16.67%), health (16.67%), housing and public services (16.66%), income and asset ownership (16.66%). The tenth conclusion is that given the positive perspectives on FDI in terms of poverty reduction, I would suggest foreign firms implement corporate social responsibility initiatives such as the following: 1) employee volunteering programs that encourage employees to serve community needs through the guidance of their respective employers. These programs might increase job satisfaction, productivity and retention. 2) Educational and career building programs to award scholarships to support deserving employees, family or community members who find it difficult to continue their education at universities or institutes for vocational training due to economic reasons. 3) Grant and community outreach programs to help low income neighborhoods and address social and economic challenges by developing capabilities of community members (e.g., financial capabilities), by mentoring students, building homes, cleaning up the environment, and so forth. 4) Infrastructure development initiatives to support the improvement of local infrastructures such as renovation of water systems, infrastructure improvement around primary schools, hospitals,
community parks, etc. 5) Environmental grants to award deserving individuals or organizations who are developing clean and efficient solutions to sustainability. 6) Green programs which aim to reduce the need for raw materials and generate cost savings through environmental operations and practices. 7) Workforce efficiency programs to increase employee morale and decrease costs related to turnover or recruitment. It is important to note that foreign companies should assess community needs and resources before the implementation of these programs. This will help not only to ensure more relevant and effective solutions to poverty, but also to make a more positive impact on social and environmental issues. The eleventh and final conclusion is that the results and conclusions of this study could be easily used by the Colombian government into other FDI host major cities such as Medellin and Cali. According to Garavito, Iregui and Ramirez (2012b) on average, for the period 2000-2010, companies receiving FDI in Colombia are located mainly in the Bogota Capital District (73%), followed by investments in the cities of Medellin (9%) and Cali (7%). Given that the location of the remaining 11% of foreign firms is unknown, I do not think that the results of this study should be used to infer conditions for the rest of major cities.
REFERENCES


Appendix A: Survey of Employees at Foreign-Owned Firms

A.1 English version

Survey of Employees at Foreign Companies - Colombia 2013

Form No. _______ out of 300

The information requested on this form is strictly confidential and anonymous.

Department: _______________________________ Municipality: _______________________________
City: _______________________________ Locality (district): _______________________________

1) What type of job you perform at the foreign company?
   a) Skilled (professionals, technicians and associate professionals, managers, supervisors)
   b) Unskilled (common work such as operator, caretaker, charger, assistant, etc.)
   c) Other (please specify): ____________________________________________

2) For how long have you worked in this company?
   a) Less than 1 year
   b) 1-5 years
   c) 6-10 years
   d) More than 10 years

3) Approximately how many years has your company been established in Colombia?
   a) Less than 1 year
   b) 1-5 years
   c) 6-10 years
   d) More than 10 years
   e) Do not know

4) Please indicate the sector/industry of the company (please choose one)
   a) Oil
   b) Mining and quarrying (including coal)
   c) Manufacturing
   d) Transport, storage and communications
   e) Financial and business services
   f) Retail, wholesale, restaurants and hotels
   g) Electricity, gas and water
   h) Other sector / industry: (please specify) ________________________________

5) Please indicate the number of employees in the company?
   a) Less than 100
   b) 100-500
   c) 500-1000
   d) Over 1000
   e) Do not know
6) What is the nature of the company where you work?
   a) New foreign company
   b) Merger and Acquisition
   c) Other (please specify) __________________________________________________
   d) Do not know

7) If you have worked in this company for over a year, what is the reason you continue working in it?
   a) Wages
   b) Training
   c) Promotion
   d) Contractual obligations
   e) Other reasons, please specify: ________________________________________________

8) Did you have to migrate (leave their place of origin) to perform your current job?
   a) Yes  b) No

9) How many kilometers do you live from your current job?
   _____________________________________________________________

10) Please indicate the travel time required to get to work (hours, minutes):
    _____________________________________________________________

11) What is your major source of income?
    a) Salary or wage of current job
    b) Social security
    c) Pensions
    d) Other: (Please specify) __________________________________________

12) What is your monthly income level?
    a) Less than $ 600,000 pesos
    b) $ 600,000 - $ 1,000,000
    c) $ 1,000,001 - $ 2,000,000
    d) More than $ 2,000,000
    e) I'd rather not say

13) How do you use your income? (You may choose more than one option)
    a) Purchase of food
    b) Purchase of clothing or household goods
    c) Payment of rent
    d) Improvement of dwelling
    e) Education expenses
    f) Health expenses
    g) Payment of utilities
    h) Other: (please specify) ____________________________________________

14) Do you consider that your current employment and respective salary have contributed to improve educational conditions of your household (schooling, literacy)?
    a) Strongly agree
    b) Agree
    c) No opinion
    d) Disagree
    e) Strongly Disagree
15) Do you consider that your current employment and respective salary have contributed to improve the health conditions of your household (health insurance, access to health services?)
   a) Strongly agree
   b) Agree
   c) No opinion
   d) Disagree
   e) Strongly Disagree

16) Do you consider that your current employment and respective salary have contributed to improve access to household utilities and living conditions (access to safe drinking water, proper sewage disposal, adequate floors and walls?)
   a) Strongly agree
   b) Agree
   c) No opinion
   d) Disagree
   e) Strongly Disagree

17) Do you consider that your current employment and respective salary have contributed to improve the childhood and youth conditions of your household (access to early childhood care services, school without lag, etc)?
   a) Strongly agree
   b) Agree
   c) No opinion
   d) Disagree
   e) Strongly Disagree

18) Do you consider that your current employment and respective salary have contributed to improve the labor conditions of your household (economic independence, formal employment)?
   a) Strongly agree
   b) Agree
   c) No opinion
   d) Disagree
   e) Strongly Disagree

19) Do you consider that your current employment and respective salary have contributed to improve the quality of life?
   a) Strongly agree
   b) Agree
   c) No opinion
   d) Disagree
   e) Strongly Disagree

20) During the last 12 months, was there ever a time when you did not have enough money to cover your household expenses?
   a) Yes
   b) No
   c) I'd rather not say

21) To what extent are you satisfied with the income you are obtaining in your current firm?
   a) Totally satisfied
   b) Somewhat satisfied
   c) No opinion
   d) Somewhat unsatisfied
   e) Very unsatisfied
22) In general, how satisfied are you with your current employment?
   a) Totally satisfied
   b) Somewhat satisfied
   c) No opinion
   d) Somewhat unsatisfied
   e) Very unsatisfied

23) Do you consider that foreign investment, in general, is beneficial to the economic development of the country?
   a) Yes, foreign investment is beneficial
   b) No, it is not beneficial
   c) No opinion

24) What are some benefits of working in a foreign company?
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

25) What are some disadvantages of working in a foreign company?
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

26) What is your opinion about fostering / encouraging more foreign companies to come and invest in Colombia?
______________________________________________________________________________
______________________________________________________________________________

**Housing quality information:**

27) Type of dwelling
   a) House
   b) Apartment
   c) Other: (Please specify) __________________________________________________________

28) Do you own your current dwelling?
   a) Yes
   b) No. (Please specify) ______________________________________________________________

29) What is the structural condition of your home?
   a) Appropriate structure
   b) Needs minor repairs
   c) Needs major repairs
   d) Ruined seriously

30) Your dwelling has access to safe drinking water
   a) Yes  b) No

31) Your dwelling has sewer service
   a) Yes  b) No

32) Your dwelling has adequate floors
33) Your dwelling has adequate exterior walls
   a) Yes  b) No

**Household information:**

34) Please indicate the number of people 15 years and over of your household
   a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6 h) 7

35) Please indicate the years of schooling of people 15 years and over of your household

<table>
<thead>
<tr>
<th>Person 1</th>
<th>Person 2</th>
<th>Person 3</th>
<th>Person 4</th>
<th>Person 5</th>
<th>Person 6</th>
<th>Person 7</th>
</tr>
</thead>
</table>

36) Out of the number of people 15 years and over of your household, how many people can read and write?
   a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6 h) 7

37) No. of children between 6 and 16 years
   a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6 h) 7

38) No. of children between 6 and 16 years who attend school
   a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6 h) 7

39) No. of children and young people between 7 and 17 years in the household
   a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6 h) 7

40) No. of children and young people between 7 and 17 years in the household WITHOUT school lag
   a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6 h) 7

41) No. of children aged 0 to 5 in the household
   a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6 h) 7

42) No. of children aged 0 to 5 in the household with simultaneous access to health, nutrition, and initial education
   a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6 h) 7

43) No. of children between 12 and 17 in the household
   a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6 h) 7

44) No. of children between 12 and 17 in the household who are not working
   a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6 h) 7

45) Total people in the household
   a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6 h) 7

46) Total people in the household who are working
   a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6 h) 7

47) No. of people in the household who are working with pension benefits
   a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6 h) 7

48) No. of people in the household who are economically active
   a) 0 b) 1 c) 2 d) 3 e) 4 f) 5 g) 6 h) 7
49) No. of people in the household who are unemployed for over 12 months
   a) 0  b) 1  c) 2  d) 3  e) 4  f) 5  g) 6  h) 7

50) No. of people older than 5 years
   a) 0  b) 1  c) 2  d) 3  e) 4  f) 5  g) 6  h) 7

51) No. of people older than 5 years with affiliation to health
   a) 0  b) 1  c) 2  d) 3  e) 4  f) 5  g) 6  h) 7

52) No. of people in the household who have had health issues over the last 12 months
   a) 0  b) 1  c) 2  d) 3  e) 4  f) 5  g) 6  h) 7

53) Out of the No. of people in the household who have had health issues, how many of them had access to a medical doctor or institutional services over the last 12 months?
   a) 0  b) 1  c) 2  d) 3  e) 4  f) 5  g) 6  h) 7

**Respondent information:**

54) Please select your gender:
   a) Male
   b) Female

55) Please select your age:
   a) 18-24
   b) 25-40
   c) 41-65
   d) 65+

56) What is your race/ethnicity?
   a) Mestizo Colombian
   b) White Colombian
   c) Afro-Colombian
   d) Indigenous
   e) Other: (Please specify)___________________

57) What is your education level?
   a) No schooling
   b) Completed primary school (1-5)
   c) Completed secondary education (6-9)
   d) Completed high school (10-11)
   e) Completed higher education
   f) Technical or technological education
   g) Other: (Please specify)___________________

58) What is your current marital status?
   a) Single
   b) Married
   c) Divorced
   d) Free union
   e) Widowed

59) Please select the area where you live
   a) Urban
   b) Rural
60) How long have you lived in this area?
   a) 0-5 years
   b) 6-10 years
   c) 11-25 years
   d) More than 25 years

Please provide any additional comments that you may have in the space provided below.

_____________________________________________________________________________________________________________________________________

If you have any other statements, please write here

_____________________________________________________________________________________________________________________________________

Thank you for your cooperation!
A.2 Spanish versión

Encuesta a Empleados en Empresas Extranjeras - Colombia 2013

Los datos que se solicitan en este formulario son estrictamente confidenciales y anónimos.

Departamento: _____________________ Municipio: _____________________
Ciudad: _____________________ Localidad (distrito): _____________________

1) ¿Qué tipo de trabajo realiza usted en la empresa extranjera?
   a) Trabajo calificado (profesionales, técnicos y profesionales asociados, gerentes, supervisores)
   b) Trabajo No calificado (trabajo común, por ejemplo: operario, vigilante, cargador, ayudante, etc).
   c) Otro: (por favor especificar) __________________________________________________________________________

2) ¿Cuánto tiempo ha trabajado usted en esta empresa?
   a) Menos de 1 año
   b) 1-5 años
   c) 6-10 años
   d) Más de 10 años

3) ¿Aproximadamente hace cuántos años su empresa se estableció en Colombia?
   a) Menos de 1 año
   b) 1-5 años
   c) 6-10 años
   d) Más de 10 años
   e) No sabe

4) Por favor indique el sector / industria de la empresa (elija uno)
   a) Sector petrolero
   b) Minas y canteras (incluye carbón)
   c) Industrias manufactureras
   d) Transportes, almacenamiento y comunicaciones
   e) Servicios financieros y empresariales
   f) Comercio, restaurantes y hoteles
   g) Electricidad, gas y agua
   h) Otro sector/industria:(favor especificar) __________________________________________________________________________

5) Por favor indique el número de empleados de la empresa
   a) Menos de 100
   b) 100-500
   c) 501-1000
   d) Más de 1000
   e) No sabe

6) ¿Cuál es la naturaleza de la empresa donde usted trabaja?
   a) Empresa extranjera nueva
   b) Fusión y adquisición
   c) Otro: (por favor especificar) __________________________________________________________________________
   d) No sabe
7) Si usted ha trabajado en esta empresa desde hace más de un año, ¿cuál es la razón por la cual usted continúa laborando en ella?
   a) Sueldos
   b) Capacitación
   c) Promoción
   d) Las obligaciones contractuales
   e) Otras razones, por favor especifique: __________________________

8) ¿Tuvo usted la necesidad de migrar (dejar de su lugar de origen) para poder desempeñar su empleo actual?
   a) Sí    b) No

9) ¿A cuántos kilómetros vive usted de su actual empleo?
   __________________________________________________________

10) ¿Cuánto tiempo de viaje requiere para llegar a su trabajo (horas, minutos)?
    _________________________________________________________

11) ¿Cuál es su principal fuente de ingresos?
    a) Salario o sueldo del empleo actual
    b) Seguridad social
    c) Pensiones
    d) Otros: (favor especificar) __________________________________________

12) ¿Cuál es su nivel de ingresos mensuales?
    a) Menos de $600,000 pesos
    b) $ 600,001 - $ 1,000,000
    c) $ 1,000,001 - $ 2,000,000
    d) Más de $ 2,000,000
    e) Prefiero no decir

13) ¿Cómo utiliza sus ingresos? (Puede elegir más de una opción)
    a) Compra de alimentos para el hogar
    b) Compra de ropa o artículos de uso doméstico
    c) Pago de alquiler
    d) Mejora de vivienda
    e) Gastos de educación
    f) Gastos de salud
    g) Pago de servicios públicos
    h) Otros: ( especificar) ____________________________________________

14) ¿Considera usted que su empleo actual y respectivo salario han contribuido a mejorar las condiciones educativas de su hogar (escolaridad, alfabetismo)?
    a) Totalmente de acuerdo
    b) De acuerdo
    c) Sin opinión
    d) En desacuerdo
    e) Totalmente en desacuerdo

15) ¿Su empleo actual y respectivo salario han contribuido a mejorar las condiciones de la salud de su hogar (aseguramiento en salud, acceso a servicios de salud)?
    a) Totalmente de acuerdo
    b) De acuerdo
    c) Sin opinión
    d) En desacuerdo
    e) Totalmente en desacuerdo
16) ¿Su empleo actual y respectivo salario han contribuido a mejorar el acceso a servicios públicos domiciliarios y condiciones de la vivienda (acceso a fuentes de agua mejorada, adecuada eliminación de excretas, pisos y paredes adecuados)?
   a) Totalmente de acuerdo
   b) De acuerdo
   c) Sin opinión
   d) En desacuerdo
   e) Totalmente en desacuerdo

17) Su empleo actual y respectivo salario han contribuido a mejorar las condiciones de la niñez y juventud de su hogar (acceso a servicios para el cuidado de la primera infancia, sin rezago escolar)?
   a) Totalmente de acuerdo
   b) De acuerdo
   c) Sin opinión
   d) En desacuerdo
   e) Totalmente en desacuerdo

18) ¿Considera usted que su empleo actual y respectivo salario han contribuido a mejorar las condiciones laborales de su hogar (independencia económica, empleo formal)?
   a) Totalmente de acuerdo
   b) De acuerdo
   c) Sin opinión
   d) En desacuerdo
   e) Totalmente en desacuerdo

19) Considera usted que su empleo actual y respectivo salario han contribuido a mejorar las condiciones de calidad de vida del hogar?
   a) Totalmente de acuerdo
   b) De acuerdo
   c) Sin opinión
   d) En desacuerdo
   e) Totalmente en desacuerdo

20) Durante los últimos 12 meses, ¿hubo alguna vez en que no tenía dinero suficiente para cubrir los gastos del hogar?
   a) Sí
   b) No
   c) Prefiero no decir

21) ¿En qué medida está usted satisfecho con los ingresos obtenidos de su actual empleo?
   a) Totalmente satisfecho
   b) Parcialmente satisfecho
   c) Sin opinión
   d) Parcialmente insatisfecho
   e) Muy insatisfecho

22) En general, ¿Qué tan satisfecho está usted con su empleo?
   a) Totalmente satisfecho
   b) Parcialmente satisfecho
   c) Sin opinión
   d) Parcialmente insatisfecho
   e) Muy insatisfecho
23) ¿Cree que la inversión extranjera, en general, es beneficiosa para el desarrollo económico del país?
   a) Sí, la inversión extranjera es beneficiosa
   b) No, no es beneficiosa
   c) Sin opinión

24) Mencione algunos beneficios de trabajar en una empresa extranjera

25) Mencione algunas desventajas de trabajar en una empresa extranjera

26) ¿Cuál es su opinión acerca de estimular/animar a más empresas extranjeras a venir a invertir en Colombia?

**Información de la vivienda**

27) Tipo de vivienda
   a) Casa
   b) Apartamento
   c) Otro: Por favor especifique: ___________________________________________

28) ¿Vive en vivienda propia?
   a) Sí
   b) No. Favor especificar___________________________________________________

29) ¿Cuál es el estado estructural de su vivienda?
   a) Estructura adecuada
   b) Necesita reparaciones menores
   c) Necesita reparaciones mayores
   d) Arruinada seriamente

30) Su vivienda cuenta con acceso a agua potable
   a) Sí  b) No

31) Su vivienda cuenta con servicio de alcantarillado
   a) Sí  b) No

32) Su vivienda cuenta con pisos adecuados
   a) Sí  b) No

33) Su vivienda cuenta con paredes exteriores adecuadas
   b) Sí  b) No
Información del hogar

34) Por favor indique el No. de personas de 15 años y más de su hogar
   b) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

35) Indique los años educativos (de estudio) de cada persona de 15 años y más

<table>
<thead>
<tr>
<th>Persona 1</th>
<th>Persona 2</th>
<th>Persona 3</th>
<th>Persona 4</th>
<th>Persona 5</th>
<th>Persona 6</th>
<th>Persona 7</th>
</tr>
</thead>
</table>

36) Del No. de personas de 15 años y más de su hogar, cuantos saben leer y escribir
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

37) No. de niños entre 6 y 16 años en su hogar
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

38) No. de niños entre 6 y 16 años en su hogar que asisten a un establecimiento educativo
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

39) No. de niños y jóvenes entre 7 y 17 años en su hogar
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

40) No. de niños y jóvenes entre 7 y 17 años en su hogar SIN rezago escolar
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

41) No. de niños de 0 a 5 años en su hogar
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

42) No. de niños de 0 a 5 años en su hogar con acceso simultaneo a salud, nutrición y educación inicial
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

43) No. de niños entre 12 y 17 años en su hogar
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

44) No. de niños entre 12 y 17 años en su hogar que no se encuentran trabajando
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

45) Total de personas en el hogar
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

46) Total de personas ocupadas en el hogar
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

47) No. de personas que son ocupadas con afiliación a pensiones
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

48) Total de personas económicamente activas (PEA) en el hogar
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

49) No. de personas desempleadas por más de 12 meses en el hogar
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

50) No. de personas mayores de 5 años
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

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51) No. de personas mayores de 5 años afiliados a salud (EPS)
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

52) Indique el No. de personas que enfrentaron un problema de salud en los últimos 12 meses
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

53) Del No. de personas que enfrentaron un problema salud, ¿cuantos accedieron a médico general, especialista o servicio institucional de salud?
   a) 0    b) 1    c) 2    d) 3    e) 4    f) 5    g) 6    h) 7

**Información del participante**

54) Seleccione su género:
   a) Hombre   b) Mujer

55) Por favor, seleccione su edad:
   a) 18 a 24  
   b) 25-40    
   c) 41 a 65  
   d) 65 +     

56) Grupo étnico:
   a) Mestizo
   b) Blanco
   c) Afrocolombiano
   d) Indígena
   e) Otro: (especificar) ____________________

57) ¿Cuál es su escolaridad?
   a) Sin escolaridad
   b) Escuela primaria completa (grados 1-5)
   c) Escuela básica secundaria completa (grados 6-9)
   d) Escuela media secundaria completa (grados 10-11)
   e) Educación superior completa
   f) Educación técnica o tecnológica
   g) Otros: (Favor especificar) ____________________

58) ¿Cuál es su estado civil actual?
   a) Soltero
   b) Casado
   c) Divorciado
   d) Unión Libre
   e) Viudo

59) Seleccione el área donde vive
   a) Urbano
   b) Rural

60) ¿Cuántos años ha vivido en esta área?
   a) 0-5 años
   b) 6-10 años
   c) 11-25 años
   d) Más de 25 años
Por favor provea cualquier comentario adicional en el espacio siguiente:

__________________________________________________________________________

Si tiene cualquier otra declaración, por favor escriba en este espacio:

__________________________________________________________________________

Muchas gracias por su cooperación!
Appendix B: Human Subjects Institutional Review Board Letter of Approval

Western Michigan University
Human Subjects Institutional Review Board

Date: April 4, 2013

To: Gregory Veeck, Principal Investigator
    Mayra Alejandra Yat Aguilar, Student Investigator for thesis

From: Amy Naugle, Ph.D., Chair

Re: HSIRB Project Number 13-03-18

This letter will serve as confirmation that your research project titled “Spatial Effects of Foreign Direct Investment (FDI) on Poverty Reduction in Colombia: A Multi-methods Study” has been approved under the exempt category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note: This research may only be conducted exactly in the form it was approved. You must seek specific board approval for any changes in this project (e.g., you must request a post approval change to enroll subjects beyond the number stated in your application under “Number of subjects you want to complete the study”). Failure to obtain approval for changes will result in a protocol deviation. In addition, if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

Reapproval of the project is required if it extends beyond the termination date stated below.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: April 4, 2014
Western Michigan University
Department of Geography

Principal Investigator: Gregory Vecck
Student Investigator: Mayra Alejandra Yat Aguilar
Title of Study: Spatial Effects of Foreign Direct Investment (FDI) on Poverty Reduction in Colombia: A Multi-methods Study

You are invited to participate in a research project titled “Spatial Effects of Foreign Direct Investment (FDI) on Poverty Reduction in Colombia: A Multi-methods Study.” This project will serve as Mayra Alejandra Yat Aguilar’s thesis for the requirements of the Master’s degree in Geography at Western Michigan University. This consent document will explain the purpose of this research project and will go over all of the time commitments, the procedures used in the study, and the risks and benefits of participating in this research project. Please read this consent form carefully and completely and please ask any questions if you need more clarification.

What are we trying to find out in this study?

The purpose of this study is to investigate the effects of foreign investment on poverty reduction in Colombia from 1990 to 2013.

Who can participate in this study?

Participants in this study are Colombian citizens working in foreign companies from between 18 and 70 years of age.

Where will this study take place?

This study will be conducted in June and July of 2013 in several different locations in close proximity to the Bogota Capital District, and the city of Medellin.

What is the time commitment for participating in this study?

If you choose participate in this study, you will be asked to complete a questionnaire, which will take approximately 30 minutes.

What information is being measured during the study?

If you choose participate in this study, you will be asked about your job, income, housing, and health, and opinions on issues related to your wellbeing. This survey will gather not only...
numerical data, but also points of view and attitudes of the respondents towards the effects of foreign investment on wellbeing among workers.

**What are the risks of participating in this study and how will these risks be minimized?**
This research project involves no known risk for participants. There are no controversial questions in the questionnaire, and no list of names will be generated nor saved once the questionnaires are completed.

**What are the benefits of participating in this study?**
The research participants may benefit from this research to the extent that the government not only continues its current policies to attract foreign investment but also ensure greater and more equitably distributed gains from this investment.

**Are there any costs associated with participating in this study?**
Costs associated with participating in this study include the time it will take to complete the survey, the money it will take to make calls for expressing interest in participating in the survey, and the use of internet to send the completed questionnaires via email.

**Is there any compensation for participating in this study?**
If you decide to participate in this study, you will enter a raffle for a chance to receive one of five $50 gift certificates when you complete the survey. You will also be provided a light snack if you choose to complete the survey in person.

**Who will have access to the information collected during this study?**
Your replies will be completely anonymous, so do not put your name anywhere on the form. Survey data will be kept confidential and no names will be used. All the collected data will be kept locked at the office of the Department of Geography at Western Michigan University in the United States of America. Results of this study will be disseminated through a presentation at the 2014 Association of American Geographers’ Annual Meeting as well as the publication of Mayra Alejandra Yat Aguilar’s thesis.

**What if you want to stop participating in this study?**
You can choose to stop participating in the study at anytime for any reason. You will not suffer any prejudice or penalty by your decision to stop your participation. You will experience NO consequences either academically or personally if you choose to withdraw from this study. The investigator can also decide to stop your participation in the study without your consent.

Should you have any questions prior to or during the study, you can contact the primary investigator, Gregory Veeck at (269) 387-3420 or gregory.veeck@wmich.edu, or you can contact the student Investigator, Mayra Alejandra Yat Aguilar at (253) 973-1834 or mayra.a.yat@wmich.edu. You may also contact the Chair, Human Subjects Institutional Review
Board at 269-387-8293 or the Vice President for Research at 269-387-8298 if questions arise during the course of the study.

This consent document has been approved for use for one year by the Human Subjects Institutional Review Board (HSIRB) as indicated by the stamped date and signature of the board chair in the upper right corner. Do not participate in this study if the stamped date is older than one year.

I have read this informed consent document. The risks and benefits have been explained to me. I agree to take part in this study.

______________________________
Date
Western Michigan University
Departamento de Geografía

Investigador principal: Gregory Veek
Investigador Estudiantil: Mayra Alejandra Aguilar Yat
Título del estudio: Efectos espaciales de la Inversión Extranjera Directa (IED) sobre la reducción de la pobreza en Colombia: Un estudio multi-método.

Se le invita a participar en un proyecto de investigación titulado "Efectos Espaciales de la Inversión Extranjera Directa (IED) sobre la reducción de la pobreza en Colombia: Un estudio multi-método." Este proyecto servirá como tesis de Mayra Alejandra Yat Aguilar para los requerimientos de la Maestría en Geografía en la Western Michigan University. Este documento de consentimiento explicará el propósito de este proyecto de investigación y repasará todos los compromisos de tiempo, los procedimientos utilizados en el estudio, y los riesgos y beneficios de participar en este proyecto de investigación. Por favor, lea este formulario de consentimiento con cuidado y por completo y por favor haga cualquier pregunta si necesita más aclaración.

¿Qué estamos tratando de averiguar en este estudio?
El propósito de este estudio es investigar los efectos de la inversión extranjera en la reducción de la pobreza en Colombia entre 1990 y 2013.

¿Quién puede participar en este estudio?
Los participantes en este estudio son los ciudadanos colombianos que trabajan en empresas extranjeras de entre 18 y 70 años de edad.

¿Dónde se llevará a cabo este estudio?
Este estudio se llevó a cabo en Junio y Julio 2013 en distintos lugares cercanos a la capital del Distrito de Bogotá, y la ciudad de Medellín.

¿Cuál es el compromiso de tiempo para participar en este estudio?
Si que usted elige participar en este estudio, se le pedirá que complete un cuestionario que conlleva aproximadamente 30 minutos.

¿Qué información está siendo medida durante el estudio?
Si decide participar en este estudio, se le preguntará acerca de su trabajo, los ingresos, la vivienda y la salud, y opiniones sobre temas relacionados con su bienestar. Esta encuesta recolectará no sólo datos numéricos, sino también puntos de vista y las actitudes de los encuestados hacia los efectos de la inversión extranjera en el bienestar de los trabajadores.
¿Cuáles son los riesgos de participar en este estudio y cómo estos riesgos se minimizan?
Este proyecto de investigación no implica ningún riesgo conocido para los participantes. No hay preguntas controversiales en el cuestionario, y no se generara una lista de nombres una vez se hayan completado los cuestionarios.

¿Cuáles son los beneficios de participar en este estudio?
Los participantes de la investigación se pueden beneficiar de esta investigación en la medida en que el gobierno no sólo siga con sus actuales políticas para atraer la inversión extranjera, sino también garantizar mayores beneficios y una distribución más equitativa.

¿Hay costos asociados con la participación en este estudio?
Los costos asociados con la participación en este estudio incluyen el tiempo que se tarda en completar la encuesta, el dinero que se necesita para hacer llamadas para expresar su interés en participar en la encuesta, o el uso de Internet para enviar los cuestionarios por correo electrónico.

¿Hay alguna compensación por participar en este estudio?
Si usted decide participar en este estudio, usted entrará en un sorteo para tener la oportunidad de recibir uno de los cinco certificados de regalo de $ 50 cuando usted completa la encuesta. También se proporcionará un refrigerio ligero si usted decide completar la encuesta en persona.

¿Quién tendrá acceso a la información recopilada durante este estudio?
Sus respuestas serán totalmente anónimas, por lo que no ponga su nombre en cualquier parte del formulario. Datos de la encuesta serán confidenciales y sin nombres se utilizarán. Todos los datos recibidos se mantendrán en una oficina de la Asociación de Geógrafos Americanos, así como la publicación de la tesis de Mayra Alejandra Yat Aguilar.

¿Qué pasa si usted quiere dejar de participar en este estudio?
Usted puede optar por dejar de participar en el estudio en cualquier momento por cualquier razón. Usted no va a sufrir ningún perjuicio o sanción por su decisión de suspender su participación. Usted no experimentará ninguna consecuencia ya sea académica o personalmente si decide retirarse de este estudio.

El investigador también puede decidir detener su participación en el estudio sin su consentimiento.

Si usted tiene alguna pregunta antes o durante el estudio, puede comunicarse con el investigador principal, Gregory Veeck al (269) 387-3420 o vía correo electrónico a gregory.veeck@wmich.edu, o también puede comunicarse con el investigador estudiantil, Mayra Alejandra Yat Aguilar al (253) 973-1824 o bien mayra.a.yat@wmich.edu. También puede
comunicarse con el Presidente de la Junta de Revisión Institucional de Sujetos Humanos al 269-387-8293 o el Vicepresidente para la Investigación en 269-387-8298 si surgen preguntas durante el curso del estudio.

Este documento de consentimiento ha sido aprobado para su uso durante un año por la Junta de Revisión Institucional de Sujetos Humanos según lo indicado por la fecha del sello y la firma del presidente de la junta en la esquina superior derecha. No participar en este estudio si la fecha del sello es mayor de un año.

He leído este documento de consentimiento. Los riesgos y beneficios han sido explicados. Estoy de acuerdo en participar en este estudio.

Fecha